Community Wildfire Resiliency Plan 2026

District of Squamish

March 2026

BLACKWELL

REGISTERED PROFESSIONAL SIGN AND SEAL

RPF PRINTED NAME
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DATE SIGNED
April 15, 2026
I certify that the work described herein fulfills the standards expected of a member of the Association of British Columbia Forest Professionals and that I did personally supervise the work.
Registered Professional Forester Signature and Seal


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The authors respectfully acknowledge that this Community Wildfire Resiliency Plan (CWRP) was developed respecting the traditional and unceded territory of the Skwxwú7mesh Úxwumixw (Squamish Nation). The lands and waters within the District of Squamish have been stewarded by the Squamish Nation since time immemorial. This plan recognizes the Nation's enduring connection to the land and the importance of collaboration and shared stewardship in advancing community wildfire resilience.

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- District of Squamish – Emergency Management, Squamish Fire Rescue, Community Development (Building, Planning, Environmental Services) Engineering and Public Works, Communications, and Community Services
- Squamish Nation – Community Services
- Squamish Community Forest
- Squamish-Lillooet Regional District – Protective Services
- BC Wildfire Service – Coastal Fire Centre
- Ministry of Forests – Sea to Sky Natural Resource District
- BC Parks – South Coast | Squamish Area

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EXECUTIVE SUMMARY

In 2025, Blackwell Consulting Ltd. was retained by the District of Squamish (Squamish, the District) to update its Community Wildfire Resiliency Plan (CWRP). A CWRP is both a localized wildfire risk assessment and an action plan that guides strategic wildfire risk reduction at the community scale. Grounded in the seven FireSmart disciplines, Education, Vegetation Management, Legislation and Planning, Development Considerations, Interagency Cooperation and Emergency Planning, the CWRP provides recommendations to improve public safety, reduce risk to homes and community assets and support coordinated preparedness across jurisdictions. The plan is intended to inform updates to emergency and evacuation planning, FireSmart programming, municipal policies and bylaws and the prioritization of fuel management within the Eligible Wildland-Urban Interface (Eligible WUI).

Squamish's previous Community Wildfire Protection Plan was completed in 2017. Since then, the District has experienced rapid population growth, increased tourism and recreation pressure and continued development into steeper, forested terrain. During the same period, Squamish has completed several fuel management projects. Squamish Fire Rescue (SFR) has strengthened wildfire response readiness through annual interface and structure protection training, joint practice sessions with the BC Wildfire Service Squamish Initial Attack crew, and participation in provincial wildfire operations courses. Continued focus on interface-specific skills such as steep slope access, hose lays, water shuttle operations and structure protection in areas with limited egress remains important, particularly in rural and non-hydrated neighbourhoods.

FireSmart principles are increasingly reflected in municipal plans and policies, and the District of Squamish Community FireSmart & Resiliency Committee (CFRC) has been established as an avenue for coordination between the District, BC Wildfire Service, BC Parks, the Ministry of Forests Natural Resource District, the Squamish Community Forest, Squamish Nation and Squamish-Lillooet Regional District. Formalizing quarterly CFRC meetings and defining shared priorities will help maintain momentum and improve interagency alignment.

Since 2017, Squamish has made significant progress by adopting a Wildfire Hazard Development Permit Area (DPA11) and establishing a Wildfire Landscaping Bylaw (BL2834) in 2021. Together, these policy tools and new regulations strengthen wildfire-resilient building design and vegetation management within high-risk areas. However, limited public awareness and education related to these regulatory tools, along with constrained compliance capacity, have reduced their effectiveness. Enhanced public education, compliance and monitoring are required for these policies to function as intended.

Field assessments and spatial analysis for this CWRP indicate that wildfire threat within the Eligible WUI is primarily low to moderate, with elevated threat in areas where continuous fuels, steep slopes and forest proximity coincide near development. The June 2025 Dryden Creek wildfire illustrated how the intersection of hot dry weather, steep topography, and highly used public areas can result in unwanted fires in the interface. Many local ignitions are human-caused, including those associated with unsanctioned target shooting, encampments and recreation activity along trails and forest service roads.

Opportunities remain to improve trailside and campsite vegetation management, update and implement older fuel prescriptions and coordinate treatment planning across multiple land managers.

The District of Squamish has continued to expand public education and FireSmart engagement through neighbourhood assessments, chipping days, a FireSmart rebate program and community events. Despite this progress, gaps remain in public awareness of wildfire risk and recently adopted regulatory tools, including FireSmart landscaping requirements and wildfire hazard development considerations. The plan recommends re-establishing a dedicated FireSmart Coordinator to lead education, coordinate neighbourhood initiatives, support CFRC operations and advance key CWRP recommendations. Increased visitor-focused messaging at trailheads, campgrounds and high-use recreation nodes is also identified as a priority.

Emergency planning is another central focus. Hazard assessments and emergency plans require updates to reflect recent development, population growth and changing hazard conditions. Expanding Emergency Operations Centre (EOC) training and formalizing evacuation procedures, particularly in areas with constrained access, are important steps to increase preparedness and support coordinated response during wildfire events.

Together, these findings form the basis for a suite of recommendations that provide Squamish with a flexible toolbox of actions to reduce wildfire risk over time. Prioritization will need to be revisited regularly as projects are completed, conditions evolve and funding opportunities shift. Fifty-three recommendations and action items are presented in Table 1 below and are more thoroughly discussed in their appropriate sections within the document.

Table 1. Community Wildfire Resiliency Plan Recommendations

Item	Priority	Recommendation	Rationale	Lead Agency (Involved)	Timeline	Metric for Success	Funding Source
FireSmart Education – Section 5.1							
Capacity and Awareness							
#1 Full Time FireSmart Coordinator	High	Establish a full-time District of Squamish FireSmart Coordinator position to oversee implementation of CWRP recommendations and to lead the CFRC. The role should coordinate fuel management planning, FireSmart education and community engagement across the District, and support alignment with District wildfire-related regulations.	Establishing a FireSmart Coordinator role on a full-time basis would provide the capacity needed to lead ongoing fuel management and FireSmart initiatives.	DOS Emergency Management	3 months	A fulltime FireSmart position is filled	CRI FCFS[1] (*FireSmart Coordinator salary)*
#2 Continue FireSmart Program	High	Core elements of the District's FireSmart program, including home assessments, the driveway chipping program and the rebate program should continue to be offered, prioritizing interface neighbourhoods like Garibaldi Highlands.	These program elements are foundational to progress down the FireSmart Roadmap and provide educational opportunities.	DOS FireSmart Coordinator	Ongoing	Uptake in home assessments, chipping and rebate program	CRI FCFS
#3 Find Community Champions	Moderate	The FireSmart Coordinator should build and maintain a roster of community champions to support neighbourhood events and FireSmart initiatives. Neighborhoods with completed assessments and events should identify a neighbourhood champion to complete their FireSmart Canada Neighbourhood Recognition Program(FCNRP) designation.	Leveraging neighbourhood champions strengthens local engagement and supports FSCNRP efforts. Strata meetings or public open houses provide good platforms for conducting FireSmart outreach and identifying community champions.	DOS FireSmart Coordinator *(DOS Communications)*	2-5 years	At least 3 neighbourhood champions identified, at least 2 FCNRP designations	CRI FCFS
#4 Host FireSmart Booths	Moderate	Host a FireSmart booth at community events during summer months *(e.g., Farmers Market, Loggers Sports, Canada Day, Brackendale Fall Fair etc.)* to provide FireSmart education and distribute FireSmart materials. Consider inviting and/or collaborating with BC Wildfire Service (BCWS), Squamish Fire Rescue (SFR), Squamish Community Forest etc.	Leveraging existing public engagement opportunities strengthens FireSmart visibility and helps normalize risk reduction practices.	DOS FireSmart Coordinator, DOS Communications *(BCWS, SFR)*	Ongoing	FireSmart booth present at least 3 events/fire season	CRI FCFS, municipal budget

[1] UBCM Community Resiliency Investment Program - FireSmart Community Funding and Supports. https://www.ubcm.ca/cri/firesmart-community-funding-supports

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#5 Post Interpretive Signage	Moderate	In collaboration with the Ministry of Forests (FOR) and the Community Forest, install interpretive signage at intersecting trails in completed Garibaldi Park Road fuel treatment unit to demonstrate a post-treatment stand. Use this as an opportunity to showcase FireSmart landscaping practices that homeowners can replicate.	This fuel treatment unit offers a good opportunity for interagency collaboration between the District of Squamish, the Community Forest, the Ministry of Forests, and Squamish Off-Road Cycling Association (SORCA). The Garibaldi Park Road fuel treatment unit is an good candidate to demonstrate fuel management practices as it is close to popular SORCA trails (Diamondhead area) and is a gateway to Garibaldi Park (Elfin Lakes)	DOS FireSmart Coordinator, DOS Communications / Parks & Trails *(CF, FOR, BC Parks, SORCA)*	2 years	Roadside signage installed in treatment unit	CRI FCFS, municipal budget
#6 Outreach for Large Forested Private Parcels	Moderate	Develop targeted FireSmart education and outreach for owners of large, forested private properties that extend into interface terrain, with a focus on reducing fuel continuity near structures, access routes and adjacent public lands.	Large forested private parcels contribute to wildfire risk across the wildland-urban interface but are less effectively reached through standard neighbourhood-based FireSmart programming.	DOS FireSmart Coordinator	1-3 years	Increased participation in FireSmart education on large private parcels;	CRI FCFS *(FireSmart Coordinator time)*
Ignition Prevention							
#7 Align Fire Danger Messaging	High	Coordinate the posting and communication of fire bans and fire use restrictions across all relevant agencies, including the DOS, BC Parks MOF and private land managers. Where fire bans are implemented at different times or under different authorities, agencies should clearly communicate the applicable restrictions, jurisdictional boundaries and rationale to the public using consistent terminology and messaging.	The CFRC cited inconsistent fire ban messaging between as a priority issue creating public confusion. Clear, coordinated messaging that explains where bans apply and what activities are restricted improves public understanding and supports compliance during periods of elevated wildfire risk.	DOS Emergency Management, Fire Rescue, Communications (*DOS IT Services) (FOR, BC Parks, Squamish Nation, Conservation Officers other CFRC members)*	Ongoing	Fire danger ratings are consistent across agencies	Municipal budget
#8 Mitigate Risk from Target Shooting	Moderate	Work collaboratively with partnering government agencies (e.g., SLRD, FOR) to mitigate ignition risks associated with unsanctioned target shooting in backcountry areas (e.g. Mamquam FSR) through improved monitoring, public education and signage in high-use locations.	Unregulated target shooting has been identified by the CFRC as a recurring ignition source in the Squamish backcountry and occurs in known locations. Increasing awareness and oversight in known activity areas would help reduce wildfire risk while promoting safer recreational practices.	DOS Emergency Management/ Fire Rescue *(RCMP, FOR)*	Ongoing	Reduction of target shooting-related ignitions	CRI FCFS *(= print material)* + municipal budget *(enforcement)*

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#9 Mitigate Risk from Encampments	Moderate	Develop a coordinated approach to address fire risks associated with unsanctioned encampments through outreach, education, and regular monitoring.	Unsanctioned encampments present elevated ignition risk due to open flame use and proximity to forested areas. The CFRC has identified this as a growing concern following multiple past ignitions, including a trailer fire in early 2025.	DOS Emergency Management, Fire Rescue, Community Bylaw Services *(RCMP)*	Ongoing	Increase of FireSmart awareness amongst encampments, reduction of ignition	CRI FCFS *(print material)* + Municipal budget *(enforcement)*
#10 Increase Trailhead Signage	Moderate	In collaboration with relevant agencies, utilize existing message and notice boards at popular trailheads (e.g., Smoke Bluffs, Diamond Head, Brohm Lake) and campgrounds (e.g., Alice Lake, Stawamus Chief) to share FireSmart and fire danger messaging.	Trailheads and campgrounds offer high-visibility locations to reach recreation users and out-of-town visitors. FireSmart BC provides free print materials well-suited to these sites.	DOS FireSmart Coordinator, Fire Rescue, Communications, Parks & Trails *(BC Parks, Rec Sites BC, SORCA)*	1 year then ongoing	FireSmart print material present on park/trail message boards	CRI FCFS, municipal budget
#11 Provide Fire Danger Guidance	Moderate	Expand wildfire messaging beyond fire bans by linking danger ratings with practical guidance for homeowners, visitors, and trail users. Provide clear information on high-risk activities and mitigation measures appropriate to each fire danger class. Include this as part of existing public education efforts.	The CFRC noted a lack of information about what activities are considered high-risk under different fire ratings. Activity-specific guidance helps visitors and residents understand risks and take appropriate precautions.	DOS FireSmart Coordinator, Fire Rescue, Communications	2 years	A dedicated page on the DOS website outlines permittable activities/danger class	Municipal budget
#12 BCWS Outreach	Moderate	Support BCWS efforts to patrol and run educational kiosks at popular FSRs on summer long weekend.	Maintaining kiosks reinforces messaging during peak recreation periods and increases visibility of fire restrictions.	BCWS *(DOS FireSmart Coordinator, Fire Rescue)*	Annual	BCWS present at FSRs during summer long weekends	CRI FCFS, municipal budget
#13 Seasonal Patrol Staff	Low	Consider hiring a seasonal FireSmart Crew and/or Junior FireSmart Coordinator to patrol popular campfire destinations and give fire restriction information.	Patrols can reduce unsafe fire use, support early detection, and provide real-time education to recreation users.	DOS Emergency Management/ Bylaw, DOS FireSmart Coordinator	2 years	Position filled & fire information delivered	CRI FCFS, municipal budget
#14 Tourism Campaign	Low	Collaborate with Tourism Squamish and Tourism BC to increase messaging about fire bans and risks throughout popular campsites and trails, particularly in the Squamish Valley.	Tourism partnerships help ensure consistent wildfire messaging reaches visitors. Visitors are a hard-to-reach audience and many are unfamiliar with fire bans and restrictions. Using	DOS FireSmart Coordinator *(Tourism Squamish, Tourism BC)*	2-3 years	FireSmart Coordinator & Tourism BC partnership in place	CRI FCFS (*FireSmart Coordinator time)*

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			existing visitor coordination forums can help align wildfire messaging across agencies.				
Legislation and Planning – Section 5.2							
#15 Wildfire Landscaping Education and Outreach	High	Improve public education and outreach related to the Wildfire Landscaping Bylaw to increase awareness of wildfire risk, FireSmart landscaping principles and bylaw requirements. Education should use clear, plain-language guidance delivered through coordinated District communication channels, including social media.	Limited public awareness has reduced voluntary compliance with the Wildfire Landscaping Bylaw in existing neighbourhoods.	DOS FireSmart Coordinator, DOS Communications, DOS Planning	1 year then ongoing	Education materials delivered; regular social media messaging implemented	CRI FCFS *(FireSmart Coordinator time),* municipal communications budget
#16 Strengthen Compliance with Wildfire Regulations	High	Improve compliance with the Wildfire Landscaping Management Bylaw through existing planning and complaint-based processes, including clearer internal coordination, consistent follow-up where non-compliance is identified, and alignment with education and outreach efforts.	Reliance on complaint-based enforcement and limited resourcing have constrained compliance with the Wildfire Landscaping Management Bylaw, particularly in existing single-family neighbourhoods. The CFRC identified compliance and enforcement as ongoing challenges.	DOS Planning (*Community Bylaw Services)*	1 year then ongoing	Improved compliance with Wildfire Landscaping Management Bylaw requirements	Municipal budget *(enforcement)*
#17 Critical Infrastructure Resilience	High	Recommendations from completed Critical Infrastructure FireSmart assessments should be implemented as part of planned upgrades and maintenance.	Assessments completed in 2021 have not yet been implemented. Implementing recommendations will improve resilience of essential facilities. SFR and BCWS highlighted vulnerabilities in water and communication infrastructure that can be mitigated through FireSmart vegetation management.	DOS Facilities Planning, Public Works, FireSmart Coordinator (*Contractors)*	1-5 years	FireSmart upgrades and mitigation work completed for priority infrastructure.	CRI FCFS *(~$50,000/year*)* , municipal budget
Development Considerations – Section 5.3							
#18 DPA Update	High	Review and update the Wildfire Hazard DPA to create a clearer, more user-friendly framework that better supports consistent application and compliance.	A simplified DPA with clearer guidance would support more consistent application across neighbourhoods. Staff reported that the current structure is difficult to interpret and limits its effectiveness.	DOS Community Development (*Contractor)*	2-3 years	Wildfire Hazard DPA is amended	CRI FCFS, municipal budget *(staff time)*
Interagency Cooperation – Section 5.4							

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#19 Community FireSmart Resiliency Collaboratives (CFRC) Meetings	High	CFRC meetings should be held quarterly to maintain consistent communication and progress tracking on wildfire resiliency initiatives. A combination of internal (DOS-only) and interagency meetings may be appropriate.	Regular meetings help the CFRC maintain momentum on shared wildfire resiliency initiatives and provide a regular forum for aligning priorities and coordinating actions across agencies.	DOS FireSmart Coordinator *(Community Development, Emergency Management, Fire Rescue) (BC Parks, Squamish Nation, FOR, BCWS, SLRD, Squamish Community Forest)*	Ongoing	4x CFRC meetings annually	CRI FCFS *(~$2,500/meeting or ~$12,000/year)*
#20 Fuel Management Forum	Moderate	Establish an fuel management forum to coordinate fuel management planning and implementation within the wildland-urban interface. The forum should include key municipal departments, SFR and relevant land managers. The FireSmart Coordinator should attend Sea to Sky regional fuel management work group meetings and provide updates to ensure alignment with broader regional initiatives.	Establishing a forum would create a more consistent and accountable mechanism for coordinating local fuel treatment planning, tracking implementation progress and aligning priorities across jurisdictions. Maintaining a formal link to the regional work ensures regional coordination.	DOS FireSmart Coordinator *(SFR, BC Parks, Squamish Nation, BCWS, FOR, SLRD, Squamish Community Forest)*	1 year then annually	Forum established, meeting annually	CRI FCFS *(~$1,250/meeting)*
#21 Right-of-Way Maintenance	Moderate	Encourage transportation and utility providers, including BC Hydro, MOTI, CP Rail and private independent power producers (e.g., run-of-river projects such as the Skookum project), to implement vegetation management best practices along transmission corridors, highways, and railway rights-of-way.	Numerous fire ignitions stem from vegetation contacting utility lines or fuel build-up along transportation and utility corridors. Coordinated vegetation management would reduce ignition potential and improve access safety.	DOS FireSmart Coordinator *(Utilities)*	Annual	FireSmart Coordinator engages with utility providers annually	CRI FCFS *(FireSmart Coordinator time)*
Cross Training – Section 5.5							
#22 Training with BCWS	High	Squamish Fire Rescue (SFR) should maintain and expand annual joint-training sessions with BCWS to strengthen wildfire response and interface-operations skills. Ensure new members receive wildfire-specific training each season to maintain consistent operational readiness.	Regular joint exercises increase interoperability between neighbouring fire departments and support coordinated response during multi-jurisdictional wildfire events. High turnover within SFR makes recurring wildfire training for new staff especially important.	Squamish Fire Rescue *(BCWS)*	Annual	Annual joint-training sessions executed	CRI FCFS (Wildland Live Fire Training), municipal budget

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#23 Regional Wildfire Training	Moderate	Squamish Fire Rescue (SFR) should continue to host regional exercises and training activities for other departments in the Sea to Sky *(e.g., Britannia Beach Volunteer Fire Department, North Squamish Fire Society, Whistler Fire Rescue)*.	Regional training improves interoperability and supports coordinated response across neighbouring departments. This also reinforces components of the shared Sea to Sky evacuation plan.	Squamish Fire Rescue *(neighbouring fire departments)*	3 years	At least one regional exercise completed	CRI FCFS *(~$2,500/cross-jurisdictional meeting),* municipal budget
#24 Wildfire Conference	Moderate	The FireSmart Coordinator, SFR members and other relevant Emergency Management staff should participate in the Wildfire Resiliency and Training Summit.	Participation strengthens regional knowledge-sharing and keeps staff current with emerging wildfire practices.	DOS FireSmart Coordinator, Squamish Fire Rescue, DOS Emergency Management	Annual	Staff attendance annually	CRI FCFS *(up to 4 staff/year)*
#25 CFRC Training	Moderate	Encourage CFRC members to pursue courses such as FireSmart 101, FireSmart Landscaping or Wildfire Risk Reduction Basics to enhance understanding of forest fuel and wildfire risk	Understanding the basics of FireSmart and fuel management is important for CFRC members, especially land managers and agencies who have assets in the wildland urban interface.	DOS FireSmart Coordinator *(BC Parks, Community Forest, other CFRC members)*	2 years	At least one CFRC member pursues training and shares learnings	Free courses
#26 Train WMS	Low	SFR should consider training one or more members as Wildfire Mitigation Specialists to support the District FireSmart program.	Additional mitigation expertise increases capacity for FireSmart outreach and public education.	Squamish Fire Rescue	3 years	At least one SFR member trained	CRI FCFS
Emergency Planning – Section 5.6							
Plans							
#27 Share Emergency Plans	High	Share emergency response and evacuation plans among agencies involved in wildfire preparedness and response to ensure alignment and clarity of roles.	Coordinating and sharing plans between agencies would help identify gaps or overlaps in evacuation routes, communication protocols, and resource deployment to support a unified response during wildfire events. Sea to Sky evacuation plan is a multi-jurisdictional plan that requires response coordination.	DOS Emergency Management *(BCWS, RCMP, SLRD)*	1 year then ongoing	All agencies who may be involved in an evacuation have access to relevant plans	CEPF[2], municipal budget
#28 HVRA Update	High	Update Squamish's Hazard, Risk and Vulnerability Assessment (HVRA) to incorporate current hazard	The HRVA was last completed in 2015 and is due for an update. The OCP requires the	DOS Emergency Management	3 years	HVRA is updated	Municipal budget

[2] UBCM Community Emergency Preparedness Fund: https://www.ubcm.ca/cepf

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		trends, infrastructure updates, and changes in community demographics.	Community Risk Assessment to be updated every five years.				
#29 Update Emergency Plan	Moderate	Update the Squamish Comprehensive Emergency Plan (CEMP) and annexes to reflect current hazard conditions, infrastructure changes, and population growth	The existing plan does not reflect recent development, population growth, and changes to local infrastructure. Updating the CEMP and annexes will help ensure alignment with new legislative requirements of the Emergency and Disaster Management Act (EDMA) and regulations.	DOS Emergency Management *(Squamish Nation)*	2-5 years	CEMP & annexes updated	Municipal budget
#30 Wildfire Preparedness Condition Guide	Moderate	Adopt a wildfire preparedness condition guide that aligns with BCWS Coastal Fire centre Danger Class Ratings	A unified preparedness guide improves consistency between local and provincial operational triggers.	DOS Emergency Management	3 years	Wildfire conditions guide adopted & applied	Municipal budget
#31 Plan for Visitors	Moderate	Incorporate visitor-specific emergency messaging, signage, and evacuation procedures into wildfire emergency plans, particularly for FSRs and high-use recreation zones.	Tailored messaging improves safety for visitors who may be unfamiliar with local hazards and evacuation routes. Visitors are a hard-to-reach audience and often lack knowledge of bans and restrictions.	DOS Emergency Management *(FOR, RCMP, BCWS)*	5 years	Visitor information incorporated into emergency plans and annexes	CRI FCFS *(FireSmart BC print material)*
#32 Wildfire Modelling	Low	Consider completing a detailed wildfire behaviour and fire spread modeling exercise to support emergency planning and operational response.	Enhanced fire modeling would help the District better anticipate potential fire growth and spread patterns under various weather and fuel conditions to inform evacuation planning, suppression strategies and resource deployment.	DOS Emergency Management (*Contractor*)	5 years	Wildfire behaviour modeling complete	Municipal funding
Fire Department Response							
#33 Water Delivery Assessment	High	Assess water delivery capacity for wildfire suppression in areas not serviced by hydrants, including evaluation of water tender access, shuttle operations, and potential use of natural water sources, and opportunities for dry hydrant installation where appropriate.	Emergency services have identified limited water availability as an operational challenge in several unserviced areas.	DOS Engineering, Public Works *(Fire Rescue)*	2 years	Water delivery assessment complete	CRI FCFS *(~ $12,000*)

Item	Priority	Recommendation	Rationale	Lead Agency (Involved)	Timeline	Metric for Success	Funding Source
#34 Fire Rescue Staffing	High	Review Squamish Fire Rescue (SFR) staffing needs to ensure capacity remains aligned with increasing wildfire-related planning and operational demands, and consider reallocating municipal resources.	Regular staffing evaluation supports sustained readiness as wildfire planning and response requirements increase. SFR noted that staffing levels have not kept pace with Squamish's population growth.	DOS Emergency Management, Squamish Fire Rescue	2-5 years	SFR staffing needs reviewed & adjusted as feasible	Municipal budget
#35 Fire Rescue Equipment	High	Acquire a dedicated water tender and expand apparatus capacity with a side-by-side utility vehicle, large-volume relay pump and a second Type 6 engine to improve water delivery and interface response capacity of the fire department.	Additional apparatus enhances SFR's ability to deliver water and operate effectively in non-hydranted interface areas. SFR identified these equipment gaps as areas where added capability would strengthen suppression and interface response.	DOS Emergency Management, Squamish Fire Rescue	5 years	SFR equipment is acquired	Municipal budget + CRI FCFS funding *(pump)*
#36 Total Access Plan	Low	In collaboration with agency partners, develop a Total Access Plan for off-road suppression access and update every 5 years. Create a database and/or maps for suppression access planning and interagency use during wildfire response that include details like trail width, gates, and potential water sources.	Completing the plan will improve pre-incident planning and identify trails suitable for suppression access. This recommendation was included in the 2017 CWPP and has not been completed.	DOS Emergency Management, Squamish Fire Rescue, DOS GIS and IT staff *(BCWS, CF, BC Parks, Squamish Nation)*	5 years	Total Access plan developed and shared with emergency personnel	Municipal funding
Training							
#37 EOC Training	Moderate	Train additional municipal staff in EOC roles and protocols through the Introduction to Emergency Management in Canada and ICS-100 courses to increase surge capacity and support sustained operations during prolonged or concurrent emergencies.	Increasing EOC surge capacity supports sustained operations during prolonged or concurrent emergencies.	DOS Emergency Management	2-3 years	All relevant/ potential EOC staff trained	CRI FCFS, CEPF
#38 Evacuation Drills	High	Conduct mock evacuation drills for Paradise Valley, Garibaldi Highlands/University and Downtown and explore different scenarios that could complicate access.	Evacuation drills (tabletop exercises) help identify access constraints and support readiness for real-world emergencies.	Squamish Fire Rescue, DOS Emergency Management *(RCMP)*	Every 2-3 years	At least three neighbourhood drills completed	CEPF, municipal budget
Recovery							

Item	Priority	Recommendation	Rationale	Lead Agency (Involved)	Timeline	Metric for Success	Funding Source
#39 ESS Capacity	Moderate	Continue to strengthen Emergency Support Services (ESS) capacity through ongoing volunteer recruitment, training of volunteer and DOS staff, and program development to support effective recovery during wildfire-related displacement.	Increased ESS capacity supports effective recovery and resilience during wildfire-related displacement and includes training DOS staff to support the operation of reception centres and group lodging centres during emergency events.	DOS Emergency Management *(ESS)*	5 years	Sustained ESS volunteer uptake	Municipal budget, possible CEPF
Vegetation Management – Section 5.6							
FireSmart Landscaping							
#40 Park Maintenance	High	Expand the FireSmart program to include vegetation management of municipal parks, trails and around critical infrastructure focusing on the removal of surface fuel accumulations. Support debris removal through the chipping program.	Trail-side surface fuel accumulation is a common concern across municipal parks, and numerous critical infrastructure assessments recommended fuel reduction to mitigate structural vulnerabilities.	DOS FireSmart Coordinator/ Parks & Trails	2 years then ongoing	Vegetation management included in FireSmart program	CRI FCFS
#41 Clean-up Day	High	Collaborate with the Squamish Off-Road Cycling Association and/or Smoke Bluffs Association to organize a community trail clean-up day or develop an *Adopt-a-Trail* program to remove trailside surface fuel accumulations along trails. The DOS chipper may be utilized to assist efforts as feasible.	The Squamish Off-Road Cycling Association & Smoke Bluffs Association are a highly engaged community groups that could play a key role in supporting trailside vegetation maintenance through trial development and maintenance.	DOS FireSmart Coordinator *(Recreation Associations)*	2 years then ongoing	Outreach to recreation associations & best management practices applied	CRI FCFS *(FireSmart Coordinator time)*
#42 FireSmart Trail Construction	High	Develop a FireSmart Trail Best Management Practices guide that integrates wildfire risk reduction principles into trail planning, construction and maintenance. Work collaboratively with local trail-building organizations such as the Squamish Off-Road Cycling Association, the Smoke Bluffs and share BMPs with partner land managers.	High-use recreation corridors can contribute to localized fuel accumulation and vegetation continuity. Proactively incorporating FireSmart considerations into trail standards will reduce surface fuel build-up, limit ladder fuel development and help prevent unintended ignition exposure while maintaining recreational access.	DOS FireSmart Coordinator *(Recreation Associations)*	1-2 years	FireSmart Trail BMP guide developed and distributed; incorporated into at least one trail project.	CRI FCFS *(FireSmart Coordinator time)*
#43 Hedge Removal	High	Develop and launch a Cedar Hedge Reduction Incentive Program to encourage property owners to remove or replace highly flammable cedar hedges located near homes and structures. Leverage financial incentives or cost-share support to encourage uptake.	Cedar hedges are common throughout many Squamish neighbourhoods and often form continuous fuel paths that can carry fire between properties or from wildland areas into residential zones.	DOS FireSmart Coordinator	1 year then ongoing	Cedar Hedge program initiated, reduction in cedar hedges	CRI FCFS *(Up to 50% of total cost & $5,000/property)*

Item	Priority	Recommendation	Rationale	Lead Agency (Involved)	Timeline	Metric for Success	Funding Source
#44 FireSmart Crew	Low	Consider hiring a seasonal FireSmart Crew and/or Junior FireSmart Coordinator to support vegetation management of municipal parks, trails and infrastructure. They could also support chipping days for people with mobility issues.	A seasonal vegetation crew would increase capacity for routine fuel reduction in priority areas and provide additional support for residents who may face barriers managing vegetation on their properties.	DOS FireSmart Coordinator *(FireSmart Vegetation Crew/ Junior FireSmart Coordinator)*	2 years then annually	Role established & FireSmart vegetation management is supported	CRI FCFS
Fuel Management							
#45 Plan New Fuel Treatments	High	Develop new fuel management prescriptions and advance priority fuel treatments, coordinating with and supporting partner agencies where applicable.	Advancing planning and implementation on lands within DOS jurisdiction will reduce wildfire risk to nearby neighbourhoods, critical infrastructure and high-use recreation areas.	DOS FireSmart Coordinator *(Contractor, Land Managers)*	1-3 years	Proposed fuel treatment units actioned upon	CRI FCFS
#46 Implement Completed Prescriptions	High	Amend Merrill Park, and Airport FMPs to include updated chipping thresholds. Implement remaining treatment units and prescriptions in the following order: BFI (Airport TU-B4), Merrill Park, Airport North (TU C, D). The District should consider using municipal funds to top up CRI FCFS funding maximums and increase bidder interest.	Updating debris management requirements increases treatment feasibility and supports competitive bidding for fuel management. Bids for fuel management implementation projects in the Sea to Sky and Lower Mainland are usually in excess of the CRI FCFS per hectare funding maximum.	DOS FireSmart Coordinator *(Contractor)*	1-3 years	Prescriptions are amended and re-tenured	CRI FCFS;
#47 Support Partner Agency Fuel treatments	High	Seek opportunities to support partner agencies, including the Squamish Community Forest (SCF), BC Parks, and the Sea to Sky Natural Resource District (Ministry of Forests) fuel management programs.	Coordinated implementation across jurisdictions supports protection of community values and contributes to landscape-scale wildfire risk reduction.	DOS FireSmart Coordinator *(SCF, Ministry of Forests, BC Parks)*	1-4 years	Proposed fuel treatment units actioned upon	CRI FCFS / CRI CLWRR[3] (BC Parks budget)
#48 Parks Maintenance Standards	High	Encourage consideration of incorporating FireSmart vegetation management standards into trail, park and campground maintenance programs across all jurisdictions, as identified in this CWRP. Park and land managers should maintain trailside and campsite areas to reduce surface fuel accumulations and, where appropriate, prune or thin vegetation to create low-hazard buffers.	Elevated surface fuel loading and localized ladder-fuel continuity were observed across multiple parks and recreation corridors. Applying FireSmart principles within routine maintenance activities would help moderate potential fire behaviour under extreme weather conditions.	DOS FireSmart Coordinator + Parks and Trails *(BC Parks, SCF, SLRD)*	Ongoing	Trailside and campsite vegetation hazards are reduced	CRI FCFS / CRI CLWRR (land manager budget)

[3] Community Resiliency Investment Program – Crown Land Wildfire Risk Reduction. https://www2.gov.bc.ca/gov/content/safety/wildfire-status/prevention/funding-for-wildfire-prevention/crip/wrr

Item	Priority	Recommendation	Rationale	Lead Agency (Involved)	Timeline	Metric for Success	Funding Source
#49 Support CLWRR Program	Moderate	Advocate to the Ministry of Forests to plan for the implementation of existing fuel management prescriptions under the CLWRR program that were originally developed by DOS through the CRI program (i.e. Highway 99, Indian River Road).	These prescriptions are implementation-ready and target areas now outside the current Eligible WUI boundary, making them ineligible for CRI FCFS funding but suitable for the BCWS CLWRR program.	DOS FireSmart Coordinator *(BCWS, Ministry of Forests)*	2-5 years	Prescriptions are handed off to MOF & BCWS for consideration	CRI CLWRR *(CRI FCFS for FireSmart Coordinator time)*
#50 Post-Logging Clean up	High	Encourage licensees to practice enhanced post-logging slash clean up in the wildland urban interface and timely burning of slash piles in recent cutblocks, (e.g., ,on Levette FSR).	BCWS cited coastal slash as a concerning fuel type in the region and unburnt piles are a target for human ignition. For example, slash piles in blocks along Levette FSR was noted during CWRP development and slash pile burning is expected to be completed this winter.	DOS FireSmart Coordinator *(Land Manager)*	3 months	Respective land managers are engaged with, piles are burned	CRI FCFS *(FireSmart Coordinator time)*
#51 Open House	Moderate	Host a public open house with the Fire Chief, BCWS, and wildfire experts to review lessons learned from the past fire season, share information on upcoming fuel treatments, and receive comments. Use this as an opportunity to integrate FireSmart education and help residents prepare for the next wildfire season.	Annual events help share lessons learned, increase public buy-in for a fuel management program, and improve community preparedness ahead of each fire season.	DOS Fire Chief, FireSmart Coordinator, Wildfire Experts (Academia / Industry / Government)	Annual	Fuel management open house held annually	CRI FCFS *(~$6,000/event)*
#52 Share Info Online	Moderate	Create a dedicated webpage on the District of Squamish website to share updates and maps of ongoing and completed fuel management projects.	A simple, accessible online platform would help inform residents about wildfire risk reduction efforts. Sharing photos and stories of completed projects can strengthen public engagement.	DOS FireSmart Coordinator/ Communications	2 years	Dedicated fuel management webpage on DOS website	CRI FCFS *(FireSmart Coordinator time)*
#53 Support Fuel Treatment on Private Land	Moderate	Engage with the Ministry of Forests, BC Wildfire Service, FireSmart BC, and funders such as UBCM to discuss a strategy to enable owners of large forested properties to undertake meaningfully-sized fuel treatments. A strategy could involve piloting education, risk assessments, free guidance and potentially an incentive program. Look to Washington State Department of Natural Resources' Small Forest Landowner Regulation Assistance Program for a possible framework.	Even the most dedicated residents will likely have difficulty undertaking fuel treatments beyond the 30 m Home Ignition Zone due to the time and cost involved. However, effectively reducing wildfire risk from structures-out to a landscape level will involve forest treatments on private land on a broad scale. Residents may benefit from a program that helps them plan and undertake such treatments in compliance with local and provincial legislation, and in a cost-effective and possibly income generating manner.	DOS FireSmart Coordinator *(Ministry of Forests, BC Wildfire Service)*	5 years	Meetings take place	Local government funding, possibly CRI FCFS

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FREQUENTLY USED ACRONYMS

AOI	Area of Interest
BCWS	British Columbia Wildfire Service
BEC	Biogeoclimatic Ecosystem Classification
CFFDRS	Canadian Forest Fire Danger Rating System
CFRC	Community FireSmart and Resiliency Committee
CI	Critical infrastructure
CLWRR	Crown Land Wildfire Risk Reduction
CRI	Community Resiliency Investment
CWPP	Community Wildfire Protection Plan
CWRP	Community Wildfire Resiliency Plan
DOS	District of Squamish
DPA	Development Permit Area
EOC	Emergency Operations Center
ESS	Emergency Supports Service
FBP	Fire Behaviour Prediction System
FCFS	FireSmart Community Funding and Supports
FNESS	First Nations Emergency Services Society
FRPA	Forest & Range Practices Act
FSCCRP	FireSmart Canada Community Recognition Program
HIZ	Home Ignition Zone
HRVA	Hazard, Risk, and Vulnerability Analysis
MOF	Ministry of Forests
NDT	Natural Disturbance Type
OCP	Official Community Plan
SARA	Species at Risk Act
SFR	Squamish Fire Rescue
SEP	Squamish Emergency Program
SLRD	Squamish-Lillooet Regional District
SPU	Structure Protection Unit
UBCM	Union of BC Municipalities
VRFR	View Royal Fire Rescue
WRR	Wildfire Risk Reduction
WTA	Wildfire Threat Assessment
WUI	Wildland Urban Interface

SECTION 1: INTRODUCTION

1.1 OVERVIEW

In March 2025, Blackwell Consulting Ltd. was retained to assist the District of Squamish (Squamish, the District, DOS) in preparing a Community Wildfire Resiliency Plan (CWRP). The CWRP is guided by the current provincial community wildfire planning framework and is structured around the seven FireSmart disciplines: Education, Vegetation Management, Legislation and Planning, Development Considerations, Interagency Cooperation and Emergency Planning.

This update revisits the areas assessed in the District's 2017 Community Wildfire Protection Plan (CWPP) and incorporates new data sources, revised provincial methodologies and updated Eligible Wildland Urban Interface (Eligible WUI) mapping. The plan includes fuel type mapping, updated provincial wildfire threat assessment inputs, spatial analysis of local values at risk and a review of municipal policies, development patterns and emergency management practices that have evolved over the past eight years.

The planning process included interagency engagement with Squamish Fire Rescue, BC Wildfire Service, the Squamish Community Forest , the Sea to Sky Natural Resource District, Squamish Nation, BC Parks and the Squamish-Lillooet Regional District. Field assessments were conducted to evaluate surface fuels, ladder fuels, stand structure, slope position and access considerations in key areas across the Eligible WUI. These assessments, combined with spatial analysis and review of past wildfire activity, inform the suite of recommendations presented in this plan.

Together, this updated CWRP provides Squamish with a current, evidence-based understanding of local wildfire risk and a set of actionable strategies to reduce that risk over time.

1.2 PLAN GOALS

This CWRP identifies the level of interface wildfire risk in Squamish and gives the community a current and accurate understanding of the threats to human life, infrastructure, and values at risk from wildfire. This CWRP is intended to serve as a framework to guide the implementation of specific actions and strategies to:

- Increase the efficacy of fire suppression and emergency response,
- Reduce potential impacts and losses to property and critical infrastructure from wildfire, and
- Reduce wildfire behavior threat within the community.

To help guide and accomplish the above strategies, this CWRP will provide Squamish with:

- An assessment of wildfire risk to the community,

- An assessment of values at risk and potential consequences from wildfire,
- Maps of fuel types and recommended areas for fuel treatments,
- A review of emergency and interface wildfire response and recovery capacity, and
- Options and strategies to reduce wildfire risk in seven FireSmart disciplines: education, legislation and planning, development considerations, interagency cooperation, cross-training, emergency planning, and vegetation management.

CWRPs are funded in BC by the Union of BC Municipalities (UBCM) under the Community Resiliency Investment (CRI) FireSmart Community Funding and Supports (FCFS) Program. Per funding requirements, this CWRP is completed according to the newest 2025 FireSmart BC CWRP template.[4]

1.3 PLAN DEVELOPMENT SUMMARY

The District of Squamish administrative boundary is considered the Area of Interest (AOI) of this CWRP. Analyses and planning focuses mainly on the Wildland-Urban Interface (WUI) which is the area where structures and other human development meet or intermingle with undeveloped wildland and vegetative fuels. The Eligible WUI, as defined under the FCFS program, generally represents the area within one kilometre of structure densities greater than six structures per square kilometre. The Eligible WUI is a standard parameter used to define the scope of all CWRPs funded through FCFS. CWRPs focus on conditions and issues that can be addressed in the Eligible WUI. A more detailed description of the AOI and WUI delineation is provided in Section 3.1 and the mapped extent is illustrated on Map 1 .

The CWRP process consists of five general phases:

1. Consultation with internal and external project stakeholders;
2. Review of relevant plans and legislation regarding emergency response and wildfire (SECTION 2:);
3. Community description and identification of values at risk (SECTION 3:);
4. Assessment of the local wildfire risk (SECTION 4:), and;
5. Analysis and action plan for each of the seven FireSmart disciplines (SECTION 5:).

[4] Union of BC Municipalities. (2024). 2024 Community Wildfire Resiliency Plan (CWRP) Template. https://www.ubcm.ca/sites/default/files/2024-07/LGPS_CRI_FCFS_2024_CWRP_TEMPLATE_2024-07.pdf

SECTION 2: RELATIONSHIP TO OTHER PLANS AND LEGISLATION

Wildfire resiliency is influenced by all aspects of community planning, from land use decisions to utilities servicing, development policies, parks and trails planning, bylaw enforcement and more. As a result, there are many plans that relate to a CWRP. The intent of this section is to review all relevant local and higher-level plans and legislation to identify any linkages and content that is relevant to community wildfire planning for Squamish. These topics, as well as recommendations to strengthen and improve municipal policies and bylaws, are further discussed in Section 5.2.

2.1 LOCAL AUTHORITY EMERGENCY PLAN

Emergency preparedness and response in the District of Squamish are guided by higher-level emergency management legislation. In November 2023, the *Emergency Program Act* was repealed and replaced by the *Emergency and Disaster Management Act* (EDMA). The updated legislation defines the roles of the Province and local governments in implementing emergency plans, declaring states of emergency, and coordinating recovery and relief programs. It expands the focus of emergency management to the four phases of mitigation, preparedness, response and recovery, and introduces new requirements for Indigenous engagement, climate adaptation, and risk reduction.

The District of Squamish administers emergency management through its *Comprehensive Emergency Management Plan (CEMP)*, which includes the *Community Risk Assessment Report* (2015), the *All Hazards Plan* (2016), and the *Sea to Sky Multimodal Evacuation Plan* (2019). These plans and their annexes are being progressively reviewed and updated to align with the new requirements of the EDMA. The District's emergency management framework is supported by bylaws, such as the Wildfire Landscaping Management Bylaw, that are consistent with the Act's emphasis on mitigation and preparedness.

Since the completion of the 2017 CWPP, the District's emergency management approach has continued to mature in alignment with evolving provincial legislation. The Province is currently developing supporting local authority emergency management regulations, anticipated for release between 2026 and 2027. These forthcoming regulations will establish requirements for updated risk assessments, emergency management plans, continuity plans and coordination with Indigenous communities. Updates to the District's emergency program may be required as these new regulations come into effect.

These plans, bylaws, and supporting documents and their connections to other emergency preparedness initiatives within the District are further described in Section 5.6.

2.2 LINKAGES TO OTHER CWPPS / CWRPS

Reviewing neighbouring CWPPs and CWRPs is important because wildfire risk extends beyond administrative boundaries. Squamish shares fuels, recreation corridors, ignition sources and evacuation dependencies with adjacent jurisdictions. Aligning wildfire planning frameworks helps coordinate fuel treatment priorities, evacuation procedures and public communication across the broader landscape. This

multi-jurisdictional perspective supports a consistent regional approach to wildfire and emergency management. Table 2 below summarizes the community wildfire planning status and relationships between the District of Squamish and its neighbouring jurisdictions.

Table 2. Community wildfire planning relationships with neighboring jurisdictions.

Community	Wildfire Plan	Relevance
Squamish-Lillooet Regional District Electoral Area D	2021 CWRP (Electoral Area D)[5]	• SLRD Electoral Area D surrounds the municipality and includes interface areas such as Squamish Valley and Paradise Valley. • SLRD participates in the CFRC and collaborates regularly with the District's emergency management staff. • Relevant recommendations include promoting public education in the Squamish Valley and increasing outreach for the Sea to Sky Evacuation Plan.
Squamish Nation	2022	• Cheakamus 11 IR, Kowatain IR 17, Waiwakum IR 14, Aikwuck IR 15, Poquiosin & Skamain IR 13, Yekwaupsum IR 18 and Stawamus IR 24 overlap with the Eligible WUI • Representative participates in the CFRC • Fuel treatments are proposed in Cheakamus 11 IR and Stawamus IR 24 • Relevant recommendations include FireSmart education and outreach, participation in Sea to Sky emergency exercises with regional partners and coordination with Squamish Fire Rescue to enhance water supply capacity for Cheakamus 11 IR.

District of Squamish 2017 CWPP Update

In 2017, B.A. Blackwell & Associates Ltd. (now Blackwell Consulting Ltd.) completed a CWPP Update for the District of Squamish. The plan outlined 48 recommendations focused on vegetation management, FireSmart implementation, emergency preparedness, planning and policy and interagency coordination. Since its completion, many of these recommendations have been advanced or integrated into District operations, planning processes, and community engagement efforts:

- Implementation of numerous fuel management treatments within and adjacent to the Eligible WUI, addressing several treatment units proposed in the 2017 CWPP.
- Development of a Wildfire Development Permit Area (DPA) and the Wildfire Landscaping Bylaw to guide wildfire-resilient growth and land use in high-risk areas. The DPA and Bylaw were formally adopted; however, challenges remain regarding consistent enforcement and integration within development review processes.

[5] SLRD_D_CWRP_2021

- Ongoing collaboration with the District of Squamish, Squamish Nation and the Ministry of Forests through the establishment and operation of the Squamish Community Forest, now established and jointly managed to support ecosystem health, wildfire risk reduction, and community benefit. Representatives from the Community Forest also participate in the Community FireSmart Resiliency Committee (CFRC), strengthening coordination between local, provincial, and Indigenous partners.
- Application of FireSmart construction and landscaping standards for critical infrastructure and new development, including vegetation setbacks and secondary power source considerations. Since 2021, the District has completed numerous FireSmart Home Assessments and Critical Infrastructure Wildfire Assessments; implementation of the assessment's recommendations is ongoing.
- Implementation of community FireSmart programming, supported by the hiring of a District FireSmart Coordinator, community chipper programs, FireSmart workshops, and school-based fire education initiatives.
- Formation of a Wildfire Working Group and strengthened interagency collaboration through the CFRC, which continues to coordinate FireSmart, emergency management, and wildfire mitigation initiatives across departments and partner agencies.
- Expansion of interagency cooperation and training, with continued joint exercises and mock wildfire simulations involving the BC Wildfire Service and regional fire departments.

2.3 LINKAGES TO OTHER PLANS

Official Community Plan

The District of Squamish Official Community Plan (OCP) is the community's long-range planning document that guides land use, development and service delivery over the next 25 years. It establishes objectives and policies to manage growth, address community priorities and reduce greenhouse gas emissions. The OCP applies to all lands within the District boundary, excluding Squamish Nation reserve lands, and is implemented through municipal planning, decision-making and bylaw consistency.

The OCP reviewed for this CWRP was adopted in 2024. Table 3 below summarizes the objectives and policies within the OCP that are relevant to the objectives of this CWRP.

Table 3. Summary of Official Community Plan (2024) objectives and policies related to community wildfire resiliency planning.

OCP Section	Policy Description & Relationship to CWRP
General Natural Hazards and	Objectives 11.1 a-d focus on assessing and managing natural hazards. Relevant policies include:

OCP Section	Policy Description & Relationship to CWRP
Constraints (Section 11– Hazard Lands)	• Policy 11.2g calls for development of a comprehensive public education program on natural hazard mitigation, including awareness of risks from flooding and wildfire. ***Takeaways:*** *Public education and outreach on wildfire risk are key components of community awareness and prevention under the CWRP framework.*
Wildfire Interface Hazard (Section 11 – Natural Hazards and Climate Change)	Objective 11.17 includes policies aimed at reducing wildfire risk within the WUI through updated planning, regulation and public education initiatives. Relevant policies include: • Policy 11.18a directs the District to update the CWRP and assess projected climate change impacts on future wildfire hazards. • Policy 11.18b calls for the development and adoption of a Wildfire Hazard DPA designation for interface areas once the updated plan is complete. • Policy 11.18c requires incorporation of FireSmart guidelines for new residential development in high-risk interface zones, with emphasis on materials and landscaping within the first 10m of structures. • Policy 11.18d encourages collaboration with the Province and SLRD to develop a regional fire risk mitigation strategy. • Policy 11.18e promotes the creation of a FireSmart community through education and partnership with wildfire management professionals, Squamish Fire Rescue, developers, builders and other stakeholders. ***Takeaways:*** *Policies under this section establish a clear framework for wildfire risk reduction by integrating FireSmart principles, regulatory tools and interagency collaboration to strengthen interface area resilience.*
Climate Change Adaptation (Section 19 – Climate Change Mitigation and Adaptation)	Objectives 19.5 and 19.7 focus on understanding and planning for the impacts of climate change on development and community resilience. Relevant policies include: • Policy 19.8a calls for improving knowledge of climate change and its regional impacts, including changes in temperature and precipitation that may influence wildfire risk and behaviour. • Policy 19.8b supports development of an adaptation checklist requiring new projects to address regional climate impacts and enhance resiliency. ***Takeaways:*** *Integrating climate data and adaptation planning into development decisions supports long-term wildfire resiliency.*
Disaster Resilience Planning (Section 22 – Public Safety)	Objective 22.3 focuses on strengthening community resilience and increasing the capacity to prepare for, mitigate, respond to, and recover from emergencies and disasters. Relevant policies include: • Policy 22.4a directs the District to finalize and annually update the Comprehensive Emergency Management Plan (CEMP), including All-Hazards and Hazard-Specific (Flood, Wildfire) annexes and supporting plans.

OCP Section	Policy Description & Relationship to CWRP
	• Policy 22.4b requires updates to the District's Community Risk Assessment (Hazard, Risk and Vulnerability Assessment) every five years. • Policy 22.4c designates a network of neighbourhood support hubs as locations for coordinated assistance and resource sharing during and after disaster events. • Policy 22.4d calls for planning, coordination and regular testing of emergency and disaster response services in conjunction with Squamish Nation and neighbouring communities. ***Takeaway:*** *Maintaining current emergency management frameworks and fostering collaboration at the neighbourhood and regional level will improve overall community resilience to wildfire and other hazards.*
Community Emergency Preparedness and Mitigation (Section 22 – Public Safety)	Objective 22.5 focuses on strengthening local emergency preparedness, response and recovery capacity through coordinated planning, mitigation and self-resiliency initiatives. Relevant policies include: • Policy 22.6a directs the District to strengthen community emergency and business continuity planning. • Policy 22.6b calls for the development and implementation of mitigation measures to support vulnerable members of the population during emergencies, including communications and evacuation supports. • Policy 22.6c encourages consideration of relocating core emergency response facilities, such as the Fire Hall and RCMP Detachment/Emergency Operations Centre, from areas threatened by natural hazards at the end of their lifespans. • Policy 22.6d requires assessment of climate change impacts on emergency response capabilities to ensure future readiness. ***Takeaway:*** *Policies under this section enhance community capacity and emergency readiness through updated planning and neighbourhood support systems for wildfire and other disasters.*
Forest Lands (Section 23 – Resource and Recreation Lands)	Objectives 23.1 a and b promote stewardship of the forest land base and sustainable management practices that support ecosystem health and community safety. Relevant policies include: • Policy 23.2f directs the District to work with the BCWS on wildland fire management planning and wildfire prevention through forest management education and enforcement. • Policy 23.2g calls for consideration of climate change in all aspects of sustainable forest management. ***Takeaway:*** *Collaboration with the BCWS and the integration of climate-adaptive forest practices will help reduce wildfire risk across managed forest areas in the region.*

OCP Section	Policy Description & Relationship to CWRP
DPA 11 – Protection from Wildfire Hazard (Part 5 – Development Permit Areas)	The Wildfire Hazard DPA protects development in mapped wildfire hazard zones through FireSmart-based design and construction requirements. It outlines standards for building materials and landscaping within the first 10m and subdivision access to reduce interface fire risk. Wildfire hazard assessments by Qualified Professionals ensure that mitigation measures are incorporated into development approvals. ***Takeaway:*** *The DPA embeds wildfire hazard reduction into land-use planning through construction, siting and vegetation management standards for interface areas.*

Other Local Plans

Table 4 contains other local plans and policies which are directly relevant to the CWRP.

Table 4. Summary of other local plans and policies relevant to community wildfire planning.

Plan	Description
Sea to Sky Multimodal Evacuation Plan (2019)	Jointly developed by DOS and Resort Municipality of Whistler, this plan establishes a coordinated framework for the mass evacuation of either community using road, rail, marine and air transport. It identifies wildfire and floods as the most likely hazards to trigger large-scale evacuation in Squamish, emphasizing limited egress along Highway 99 and the need for coordinated inter-agency response.
Community Risk Assessment (2015)	Provides a hazard-specific assessment of wildfire, flood, seismic and other municipal risks, identifying key exposures, likelihoods and potential impacts. The assessment includes an Hazard, Vulnerability and Risk Assessment (HVRA) framework used to guide municipal risk-reduction priorities and resource allocation.
All Hazards Plan (2017)	Outlines the strategic framework for the District's comprehensive emergency management approach, including hazard assessment, response, recovery and mitigation. Identifies interface fire, floods, debris flows and utility failure among priority hazards.
Fire Rescue Five-Year Plan (2022-2026)	The (outdated) plan outlines strategic priorities for response readiness, wildfire suppression capacity, and training for interface operations. It highlights the need for sustained investment in equipment, staff development and inter-agency coordination to address growing urban-interface pressures and climate-related emergencies.
District of Squamish Natural Asset Management Strategy (2022)	This strategy identifies forests, wetlands, riparian areas and estuarine systems as core municipal assets that provide ecosystem services. It acknowledges that these natural assets face pressures from development, recreation, pests, climate change and wildfire, and notes protection and restoration of these assets as integral to effective service delivery and hazard resilience
District of Squamish Community Climate Action Plan (2025)	Sets a target to reduce community greenhouse gas emissions by 45% by 2030 and achieve net-zero by 2050. The plan recognizes wildfire, drought and flood as key climate impacts and emphasizes adaptation co-benefits such as ecosystem protection, improved air quality and community health.

Plan	Description
District of Squamish Strategic Plan (2023–2026)	Relevant objectives include implementing the Community Climate Action Plan, strengthening emergency preparedness and advancing hazard mitigation. The plan prioritizes community safety, sustainable infrastructure and climate adaptation as essential components of long-term resilience

Higher Level Plans and Legislation

Table 5 lists higher-level plans and legislation relevant to wildfire planning and risk mitigation within Squamish. Land resource use plans establish objectives for forest management, biodiversity conservation and sustainable resource development, which in turn influence vegetation structure, fuel conditions and operational practices in and around the community.

Table 5. Higher level plans and relevant legislation.

Plan/Legislation	Description & *Relationship to CWRP*
Sea-to-Sky Land and Resource Management Plan (2008, amended 2013)	Provides legally established land-use objectives for the region, guiding management of Crown lands surrounding the District. The LRMP designates Old Growth Management Areas, Wildlife Habitat Areas and Visual Quality Objectives, which influence where and how fuel management can occur. These objectives aim to maintain ecological and cultural values while balancing sustainable resource use. The LRMP provides a higher-level direction under which forestry and resource development activities occur.
BCTS Chinook Business Area Forest Stewardship Plan (FSP #941, 2023)	Outlines results and strategies for sustainable timber harvesting within the Sea-to-Sky Natural Resource District. It incorporates management requirements for biodiversity, riparian protection and species at risk. The FSP indirectly affects wildfire risk through its influence on vegetation structure, fuel continuity and access development adjacent to the Eligible WUI.
Squamish Community Forest Management Plan (2022)	Provides the strategic direction for management of the Squamish Community Forest, balancing timber production, recreation, biodiversity, watershed protection and community values. The plan identifies wildfire as a key management consideration and supports fuel reduction, stand structure management and silvicultural approaches that improve forest resilience. It promotes coordination with neighbouring jurisdictions and alignment of forest management activities with community wildfire-resiliency objectives in areas adjacent to the District of Squamish.

Plan/Legislation	Description & *Relationship to CWRP*
Squamish Community Forest Forest Stewardship Plan (FSP #970, 2023)	Establishes the results and strategies guiding forest management within the Squamish Community Forest tenure under the Forest and Range Practices Act. The plan addresses multiple forest values including timber, recreation, wildlife habitat and visual quality. It includes stocking standards and stand management approaches that support forest health, structural resilience and wildfire risk reduction, particularly in areas adjacent to the District of Squamish.
BC Parks and Protected Areas Management Plans	BC Parks has management plans and purpose statements guiding individual park management, as well as emergency evacuation plans and wildfire response plans. Management plans or purpose statements are available online for parks in or adjacent to the Eligible WUI: • Alice Lake Provincial Park Purpose Statement and Zoning Plan (2003) – Protect a representative coastal lake system for overnight and day use recreation • Garibaldi Provincial Park Management Plan (1990) and Amendment for the Spearhead Area (2014) – Managed for wilderness conservation and backcountry recreation; strategy to include a wildfire plan in studies addressing the Spearhead Hut system • Stawamus Chief Park Management Plan (1997) – Managed as an internationally important rock-climbing area and a special feature. Policy to restrict all open fires and actively suppress any wildfires. • Shannon Falls Provincial Park Management Plan (1985) – Managed for visitor day use / roadside recreation; recognized as a special natural feature • Murrin Provincial Park Management Plan (1981) – Managed for day use and tourism recreation along Highway 99 corridor • Brackendale Eagles Park, Baynes Island Ecological Reserve, Tantalus Provincial Park Management Plan (2012) – Three adjacent protected areas managed for a) winter eagle habitat b) floodplain ecosystems c) backcountry recreation and wilderness conservation. A fire management plan has been developed for Tantalus Park with objectives of protecting public safety and natural and cultural values while allowing natural processes to occur where possible.

SECTION 3: COMMUNITY DESCRIPTION

This section defines the planning area and provides general demographic information about Squamish, as well as additional context regarding the surrounding area. An understanding of population trends, land use patterns, and values at risk can help best direct FireSmart outreach and risk mitigation activities.

3.1 AREA OF INTEREST AND WILDLAND URBAN INTERFACE

The wildland-urban interface is the area where built environments overlap with wildland fuels, creating conditions where wildfire and human development interact. In these transitional zones, vegetation, topography and the pattern of residential or commercial development collectively influence how a wildfire may spread and how easily structures may ignite. Within the wildland-urban interface, the arrangement of built structures and surrounding vegetation creates the potential for fire to spread either from the forest into the community or from the community into adjacent wildlands through direct flame contact, radiant heat, or wind-borne embers. The wildland-urban interface zone can be characterized by interface zones, where a high density of structures meet wildland at a clearly defined boundary, or intermixed zones, where structures are embedded within wildland vegetation without a clear boundary[6].

For this CWRP, wildfire analyses and landscape planning focus on the Eligible WUI associated with structures located within the District of Squamish's administrative boundaries, referred to here as the AOI. Some portions of the Eligible WUI extend slightly beyond the municipal boundary into Squamish-Lillooet Regional District and Squamish Nation lands. Wildfire threat analysis was completed for these adjacent wildland areas because their fire behaviour characteristics directly influence risk to structures within the District. Fieldwork and the delineation of potential fuel-treatment units were completed only within portions of the Eligible WUI that fall inside the District's administrative boundary.

One exception is Alice Lake Provincial Park, which is included within the AOI but lies outside the spatially defined Eligible WUI because the structural analysis does not capture temporary trailers or campers. Given the park's location within the AOI, its high seasonal visitor use during peak wildfire periods and its inclusion in the 2017 CWPP (when a 2 km WUI buffer was used under the previous funding model), it was rationalized to retain Alice Lake as a priority area for fuel-management consideration. As the park lies outside the Eligible WUI and is on Provincial Crown land, fuel management in this area would not currently be eligible for FCFS funding; however, inclusion of this area within the CWRP supports broader wildfire risk reduction planning and future funding considerations within the Crown Land Wildfire Risk Reduction Program.

Land ownership within the Eligible WUI is a mix of private, provincial, municipal and federal lands, reflecting Squamish's blend of urban development, recreation and surrounding Crown forest. Provincial Crown land comprises roughly 56% of the Eligible WUI, making it the dominant ownership type and

[6] Wildfire Glossary - Province of British Columbia

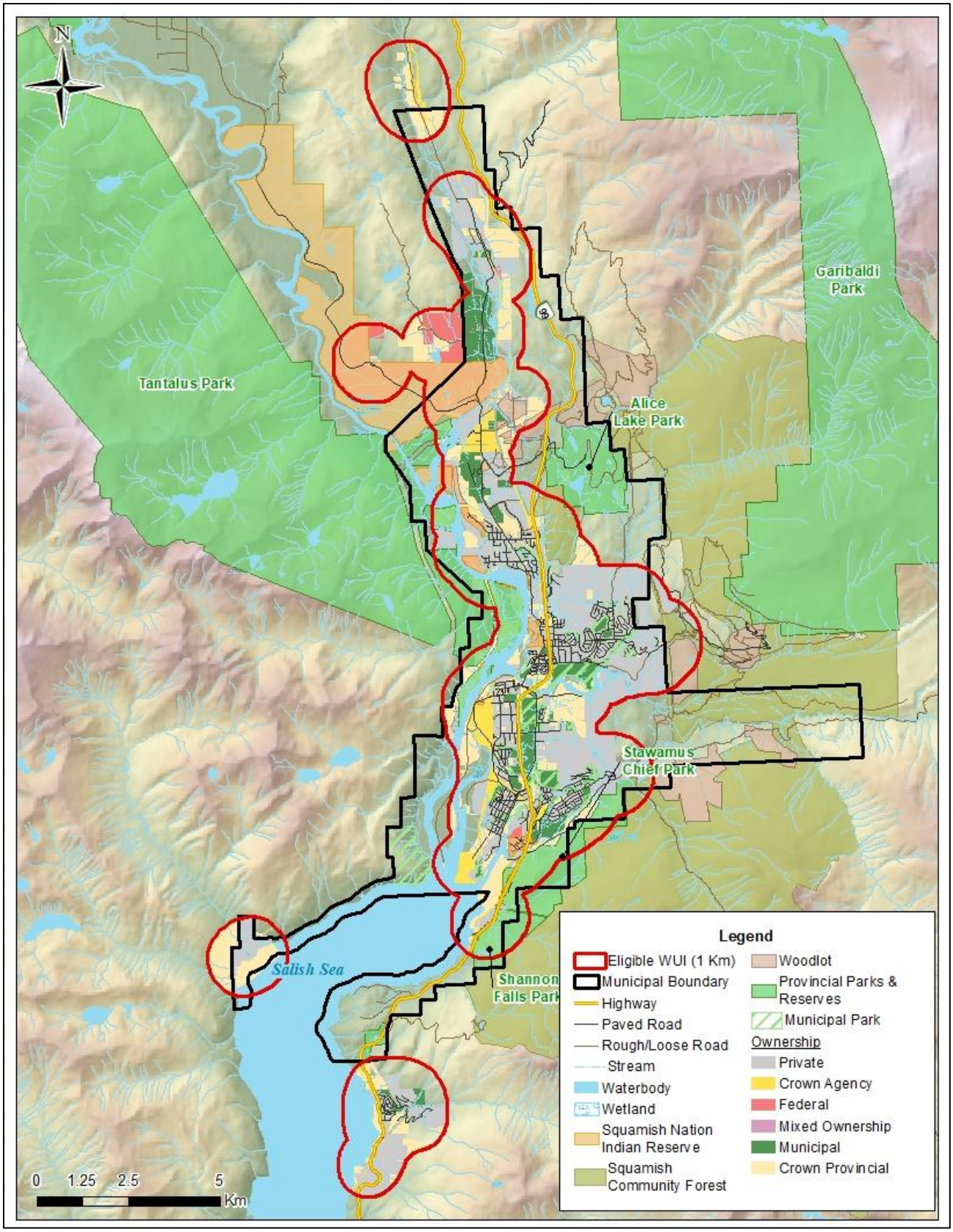
represents the majority of the surrounding interface area. These lands form the broader wildland landscape that influences local fire behaviour, response access and potential for cross-boundary ignition.

Private land accounts for approximately 28% of the Eligible WUI. Much of this private land consists of large, forested parcels extending into the interface, which contribute to continuous fuel connectivity between developed neighbourhoods and adjacent wildlands. Municipal lands make up approximately 6% of the Eligible WUI and are distributed throughout the developed area as parks, open spaces and operational facilities. The Squamish Estuary, the largest municipally owned natural area, is a defining environmental feature that supports ecological conservation and provides natural buffers within the urban landscape. Crown agency lands (3%) include managed properties under provincial jurisdiction such as transportation and utility corridors, while federal lands (6%) primarily consist of Squamish Nation Indian Reserves.

The predominance of private land within the Eligible WUI emphasizes the importance of FireSmart education and the application of FireSmart principles to landscaping and structure design, particularly in neighbourhoods located along the wildland-urban interface. Development density is increasingly pushing multi-family projects into interface areas, often on steep hillsides or along single-access roads, creating complex response conditions. Map 1 shows the AOI, Eligible WUI, and land ownership types within Squamish. A breakdown of land area by ownership type is listed in Table 6.

Table 6. Land ownership within the Squamish Eligible WUI.

Land Ownership	Area (ha)	Percent of EWUI (%)
Crown Agency	325	3%
Crown Provincial	5,744	56%
Federal	582	6%
Municipal	572	6%
Private	2,842	28%
Unclassified	254	2%



Map 1. Area of Interest and Eligible WUI for the District of Squamish

3.2 COMMUNITY INFORMATION

The District of Squamish is located at the northern tip of Howe Sound, approximately 70 km north of Vancouver. The municipality is bordered by steep Coastal Range mountains, including Mt. Tantalus, Mt. Garibaldi and Mamquam Mountain, and sits within a broad river valley shaped by glacial processes. Five major rivers including the Squamish, Mamquam, Cheakamus, Cheekeye and Stawamus Rivers, converge within the District, creating a large floodplain that drains into the Squamish River Estuary at Howe Sound. Elevations within municipal boundaries range from sea level to over 900 metres, and the area falls within the Coastal Western Hemlock biogeoclimatic zone, which supports a rich temperate rainforest ecosystem and high biodiversity. Squamish is one of the most visited outdoor recreation destinations in British Columbia, drawing large numbers of hikers, rock climbers, kite and wind surfers, ski tourers, kayakers, sightseers, dirt bikers and mountain bikers due to its proximity to Vancouver and its extensive network of trails, parks and provincial recreation areas[7].

The community lies within the core traditional territory of the Skwxwú7mesh Úxwumixw (Squamish Nation), whose connection to the land and waters of Howe Sound extends back since time immemorial[8]. Within the municipal boundary, Squamish Nation reserve lands include Ch'iyákmesh (Cheakamus) IR 11, Pukwaẏúsm-Skemín (Poquiosin-Skamain) IR 13, Wíwk'em (Waiwakum) IR 14, Aik-wuk-sin (Aikwuck) IR 15, Kowatain IR 17, Yekw'ápsem IR 18 and St'á7mes (Stawamus) IR 24. In 2021, 5.4% of Squamish residents identified as Indigenous, and the Nation continues to pursue community development plans that balance environmental protection, housing and economic opportunities throughout the Squamish Valley.

Squamish was incorporated as a village in 1948, during a period of rapid industrial expansion driven by the construction of a deep-sea dock and the extension of the railway connecting Cheakamus to Pemberton. The community continued to grow through the 1950s following the construction of the Seaview Highway (now the Sea to Sky Highway) in 1958, which strengthened regional transportation links. In 1964, the communities of Squamish, Brackendale and Mamquam amalgamated to form the District Municipality of Squamish[9].

The community's economy, once dominated by forestry, mining, and agriculture, has diversified toward outdoor recreation, tourism and professional services. However, forestry remains an important local industry, supported by facilities such as Squamish Mills Dryland Sort and several specialty wood manufacturers. Squamish Terminals operates a deep-water port at the head of Howe Sound[10], contributing to the regional industrial base. The community is also the site of two major industrial projects

[7] About Squamish - District of Squamish - Hardwired for Adventure
[8] Our Land - Squamish Nation
[9] History - District of Squamish - Hardwired for Adventure
[10] SQT Factsheet

under development - the Woodfibre Liquefied Natural Gas facility and the FortisBC Eagle Mountain-Woodfibre Gas Pipeline[11].

Fire protection services within the municipality are provided by Squamish Fire Rescue, which serves the full District boundary. Areas outside the municipal boundary fall under the jurisdiction of the BC Wildfire Service. Highway 99 (Sea to Sky Highway) provides the primary north-south transportation corridor through the community, connecting Squamish to both Vancouver and Whistler.

Squamish continues to experience rapid growth, with ongoing changes in its population, economy and development patterns. As of the 2021 Census,[12] the District had a population of 23,819, reflecting a steep population growth of 22% since 2016, and an average age of 37.9 years. The rate of development and population growth in Squamish is exceeding earlier municipal and regional forecasts, with long-term planning scenarios projecting a potential population of approximately 50,000 within the next two decades. Squamish has limited space available for development in the valley bottom and as a result, future growth will continue to expand into steeper, more forest-adjacent areas where wildfire exposure is higher.

Recent population growth has driven an expansion of residential development, with increasing infill and higher-density housing construction near the town centre. Single-detached homes represent approximately 41% of the housing stock, followed by apartments (31%) and semi-detached units (9%).[13] This growth pattern reflects Squamish's transition from a resource-based community to a regional service and recreation hub within the Sea to Sky Corridor.

Table 7. 2021 District of Squamish socio-economic statistics.[14]

Metric	Value
Total Population	23,819
Population percentage change between 2016 - 2021	22.2%
Population density (people/km^2)	227.5
Average Age (years)	37.9
Average household size	2.6
Employment Rate	70.3%
Median total income of household (2020)	$100,000
Total private dwellings	9,906

[11] Woodfibre Liquefied Natural Gas and FortisBC Eagle Mountain to Woodfibre LNG Pipeline Projects - District of Squamish - Hardwired for Adventure

[12] Profile table, Census Profile, 2021 Census of Population - Squamish, District municipality (DM) [Census subdivision], British Columbia

[13] Statistics Canada. Census Profile, 2021 Census of Population – District of Squamish, British Columbia (DGUID: 2021A00055931006). Ottawa: Statistics Canada, released February 9, 2022.

[14] Statistics Canada. *Census Profile, 2021 Census of Population – District of Squamish, British Columbia (DGUID: 2021A00055931006).* Ottawa: Statistics Canada, released February 9, 2022. Available at: www12.statcan.gc.ca

Metric	Value
Private dwellings occupied by usual residents	9,191
Single-detached housing units (proportion of housing stock)	40.6%
Row house	14.6%
Semi-detached housing units (proportion of housing stock)	9.1%
Apartment	31.2%
Moveable dwelling (proportion of housing stock)	3.9%

3.2.1 FIRE DEPARTMENT RESOURCES

Squamish Fire Rescue is a composite department providing structural and wildland-urban interface fire protection, rescue, and emergency response services within the municipal boundary. Squamish Fire Rescue is staffed by three Fire Chiefs, 16 full-time firefighters, one administrative assistant and over 50 paid-on-call members. The department operates four fire halls, including a modern headquarters and Emergency Operations Centre (Fire Hall 1) that opened in 2022.

Squamish Fire Rescue reported that summer presents staffing challenges due to concurrent peak recreation and wildfire-hazard periods, and that turnover among paid-on-call members averages roughly 25% per year. The department highlighted high call volumes in local trail networks and rock-climbing areas during these periods. Ongoing population growth and infill development along the interface have strained staffing capacity, and career positions have not increased proportionally to community growth and call volume. On average, Squamish Fire Rescue responds to approximately 1,200 to 1,300 emergency incidents each year, including structure and interface fires, medical emergencies, motor-vehicle incidents and specialized rescues.

The department's apparatus fleet includes three structural fire engines, a 75-foot aerial ladder truck, one Type 6 Wildland Truck (new as of 2025), a shared Type 2 Structural Protection Unit (SPU) trailer that rotates annually with Whistler, two two-person ATVs and a 4 500-gallon hook-lift water tank operated in coordination with Public Works. Squamish Fire Rescue identified the acquisition of a dedicated water tender as a priority, noting challenges with efficient mobilization of the hook-lift tank due to reliance on Public Works. The department also noted limited capacity to move large volumes of water quickly. A side-by-side utility vehicle, a large-volume relay pump system and a second Type 6 Wildland Truck stationed at Hall 2 would improve interface response access and coverage.

Squamish Fire Rescue maintains mutual-aid agreements with Whistler Fire Rescue and the BC Wildfire Service for incidents that exceed local capacity or occur along jurisdictional boundaries. The department does not typically provide service outside District limits unless authorized by Council or through formal agreement.

Wildfire response capacity is enhanced through annual interface and structure-protection training, including SPP-WFF1 certification and joint practice sessions with the BCWS's Squamish Initial Attack Crew. Squamish Fire Rescue participates annually in courses such as Engine Boss and Structural Protection Operations and coordinate with BC Wildfire Service to identify operational needs ahead of the fire season. The department has also implemented a Junior Firefighter Academy, run by the Squamish Firefighters Association, to promote local engagement and succession within the fire service.

Fire prevention and investigation remain core functions of Squamish Fire Rescue operations. All commercial and multi-family buildings are inspected regularly to ensure compliance with fire-safety standards, and each fire incident is investigated to inform prevention strategies. Squamish Fire Rescue maintains a strong public-education program in partnership with School District 48, delivering annual fire-safety education to students from Kindergarten through Grade Four.

Through ongoing training, equipment modernization and inter-agency collaboration, Squamish Fire Rescue continues to strengthen its capacity to respond effectively to structural and wildland-urban interface fires.

3.2.2 EMERGENCY MANAGEMENT PROGRAM

Emergency management in Squamish is coordinated through the District of Squamish Emergency Program (SEP). The Emergency Program is structured around a Comprehensive Emergency Management Plan (CEMP) framework rooted in an all-hazards approach and supported by a suite of hazard-specific and functional annexes. These annexes include, but are not limited to, evacuation planning, flood emergency response, and other supporting plans that guide preparedness, response, and recovery activities. The CEMP framework and associated annexes are being reviewed and updated to align with provincial Emergency and Disaster Management Act (EDMA) requirements.

Squamish's Emergency Program integrates several volunteer organizations, including Squamish Search and Rescue, Royal Canadian Marine Search and Rescue, Emergency Radio Communications and, Emergency Support Services. Emergency Support Services in Squamish are delivered through trained volunteers who are part of the Squamish Emergency Program and may also hold Emergency Support Services Level 1 certification through the Canadian Red Cross. Together, these volunteers provide critical operational and logistical capacity during emergency events.

Evacuation planning is a key component of the Emergency Program. The *2019 Sea to Sky Multimodal Evacuation Plan* guides mass-evacuation roles, structures and multi-modal options across the Sea-to-Sky Corridor. However, it does not reflect new neighbourhood growth since 2019.

Highway 99 is the only continuous north-south corridor and egress route. BC Wildfire Service noted that highway closures caused by accidents, congestion or other events can delay response times and constrain emergency access during wildfire events. In addition, many neighbourhoods rely on single-access routes, presenting challenges for emergency egress. Paradise Valley is identified as a single-access area with challenging egress should bridge access be compromised. Garibaldi Highlands/University area and

Downtown also have limited but manageable alternative egress routes, presenting ongoing challenges for emergency egress.

The Emergency Program also administers the Voyant Alert emergency notification system jointly with Squamish Nation, which delivers real-time alerts to registered residents via telephone, text, email, or mobile app during emergency events. Social media platforms are also used to supplement emergency communications and public-preparedness outreach.

The District's Emergency Operations Centre (EOC) is housed in Fire Hall 1 and functions as a post-disaster facility capable of operating in-person, virtually or in hybrid format. The facility has backup power for seven days and supports coordination between municipal departments and external agencies. The Emergency Program maintains a core EOC team that receives both internal and external training in emergency operations and regularly participates in regional table-top and functional exercises. While the EOC is well equipped, additional cross-training of District staff has been identified as a need to expand surge staffing capacity during prolonged events.

Emergency water supply for suppression relies primarily on the municipal hydrant network, which is tested annually, and secondarily on natural water sources such as the Stawamus River and Mashiter Creek. Both of these Community Watersheds restrict the use of suppression chemicals. The District has also identified the need for improved drafting infrastructure in areas lacking hydrant service, such as additional dry hydrants or improved access to static sources.

Through the Emergency Program, the District is strengthening coordination among local and regional partners to enhance preparedness for wildfire and other large-scale emergency events. Emergency management initiatives and programming are further discussed in Section 5.6.

3.3 VALUES AT RISK

Values at risk are human or natural resources that could be negatively impacted by wildfire. Identification of these values is an important consideration for effective emergency response and recovery. This section outlines values at risk in the Squamish.

3.3.1 CRITICAL INFRASTRUCTURE

Critical infrastructure includes any infrastructure essential to the health, safety, security or economic wellbeing of a community and effective functioning of government.[15] Protection of critical infrastructure and other values at risk during a wildfire ensures that a coordinated evacuation can occur if necessary and that essential services can be maintained or restored quickly in an emergency. Backup power systems for key municipal facilities are regularly maintained, with generators tested monthly to support operational continuity during emergencies.

[15] FireSmart BC. (2023). *Community Wildfire Resiliency Plan Instruction Guide 2023.* LGPS_CRI_FCFS2023CWRPInstructionGuideV1.pdf (ubcm.ca)

In 2021, FireSmart Critical Infrastructure Assessments were completed by local wildfire experts for 30 municipally-owned critical infrastructure. These assessments evaluated wildfire exposure and provided site-specific recommendations to improve wildfire resilience of essential facilities such as emergency response buildings, utilities and community service hubs. Notable infrastructure identified as having elevated wildfire vulnerability includes both the Squamish Search and Rescue marine base and its headquarters, the Crumpit Woods Water Station and several communication towers. Common issues cited in these assessments relate to structural materials and condition, limited forest setbacks and exposure to surrounding fuels. Almost all assessments also identified FireSmart landscaping recommendations such as pruning ladder fuels, removing flammable vegetation in immediate zones, reducing surface fuel accumulations and improving conifer spacing in priority zones.

Implementation of these recommendations is still in progress and they remain a valuable resource for guiding future mitigation efforts. Given local fuel conditions and ongoing development, all critical infrastructure retains some degree of wildfire concern. BC Wildfire Service has also identified the communication towers on DeBecks Hill and at the top of Smoke Bluffs Park as priority for vegetation management.

Critical infrastructure designated as supporting effective emergency response to a wildfire event is currently eligible for funding under the CRI FCFS program, while other infrastructure identified in the CWRP may require mitigation through municipal capital planning.

Squamish Fire Rescue participates in development referrals for new or upgraded critical infrastructure in interface areas, though capacity limitations can affect the ability to review all proposals. A new headquarters for Squamish Search and Rescue is currently under construction at the Squamish Municipal Airport, with the new facility expected to be operational in 2026. As a critical emergency response hub, incorporating FireSmart construction materials and vegetation management during site development will enhance operational resilience. The ongoing development provides an opportunity to address vulnerabilities identified in previous assessments. The new headquarters is located adjacent to a recently completed fuel management treatment unit, which further supports site-level wildfire resiliency.

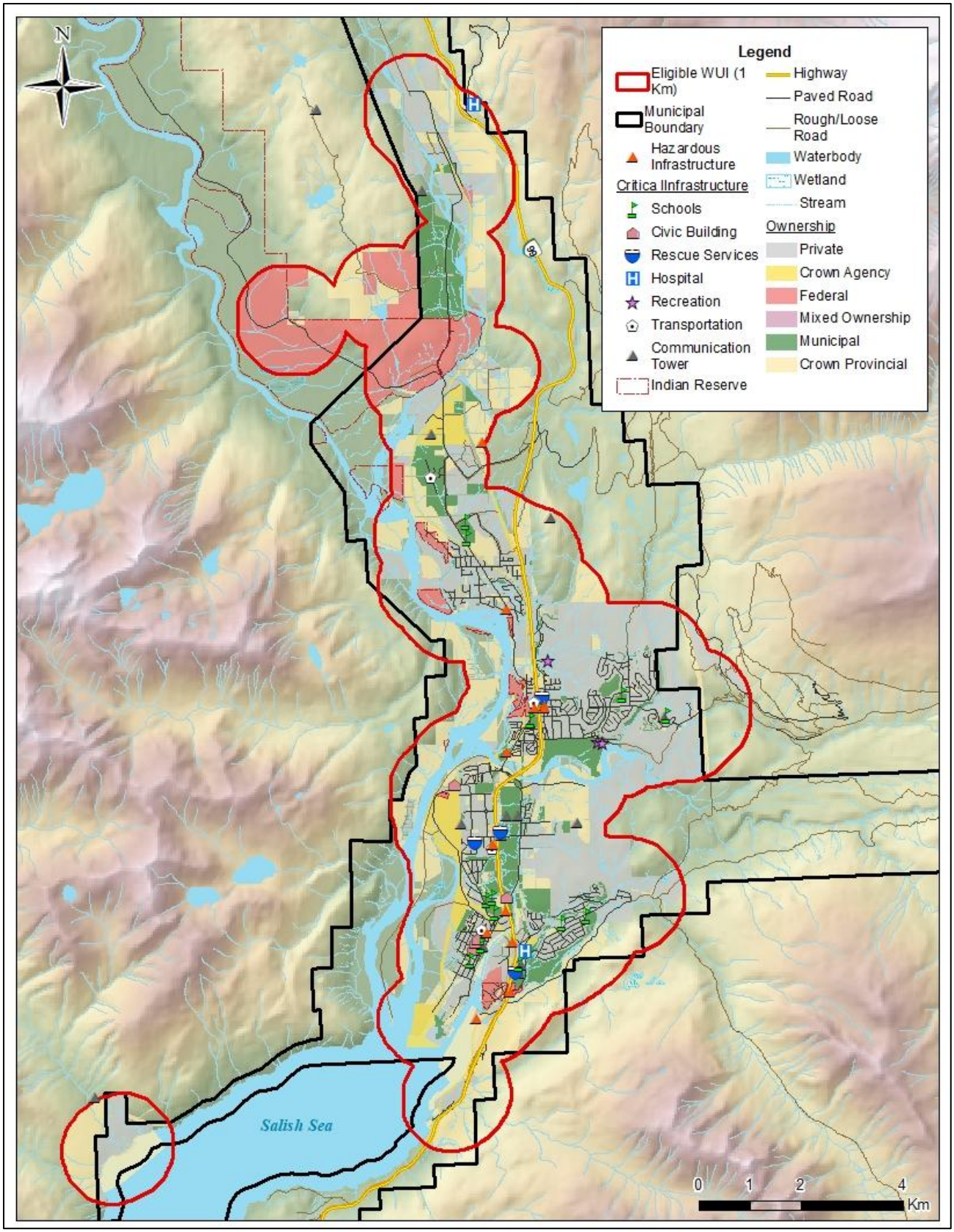
Table 8 (and displayed on Map 2) lists critical infrastructure in the District. Other values at risk (environmental, resource and recreational) are displayed on Map 3.

Table 8. Identified critical infrastructure within the District of Squamish

Name	Jurisdiction	Location
Alice Lake Reservoir	District of Squamish	45001 Squamish Valley Rd.
BC Ambulance Service	BC Ambulance	38929 Production Way
BC Hydro Cheekye Substation	BC Hydro	Squamish Valley Rd.
BC Hydro Loggers Lane Substation	BC Hydro	Pemberton Ave. & Loggers Lane
Boulevard Reservoir and Pump Station	District of Squamish	2603 The Boulevard
Brennan Park Recreation Centre (Reception Centre)	District of Squamish	1009 Centennial Way

Name	Jurisdiction	Location
Communication Tower	Several agencies	Watts Point, Murrin Park
Crumpit Woods Pump Station	District of Squamish	40004 Plateau Dr.
Crumpit Woods Water Station & Reservoir	District of Squamish	38616 High Creek Dr.
Emergency Communication Watts Point Tower	District of Squamish	Watts Point, Murrin Park
Radio Thunderbird Tower	District of Squamish	40787 Thunderbird Ridge Rd.
DoS Public Works Yard	District of Squamish	39909 Government Rd.
Search and Rescue offices	District of Squamish	42000 Loggers Lane[16]
Hospice	District of Squamish	38140 Behrner Dr.
Lower University Water Station	District of Squamish	3063 University Blvd.
Mamquam Wastewater Treatment Plant	District of Squamish	39909 Government Rd.
Municipal Hall	District of Squamish	37955 2 Ave.
Plateau Reservoir	District of Squamish	Smoke Bluff Park
Powerhouse Springs well site + communication tower	District of Squamish	39288 Powerhouse Springs Rd.
Royal Canadian Marine Search and Rescue	Squamish Yacht Club	Station 04 – 37778 Loggers Lane
Squamish Municipal Airport	District of Squamish	46021 Government Rd.
Squamish Fire Hall 1 & Training Site (EOC)	District of Squamish	37890 Clarke Dr.
Squamish Fire Hall 2 – Fire Rescue	District of Squamish	40439 Tantalus Rd.
Squamish General Hospital	District of Squamish	38140 Behrner Dr.
Squamish RCMP Detachment	RCMP	1000 Finch Dr.
Thunderbird Reservoir	District of Squamish	40787 Thunderbird Ridge Rd.
Upper University Reservoir	District of Squamish	North of Capilano University – Squamish Campus
Communication tower	XX	Smoke Bluffs
Communication tower	XX	DeBacks Hill

[16] The new Squamish Search and Rescue headquarters is located at the Squamish Airport and is currently under construction, with operations expected to begin in April 2026.



Map 2: Community assets and critical infrastructure within Squamish

3.3.2 ELECTRICAL POWER

Wildfires have the potential to impact electrical service by causing disruption in network distribution through direct or indirect processes. For example, heat from flames or fallen trees associated with a fire event may cause power outages. It is important to note that even distant wildfires can result in electrical system disruption, and communities should be prepared for this possibility. Additionally, vegetation encroachment on power lines can be a wildfire ignition source - a tree branch lying between two conductors can produce high-temperature electrical arcs.

BC Hydro supplies electrical power to Squamish through an integrated network of transmission and distribution infrastructure consisting of both overhead and underground lines. Two substations are located within the District and several major transmission corridors connect Squamish to the broader provincial grid along the Sea to Sky corridor. These corridors provide power redundancy and serve industrial, residential and commercial users across the District.

Vegetation within transmission and distribution rights-of-ways are managed under BC Hydro's Integrated Vegetation Management Program, which prioritizes brushing and clearing based on corridor condition, reliability requirements and wildfire-risk considerations[17]. Squamish Fire Rescue responds to numerous incidents involving vegetation contacting distribution lines, which reflects a recurring local ignition and service-disruption concern. In the event of a wildfire, BC Hydro coordinates directly with Squamish Fire Rescue and the BC Wildfire Service through established corporate response and communication protocols. Vegetation management under transmission lines in the District is further discussed in Section 5.4

To reduce vulnerability during widespread outages, key District facilities, including the RCMP Detachment, Municipal Hall, Fire Halls 1 (EOC) and 2, Public Works Yard, Wastewater Treatment Plant and Brennan Park Recreation Centre, are equipped with backup generators. The District also maintains multiple stationary and portable emergency generators, powered by diesel, natural gas, or propane, to sustain essential operations during extended power interruptions.

3.3.3 WATER AND SEWAGE

Water supply is important for both wildfire response and community recovery. The functionality of water infrastructure can be impacted by an interface wildfire event as a result of disruptions to power supplies, or physical damage. Pump stations, for example, can be connected in a series and as a result if one station fails, the others upstream will also no longer function.

Squamish operates and maintains community water and wastewater systems that meet or exceed provincial quality standards. Potable water is primarily supplied from the Powerhouse Springs well field, which provides sufficient capacity to meet projected maximum day demands. Stawamus River and Mashiter Creek are secondary and tertiary surface water sources used only in emergencies.

[17] Integrated Vegetation Management Plan for transmission and distribution line corridors

Reservoirs serving the community include Upper and Lower University, Boulevard, Thunderbird, Plateau, Alice Lake, and Crumpit Woods. The District's *Water Master Plan* identifies the Plateau and Thunderbird reservoirs as undersized for meeting potential peak demands during major fire suppression events. Planned upgrades aim to address these capacity shortfalls and accommodate future growth[18]. High seasonal water demand and the widespread use of residential sprinklers is a concern in Squamish because it can reduce system pressure and limit the flow available for suppression**.** Outdoor water restrictions are implemented in summer months when demand nearly doubles. These restrictions help maintain supply for domestic use and firefighting during high wildfire hazard periods.

Areas such as Paradise Valley, Cheekye and the Squamish Airport lack hydrant protection and rely on tendered water or natural sources for suppression. Squamish Fire Rescue has identified the need for a dedicated water tender and improved dry-hydrant infrastructure, as most existing dry hydrants are not functional or permitted.

The District's 2020 *Community Climate Action Plan* identifies water and wastewater systems as key components of community resilience and climate adaptation. Actions under this plan support maintaining water quality and supply during extreme weather events, including drought and flooding.

The Mamquam Wastewater Treatment Plant treats approximately 3.4 billion litres of wastewater annually[19]. The plant, lift stations and pump facilities are considered critical infrastructure. Backup power, fuel access and defensible space around these sites are important to maintain operational continuity during wildfire events. Recommendations of a Critical Infrastructure FireSmart Assessment completed in 2021 focus on maintaining a 10m defensible space around the infrastructure.

Coordination between Engineering, Fire Rescue and the Emergency Program is required for infrastructure protection and water supply reliability in interface areas.

3.3.4 CULTURAL AND HERITAGE VALUES

Squamish lies within the traditional territory of the Sḵwx̱wú7mesh Úxwumixw (Squamish Nation). Since time immemorial, the Nation has maintained a deep connection to the land, waters and all living things within this territory. Squamish Nation maintains active governance and stewardship over their lands and resources, including through the Squamish Community Forest, which supports sustainable forest management and cultural, ecological and economic objectives. Several Squamish Nation Indian Reserves (IRs) overlap with the Eligible WUI but are excluded from the scope of this plan. A CWRP was completed for Squamish Nation in 2022 as discussed in Section 2.2.

Within the Squamish Eligible WUI, there are several Síiyamín ta Skwxwú7mesh (Cultural) Sites legally designated in the Sea to Sky Land and Resource Management Plan (LRMP). The LRMP establishes objectives to protect these areas for their cultural and spiritual significance. Commercial logging and new

[18] Report - Full
[19] file:///G:/Government/Municipalities/Squamish/2025%20CWRP/Background%20Review/High-Level%20Plans/CCAP-Update-January-2020-v2.pdf

road construction are not permitted within these sites, except where required for forest health or emergency access and only following consultation with the Nation[20].

Archaeological and cultural heritage sites are protected under the *Heritage Conservation Act*, which applies to both public and private lands. Sites that pre-date 1846, as well as culturally modified trees (CMTs), pictographs and burials, are protected from disturbance without permit. The Archaeology Branch's Remote Access to Archaeological Data system should be consulted to identify and avoid registered sites during fuel treatment planning.

Wildfire suppression and fuel management activities can affect cultural features through ground disturbance, heat exposure or vegetation removal. Pre-treatment reconnaissance and early First Nation consultation is an important consideration in wildfire planning.

3.3.5 ENVIRONMENTAL VALUES

Environmental values include sensitive ecosystems, wildlife habitat and species-at-risk that may be impacted by wildfires, fire suppression activities or fuel management. Squamish encompasses a range of ecosystems typical of the Coastal Western Hemlock biogeoclimatic zone, including old forest types, riparian corridors, wetlands and estuarine areas.

Seven occurrences and four unique provincially-listed species at risk have been documented within the Eligible WUI.

Table 9 summarizes the identified species at risk and corresponding habitat types within the District. Four areas of federally designated critical habitat also occur within the Eligible WUI. These include Spotted Owl (*Brachyramphus marmoratus*), Roell's Brotherella Moss *(Brotherella roellii),* Pacific Water Shrew *(Sorex bendirii*) and Marbled Murrelet (*Brachyramphus marmoratus*). Most of this habitat is associated with the Marbled Murrelet, a federally listed threatened seabird that nests in mature and old-growth forests. Critical habitat overlaps with the Squamish Estuary, Stawamus Chief Provincial Park and Shannon Falls Provincial Park.

The Squamish Estuary is one of the most ecologically significant areas in the municipality, providing important habitat for fish, birds and other wildlife. It supports intertidal and saltmarsh ecosystems that contribute to regional biodiversity and coastal function. Environmental features such as riparian zones, wetland complexes and estuarine areas are particularly sensitive to both wildfire and post-fire effects, including erosion and sedimentation.

Operational fuel management planning should identify and mitigate potential impacts to environmental values at risk, including sensitive ecosystems, riparian areas and wildlife habitat. Where appropriate, treatment design should consider opportunities to retain structural diversity and habitat features that

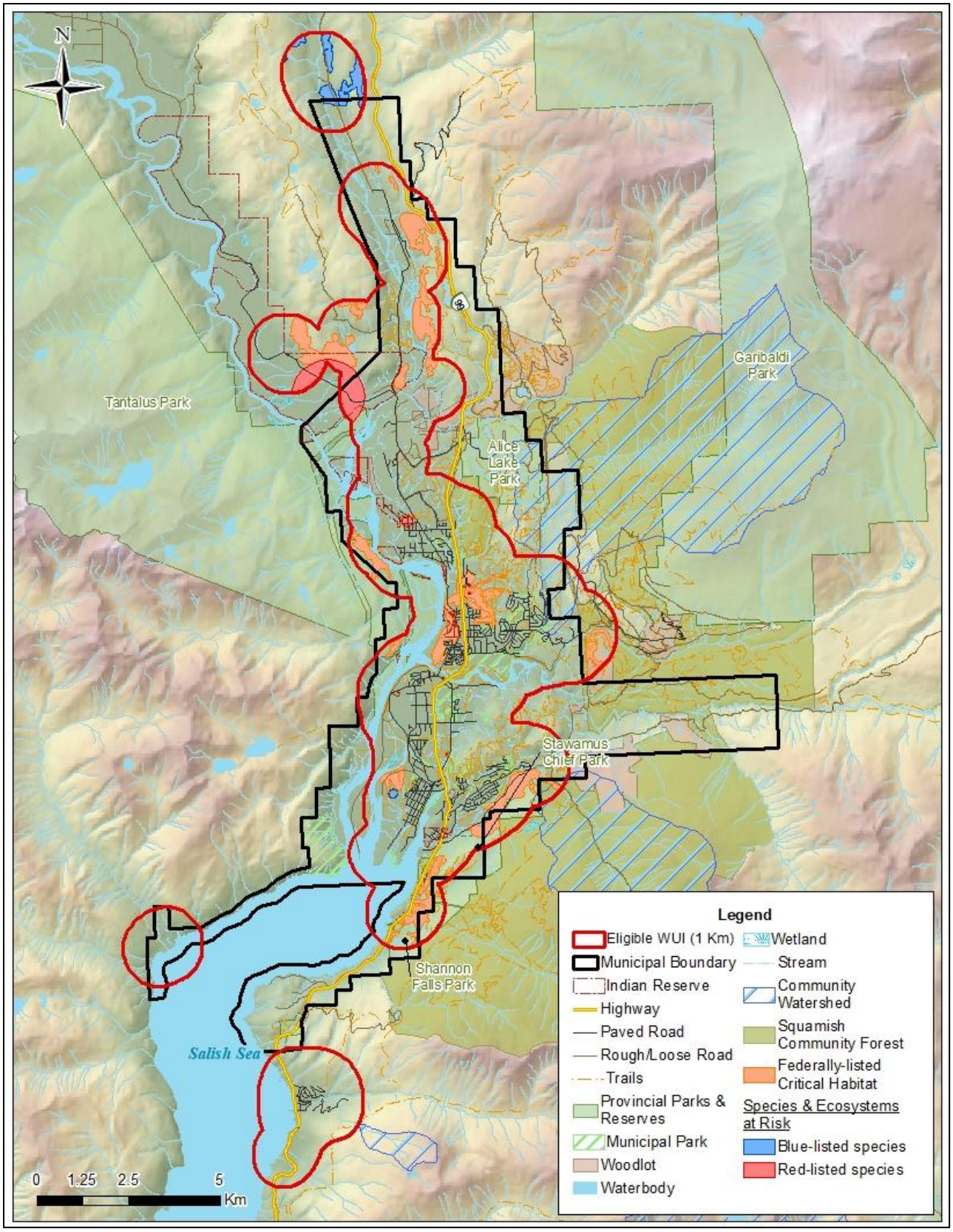
[20] Sea-to-Sky LRMP - Final 2008

support ecological function and connectivity, provided wildfire risk reduction objectives are still achieved. For identified wildlife or sensitive ecosystems, the guidance of a qualified professional may be required.

In addition to site-specific mitigation measures, the District and partner agencies are advancing a Wildlife Connectivity Project, which is developing a regional multi-species connectivity model for the Squamish area. The model identifies core habitat areas and relative connectivity values across the landscape to support integrated land-use planning. As this work is finalized, fuel treatment planning should consider identified habitat cores and connectivity linkages alongside wildfire risk reduction objectives. Where compatible with FireSmart goals, treatment designs should seek to retain structural diversity and avoid unnecessary simplification of forest structure in areas identified as important for wildlife movement.

Table 9. Species at risk within Squamish's Eligible WUI.

English name	Scientific Name	Category	BC List	Habitat Type
Pacific Water Shrew	*Sorex bendirii*	Vertebrate Animal	Red	Riverine: Creek
Roell's brotherella (3)	*Brotherella roellii*	Nonvascular Plant	Red	Terrestrial: Forest Mixed ,Coarse Woody Debris
Vancouver Island beggarticks	*Bidens amplissima*	Vascular Plant	Blue	Eesturaine: Meadow
western hemlock - Douglas-fir / electrified cat's-tail moss Dry Submaritime 1 (2)	*Tsuga heterophylla - Pseudotsuga menziesii / Rhytidiadelphus triquetrus Dry Submaritime 1*	Ecological Community	Blue	N/A



Map 3. Environmental values in the District of Squamish.

3.3.6 HAZARDOUS VALUES

Hazardous values are values that pose a safety hazard to emergency responders. Protecting hazardous values from fires can limit the extent of interface fire disasters. Anywhere combustible materials, explosive chemicals, gas, or oil is stored can be considered a hazardous value.

Within Squamish, hazardous infrastructure is concentrated primarily in the industrial corridor west of Highway 99 (Map 2). Notable facilities include fuel cardlock operations, several commercial fuel stations, the Squamish Mills Dryland Sort the CN Railway corridor and the District landfill. The District Public Works Yard also houses diesel fuel storage that represents an additional local hazard.

The Woodfibre LNG Project and associated FortisBC Eagle Mountain-Woodfibre Gas Pipeline represent major industrial infrastructure within the Squamish area. The Woodfibre LNG facility is located approximately 7 km southwest of Squamish along the Howe Sound. The facility includes natural gas liquefaction, storage and marine export infrastructure supplied via a new pipeline connection to the regional gas network. These facilities are located on privately managed industrial land and were not directly assessed as part of this CWRP. Operators maintain their own safety systems and emergency response procedures in accordance with regulatory requirements.

FortisBC operates underground natural gas distribution infrastructure throughout the municipality, and BC Hydro transmission corridors traverse the area, including the vicinity of the industrial zone and the Squamish Terminals waterfront. In the event of a wildfire, both utilities follow established emergency response protocols and coordinate with Squamish Fire Rescue and the BC Wildfire Service to mitigate risks to critical infrastructure.

The CN Railway follows Highway 99 from the south before crossing westward through Dentville and the Squamish Terminals area. Sparks or friction from railway operations can create ignition sources, particularly during periods of elevated fire danger. Rail companies are required under the *Wildfire Act* to implement fire prevention measures such as vegetation management and activity restrictions during high-risk periods.

The Squamish Landfill, located west of Highway 99 in Brackendale, also presents localized fire hazards, particularly during extended dry periods. Covering waste materials with soil and maintaining surface fuel management around landfill boundaries are effective measures to reduce the potential for ignition from embers or radiant heat[21].

Ongoing vegetation maintenance and FireSmart planning around these facilities are important to minimize ignition risk and protect public safety. Vegetation management around hazardous sites, emergency fuel shut-off procedures, and inter-agency response planning are key considerations for operational readiness.

[21] Landfill Fires Guidance Document - CalRecycle Home Page

3.3.7 OTHER RESOURCE VALUES

Recreation and tourism are major land-use values in the Squamish area, supported by an extensive network of provincial and municipal parks, trails and recreation sites. Eleven provincial parks and protected areas fall within or adjacent to the Eligible WUI, offering a mix of front-country and back-country opportunities. Alice Lake Provincial Park is a particularly popular destination, featuring a large campground, day-use area and interconnected trail system. Stawamus Chief and Shannon Falls Provincial Parks provide walk-in camping and attract high volumes of day-use visitors and rock climbers, while Murrin Provincial Park serves as another heavily used day-use area for rock climbing, hiking and swimming. Garibaldi Provincial Park, located just beyond the Eligible WUI, is the largest park in the region that includes extensive back-country trails and overnight huts that receive significant seasonal use. Visitor volume and human-caused ignition potential remain primary concerns, especially in Alice Lake, Shannon Falls and Stawamus Chief Provincial Parks. BC Parks identified increasing deadfall and blowdown from forest health decline near recreation infrastructure as an ongoing issue requiring monitoring and mitigation.

In addition to Provincial Parks, the District maintains 21 municipal parkland areas, consisting primarily of cleared, irrigated spaces such as sports fields and community parks and playgrounds. A significant amount of dedicated but undeveloped parkland is also present throughout the District, serving as open green space and natural buffers within the urban landscape. Smoke Bluffs Park, a popular municipal park, is a steep rockface with swaths of coniferous forest, that is located within town. Smoke Bluffs draws high visitor use for rock climbing and contains several hazardous forest types characterized by dense regeneration and heavy surface fuel loading.

Tourism in Squamish is closely tied to outdoor recreation, with rock climbing, hiking, mountain biking, wind and kite surfing and camping forming the core of the local tourism economy. Within the District and surrounding area are extensive networks of sanctioned and unsanctioned recreation trails that extend through forested areas and parklands and increase human access into interface zones. In several popular parks, including Smoke Bluffs, Shannon Falls, Stawamus Chief, Murrin Park and Alice Lake, trailside accumulations of woody surface fuels are common. These accumulations present localized ignition hazards that can facilitate the spread of fire under dry summer conditions.

Photo 1. Trailside surface fuel accumulations

The Squamish Valley Forest Service Road corridor is a high-use area for dispersed and recreation-site camping just beyond the Eligible WUI. The Community FireSmart Resiliency Committee has identified this area as a significant concern for human-caused ignitions. In response, a coordinated Upper Squamish Valley Public Education Initiative has been implemented, led by BC Wildfire Services in collaboration with Squamish Nation Land Guardians, Conservation Officers and Natural Resource Officers. Information kiosks are activated at the entrance to the Upper Squamish Valley Forest Service Road during peak summer long weekends to communicate fire prohibitions, safe recreation practices and reporting procedures. Enhanced patrols by BC Wildfire Service Fire Wardens and Squamish Nation Land Guardians support prevention, detection and public education efforts throughout the valley, with additional compliance presence from Conservation Officers.

Forestry remains an important economic sector for Squamish. The community lies within the Soo Timber Supply Area, which supports a variety of tenures, including the Squamish Nation Woodlot Licence, the Squamish Community Forest and a Timber Forest Licence held within the greater area. These operations contribute to local employment. Opportunities exist to align forest management and fuel-reduction objectives, particularly where commercial thinning or maintenance of access routes can complement community wildfire-resiliency goals such as demonstrated in the Squamish Community Forest in 2025.[22]

[22] » Innovative silviculture grant awarded to Squamish Community Forest

Major recreation, parkland, and forest resource areas are shown on Map 3.

SECTION 4: WILDFIRE RISK ASSESSMENT

This section summarizes the factors that contribute to local wildfire risk in the Squamish's Eligible WUI. The wildfire risk assessment provides a decision support tool to determine the most effective wildfire risk reduction actions and opportunities to increase community resilience.

The relationship between wildfire risk and wildfire threat can be summarized as follows:

Wildfire Risk = Consequence × Probability

Where:

Wildfire risk is the potential losses incurred to human life, property, and critical infrastructure within a community in the event of a wildfire.

Consequences are the repercussions associated with fire occurrence in an area (higher consequences are associated with densely populated areas, areas of high biodiversity, etc.).

Probability is the likelihood of fire occurring in an area and that area's ability to ignite, spread, and consume organic material in the forest – its *wildfire threat*. Wildfire threat is driven by three major components of the wildfire environment, often referred to as the 'fire behaviour triangle':

- Topography – Slope and terrain features can influence rate of spread; aspect can affect pre-heating and fuel dryness.
- Fuel – Loading, size and shape, vertical and horizontal arrangement, type, and dryness.
- Weather – Temperature, relative humidity, wind speed and direction, precipitation

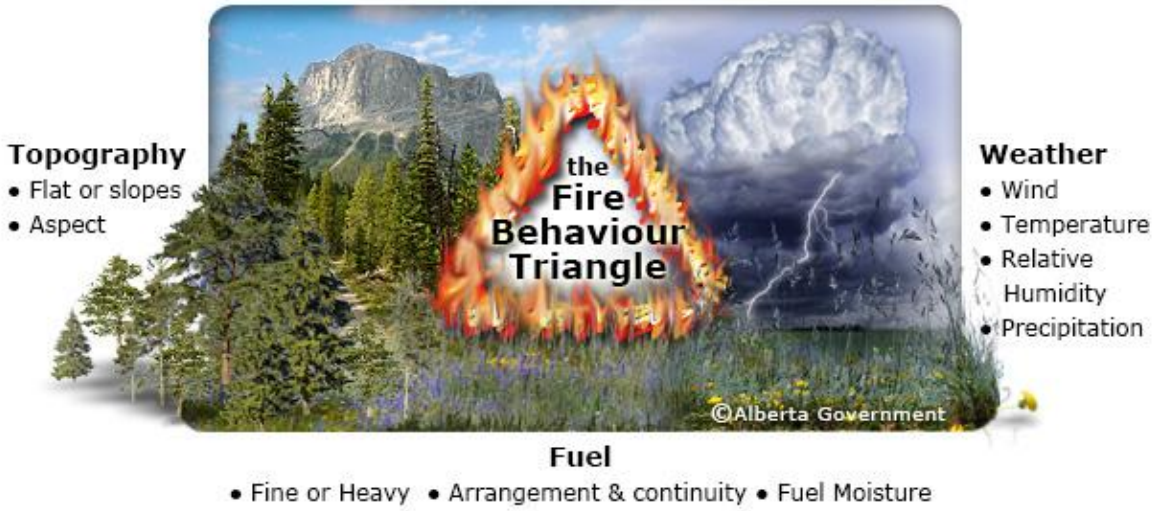


Figure 1: The fire behaviour triangle.[23]

4.1 LOCAL WILDFIRE ENVIRONMENT

The ecological context of wildfire and the role of fire in the local ecosystem under both current and historical conditions is an important basis for understanding the current and future wildfire threat to a community.

4.1.1 FUEL

Natural areas and green spaces within the Eligible WUI are characterized by vegetation communities typical of the Coastal Western Hemlock dry maritime (CWHdmn) biogeoclimatic subzone. These ecosystems occur in low- to mid-elevation valley bottoms and slopes surrounding the District to form the primary forest fuel complex for Squamish. Terrain across the municipality rises steeply from the floodplain toward the surrounding mountains, influencing fuel type, structure and continuity.

Within the urban core, forest fuel hazard is minimal. These areas consist largely of non-fuel developed land interspersed with irrigated green spaces and isolated patches of ornamental vegetation. Along the immediate interface, forest cover transitions quickly to mature coniferous stands dominated by western hemlock (*Tsuga heterophylla*), Douglas-fir (*Pseudotsuga menziesii*), and western redcedar (*Thuja plicata*). These forests generally exhibit tall, well-developed canopies with high crown base heights, lush deciduous understories and suppressed dead stems often scattered beneath the main canopy.

Within residential areas such as Garibaldi Highlands, University Highlands area and Skyridge, many homes are embedded in the intermix zone beneath mature conifer forest stands. Many properties feature ornamental cedar hedges that, while valued for privacy and aesthetics, form a continuous network of highly flammable vegetation between structures. Under dry and windy conditions, these hedges can act

[23] Province of Alberta.

as fire pathways, contributing to rapid fire spread through neighbourhoods and increasing structural ignition potential.

In popular parks like Stawamus Chief and Shannon Falls Provincial Parks, compacted soils and heavy visitor use have reduced understory vegetation and contributed to localized surface fuel accumulations, particularly along trail networks. Dense second-growth forests with heavy fuel loading such as these have been identified by the BC Wildfire Service as a fuel type of concern within the region. These accumulations, comprised of woody debris, litter and patches of blowdown from forest health decline, form combustible surface fuels that can sustain smouldering ignition and flame spread under high fire weather. BC Wildfire Service also noted that many coastal fuel types contain thick duff layers, which can hold heat for long periods and make mop-up operations slow and difficult.

Outside of developed urban core, continuous forests, such as north and south of Valleycliffe and north of Garidbaldi Highlands, contribute to high landscape connectivity with limited fuel breaks. These continuous forest swaths increase the potential for wildfire to move between the wildland and urban interface under adverse wind conditions.

Steep south- and west-facing slopes like Smoke Bluffs, Hospital Hill and Crumpit Woods are dominated with Douglas-fir and localized pockets of lodgepole pine (*Pinus contorta*) growing on dry, well-drained soils. These stands exhibit dense canopy closure, low crown base heights and high fine fuel loading; conditions associated with elevated ignition potential and crown fire behaviour. This fuel type supported the 2025 Dryden Creek Fire and represents one of the more hazardous forest structures within the Eligible WUI.

Along major transportation corridors such as Highway 99 and railways, edge-effect dynamics are evident where trees have developed lower crown bases due to increased light exposure. Combined with cured roadside grasses, these areas create continuous fine fuel pathways that could facilitate ignition spread into adjacent forest stands.

The Squamish Estuary and the Squamish and Paradise Valleys support moist, mixed and deciduous-dominated floodplain forests composed primarily of black cottonwood (*Populus balsamifera ssp. trichocarpa*), red alder (*Alnus rubra*), and bigleaf maple (*Acer macrophyllum*), with localized stands of Sitka spruce (*Picea sitchensis*) near tidal influence. These areas typically present a low to very low wildfire hazard, though smouldering surface fires may occur under drought conditions. In 2020, a wildfire in the Squamish Valley demonstrated that cured bigleaf maple leaf litter can create dry, continuous surface fuels in spring, capable of supporting rapid rates of spread despite otherwise moist overstory conditions.

BC Wildfire Service has identified coastal slash as a high-hazard fuel type within the region. Large unburnt slash piles were observed along Levette Lake Forest Service Road, where residual woody debris and logging waste contribute to elevated ignition potential. It is important that best practices for debris management are implemented to mitigate these accumulations, particularly where slash occurs within or adjacent to the interface.

The wildland-urban interface in Squamish exhibits high variability in fuel hazard due to differences in slope aspect, visitor pressure, and forest structure. Drier, south- and west-facing slopes with pine and cedar-dominated stands represent the greatest hazard, while riparian and floodplain ecosystems provide natural low-hazard breaks.

Fuel Types

The Canadian Forest Fire Behaviour Prediction System is used to assess forest stand and structure characteristics as they relate to wildfire behaviour potential. This system outlines sixteen 'fuel types,' which are distinctive forest structure types, each associated with different fire behaviour characteristics under defined conditions. Fuel types were confirmed or updated during fieldwork for all public land within the Eligible WUI. The results of this classification process, and the verified fuel types within the Eligible WUI are shown below on Map 4 and Table 10.

One of the most common types of vegetation is mature stands of second-growth forest, which were mostly assigned a C-5 fuel type. These stands account for approximately 39% of public land within the Eligible WUI and are typically composed of mature western hemlock, western redcedar and Douglas-fir trees with tall canopies with moderate to high crown base heights. Hazard increases in C-5 stands where surface fuel loading is elevated and where standing dead understory stems persist from stem-exclusion. In Squamish, C-5 stands present the highest wildfire threat where they overlap with heavily used trail networks and campsites, such as those within Shannon Falls Provincial Park, Stawamus Chief Provincial Park, and Alice Lake Provincial Park.

Scattered locations along steep south- and west-facing slopes support dense Douglas-fir and lodgepole pine stands. These areas were assigned a C-3 fuel type, representing approximately 8% of the public land base and a more hazardous classification. Ladder fuel continuity and lower crown base heights contribute to higher fire behaviour potential in this type. C-7 fuel types, which occupy about 7% of the public land base, are also present along well-drained, rocky slopes. Unlike C-3 stands, they exhibit more open canopies and patchier horizontal fuel continuity, though they remain prone to ignition under prolonged drought conditions.

Deciduous fuel types (D-1/2) occur primarily along riparian corridors and floodplain areas such as the Squamish and Paradise Valleys, comprising roughly 14% of public land. This classification was also applied to intensively managed parks and fields. Mixedwood (M-1/2) stands, covering about 7%, are common within interface neighbourhoods, transitional forest zones and within the estuary. These stands typically exhibit low to moderate hazard due to the relatively high proportion of deciduous cover, which can help reduce crown fire potential under moderate conditions.

Table 10. Fuel types in the Eligible WUI (public land only).[24]

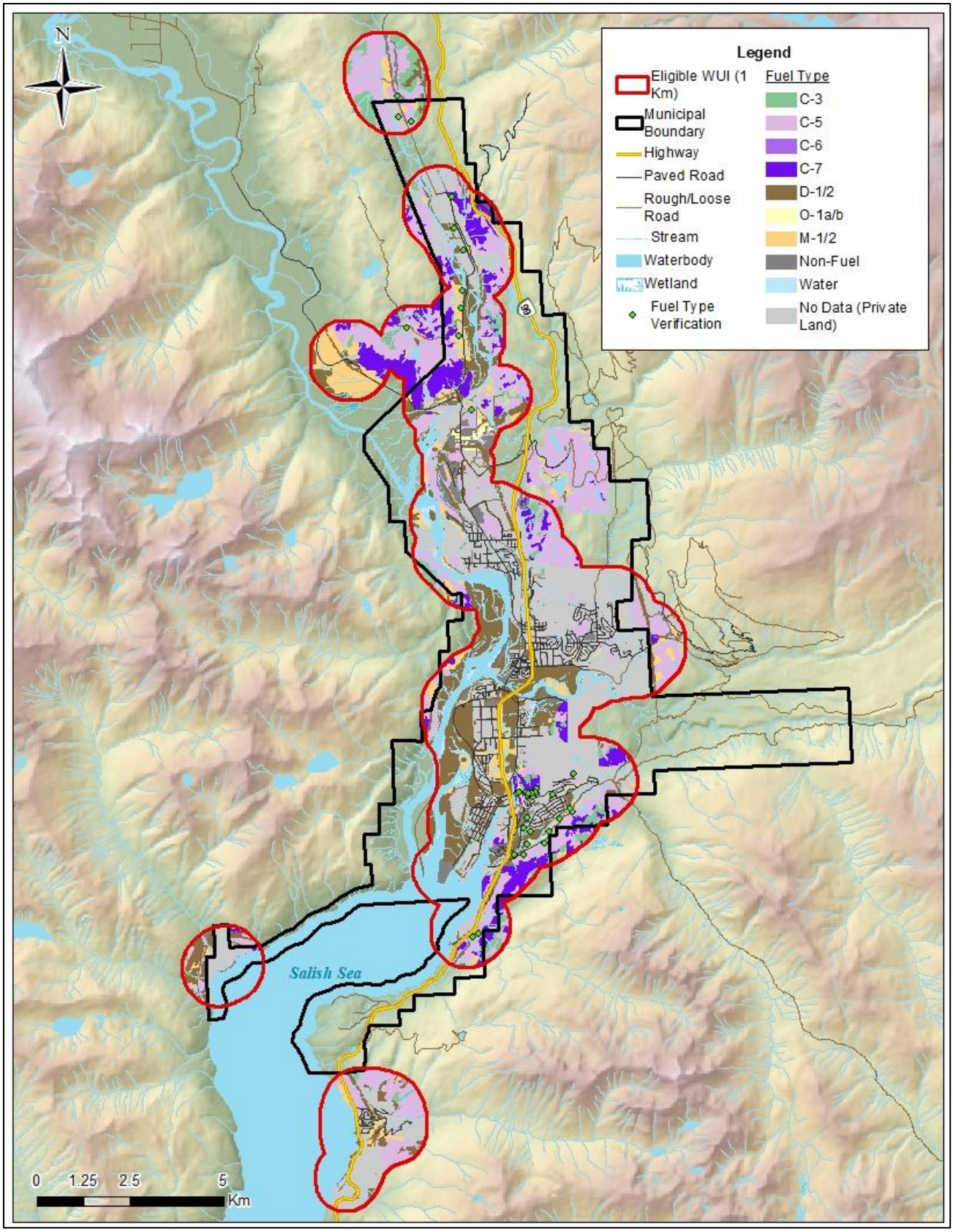
[24] Canadian Wildland Fire Information System. (2024). *FBP Fuel Types.* https://cwfis.cfs.nrcan.gc.ca/background/fueltypes/c1

Fuel Type	Area (Ha)	Percentage of Public Land[25]
C-3	281	8%
C-5	1431	39%
C-6	1	<1%
C-7	261	7%
D-1/2	518	14%
M-1/2	245	7%
Npm-fuel	153	4%
O-1a/b	2	<1%
Water	742	<1%
Private	*2842*	*n/a*

Figure 2. Left: Treated, low-hazard C-5 stand with an open understory and minimal surface fuel
Right: Hazardous C-5 stand with suppressed regeneration and elevated surface fuel loading

[25] Fuel typing was completed for assessable public land only. Private land was not included in the fuel type analysis and is therefore not represented in the fuel type classification.

Figure 3. Left: High-hazard C-3 stand with continuous ladder fuels and moderate surface fuel loading Right: M-1/2 mixedwood stand with lush understory of deciduous shrubs



Map 4. Fuel types in Squamish's Eligible WUI.

4.1.2 TOPOGRAPHY

Slope steepness affects the trajectory and rate of spread of a fire, while slope position affects the fire's ability to gain momentum uphill. Other topographical factors that influence fire behavior include aspect, elevation, and the configuration of features on the landscape that can restrict (i.e., water bodies, slope breaks) or drive (i.e. narrow draws, uniform slopes) the movement of a wildfire.

The downtown core of Squamish is situated on flat valley-bottom terrain at sea level, where slopes exert minimal influence on wildfire behaviour. However, much of the community has expanded onto surrounding hillsides, creating extensive interface and intermix development on moderate to steep slopes. Neighbourhoods such as Garibaldi Highlands, Capilano University, Crumpit Woods and Hospital Hill are positioned along mid- to upper-slope terrain where slope-driven fire behaviour is a significant factor.

Steep topography has been a defining influence in recent local wildfires. Recent wildfires in the area occurred along steep south- and southwest-facing slopes, where continuous conifer fuels, slope alignment and prevailing winds produced rapid upslope fire spread. Some of the steepest slopes in Squamish are found in Stawamus Chief and Shannon Falls Provincial Parks, and along the west-facing slopes above Highway 99 in the northern wildland-urban interface. Smoke Bluffs Park also contains areas of steep terrain that contribute to localized fire behaviour potential. BC Wildfire Service noted that steep terrain is one of the most significant suppression challenges in the region, due to fall hazards and the increased overhead danger posed by unstable trees and rockfall.

South- and southwest-facing slopes, steep gullies, narrow canyons and confined valleys are high-risk areas where wind and topography interact to accelerate fire spread. In late spring, Category 2 and 3 fires conducted by property owners without close attention to wind or dryness can further elevate this risk. Interface neighbourhoods present concerns where ignition from a structure or structure fire can extend rapidly into adjacent vegetation under these conditions. Moderate slopes are widespread throughout the Garibaldi Highlands and Crumpit Hill, where continuous fuels and overlapping recreation trails further elevate ignition potential. The Quest neighbourhood contains a dense network of multi-use trails on steep slopes, creating both access challenges for suppression and increased potential for human-caused ignitions.

Table 11 summarizes slope distribution within the Eligible WUI and its implications for fire behaviour. While more than half of the WUI area lies on terrain under 20 percent gradient, roughly one-third occupies slopes greater than 30 percent, where rates of spread and flame intensity are substantially increased under dry and windy conditions.

Table 11. Slope percentage and fire behaviour implications.[26]

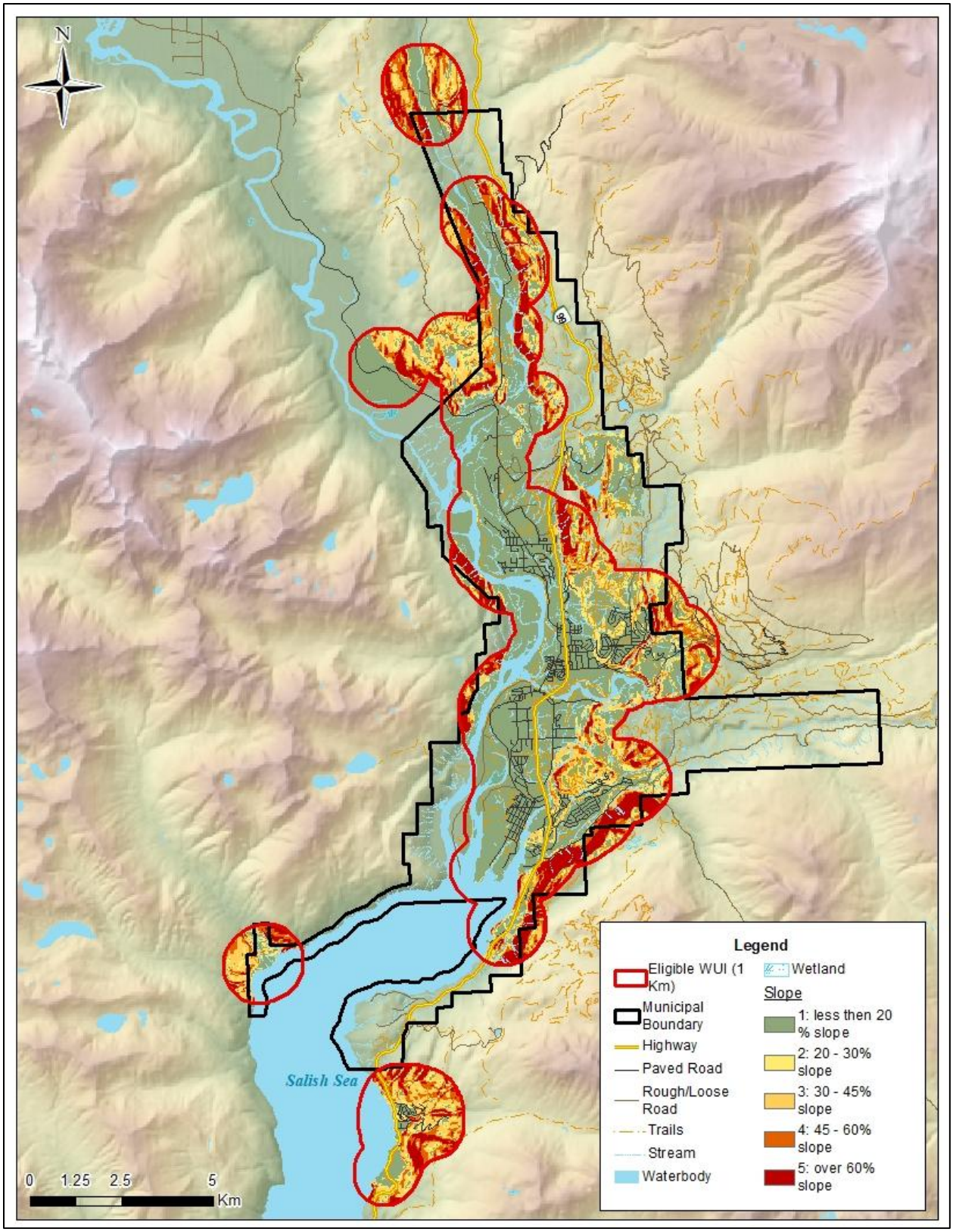
Slope	Percent of Eligible WUI (%)	Fire Behaviour Implications
<20%	58%	Very little flame and fuel interaction caused by slope, normal rate of spread.
21-30%	9%	Steeper slopes tilt flames upward, beginning to preheat fuel and increase rate of spread.
31-45%	12%	Flames are tilted upward, preheating fuels and directing flames towards fuels upslope. High rate of spread.
46-60%	9%	Flames are tilted upward, preheating fuels and directing flames towards fuels upslope. Very high rate of spread.
>60%	11%	Flames are tilted upwards, preheating fuels and directing flames towards fuels further upslope. Extreme rate of spread.

Table 12 shows the fire behavior implications of slope position of a value. Values located mid-slope or on the upper third of a slope are threatened by faster rates of fire spread due to the pre-heating of fuels and longer flame lengths.

Table 12. Slope position of value and fire behaviour implications.26

Slope Position of Value	Fire Behaviour Implications
Bottom of slope/ valley bottom	Impacted by normal rates of spread.
Mid-slope (bench)	Impacted by increase rates of spread. Position on a bench may reduce the preheating near the value. (Value is offset from the slope).
Mid-slope (continuous)	Impacted by fast rates of spread. No break in terrain features affected by preheating and flames bathing into the fuel ahead of the fire.
Upper third of slope	Impacted by extreme rates of spread. At risk to large continuous fire run, preheating and flames bathing into the fuel.

[26] BCWS. (2020). *Wildfire Threat Assessment Guide and Worksheets*. https://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/wildfire-status/prevention/fire-fuel-management/fuels-management/2020-wildfire-threat-assesment-guide-final.pdf



Map 5. Slope classes within Squamish's Eligible WUI.

4.1.3 WEATHER

Squamish has a temperate coastal climate characterized by wet, mild winters and warm, dry summers. The community lies at the head of Howe Sound and at the base of the Coast Mountains, where steep valley walls and mountain topography strongly influence local wind and weather patterns.

During the summer, daytime inflow winds funnel northward up Howe Sound from Georgia Strait, while nighttime outflow winds drain southward from the interior valleys. These opposing patterns dominate Squamish's diurnal wind cycle, and high winds occur on an almost daily basis due to the strength of these pressure-driven flows. Local geography contributes to variable and gusty conditions throughout the day. Strong outflows driven by interior high-pressure systems are a recurring pattern of concern, capable of accelerating fire spread and complicating suppression efforts.

Strong summer winds typically originate from the southeast and south, with average wind speeds highest in June and July. Erratic and unexpected winds have also been recorded in the area, such as those that influenced the Boulder and Elaho wildfires. Slope and wind alignment can significantly increase fire behaviour, as demonstrated during the 2025 Dryden Creek Fire on the District's northern boundary.

The Canadian Forestry Service developed the Canadian Forest Fire Danger Rating System to assess fire danger and potential fire behaviour. Fire Danger Classes provide a relative index of the ease of ignition and the difficulty of suppression. Fire Danger Class days were summarized to provide an indication of the fire weather in Squamish. Since fire danger varies from year to year, historical weather data can provide information on the number and distribution of days when Squamish is typically subject to high fire danger conditions.

Figure 4 and Figure 5 below display the average frequency of *Fire Danger Class* days between April and October, as recorded at the BC Wildfire Service Squamish Airport weather station (2016-2023) and the BC Wildfire Service Mashiter weather station (2025), which was used to supplement the analysis due to limited recent data from the Squamish Airport site.

The Squamish Airport weather station is located in at an elevation of approximately 53m, near the valley bottom and within close proximity to the District's main developed area. Its position at the head of Howe Sound, reflects weather conditions of most residential and urban development in the WUI. The weather data shows that high and extreme fire danger class days occur from July to September. The highest peaks occurred in July, with 10 High and 14 Extreme days, and in August, with 11 High and 14 Extreme days on average, annually. September also recorded elevated danger levels, with an average of 9 High and 14 Extreme days annually, demonstrating that late-season drying contributes significantly to fire risk.

The Mashiter station is located within the upper Squamish Valley, northeast of the District's urban area, and is representative of mid-elevation forest conditions within the wildland-urban interface. The 2025 Mashiter data show a similar seasonal pattern, though with fewer Extreme days recorded. The station observed 22 High danger days in July, 17 in August, and 12 in September, with no Extreme day recorded.

This pattern suggests that while higher-elevation areas may experience fewer extreme events, prolonged High danger periods remain typical across Squamish.

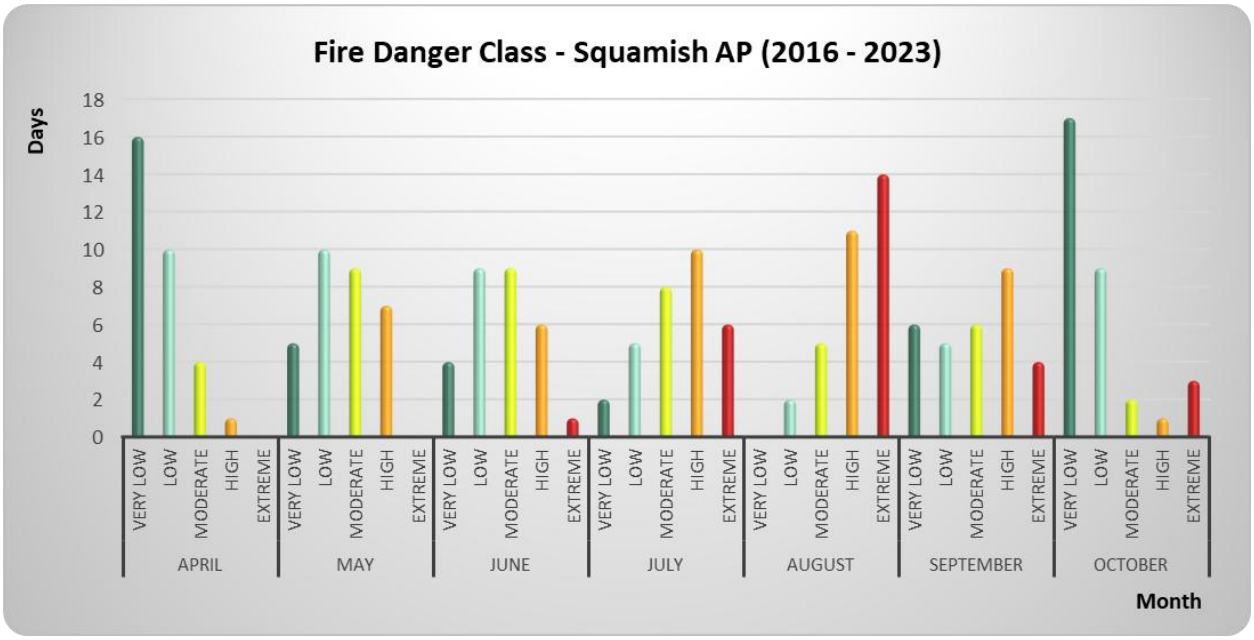


Figure 4. Average number of danger class days recorded by month at BCWS' Squamish Airport weather station (2015-2023)

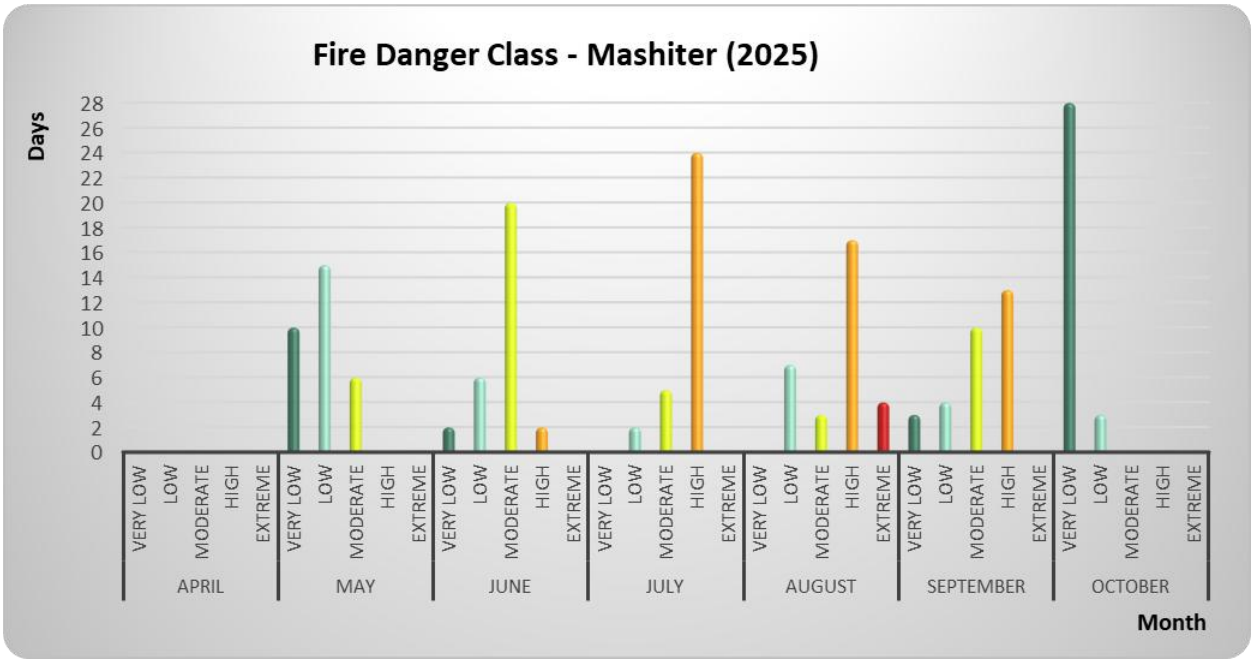


Figure 5. Average number of danger class days recorded by month at BCWS' Mashiter weather station (2025)

Hourly wind speed and direction is also recorded at BC Wildfire Service weather stations. Data is publicly available in the form of Initial Spread Index (ISI) roses.[27] The Initial Spread Index is a numeric rating of the expected rate of fire spread that combines the effects of wind speed and fine fuel moisture (controlled by temperature and relative humidity). Higher ISI values (i.e., >20) indicate moderate to strong winds and/or low humidity, so are expected to peak in the summertime. ISI roses can help plan the location of fuel treatments on the landscape to protect values at risk based on the predominant wind direction and frequency of higher ISI values. Wildfire that occurs upwind of a value poses a more significant threat to that value than one which occurs downwind.

The TS McNabb weather station, located at 125 m elevation on the west side of Howe Sound, was used here due to a lack of data for the Squamish and Mashiter stations (Figure 6, Figure 7). During the fire season, winds are almost always from the southwest – southeast, driving fire spread in a general northerly direction, which is typical of the Coast and Howe Sound area and is consistent with local knowledge. Monthly data shows that July and August are peak wind-driven fire spread months, with strong winds (high ISI values) occurring 10-15% of the time. Hourly data (not displayed) shows that wind speed picks up around 6 pm, remaining strong into the following early morning.

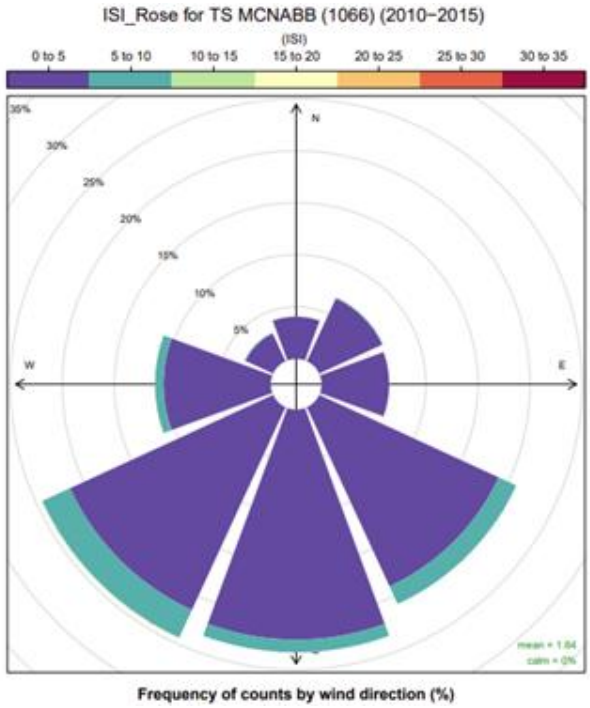


Figure 6. Average daily wind speed and direction during the fire season (April –October) for TS McNabb weather station

[27] https://www2.gov.bc.ca/gov/content/safety/wildfire-status/prevention/vegetation-and-fuel-management/fire-fuel-management/fuel-management

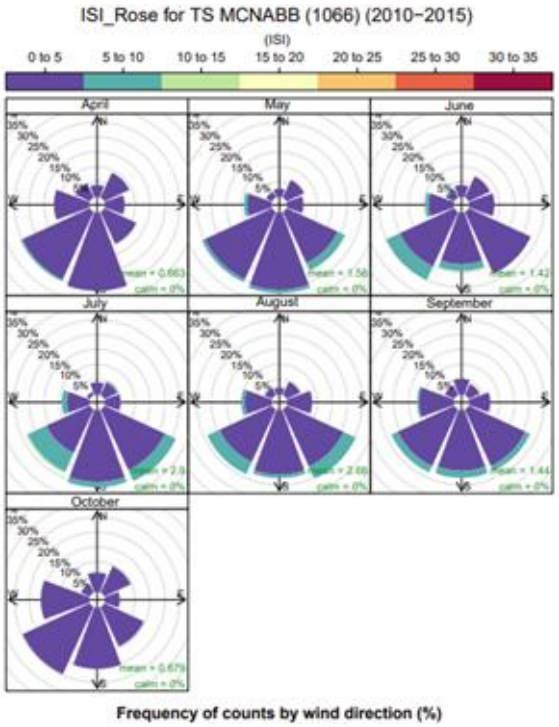


Figure 7: Average monthly wind speed and direction during the fire season (April – October) for McNabb weather station

Climate Change

Climate change is a serious and complex aspect to consider in wildfire management planning. Numerous studies outline the nature of climate change impacts on wildland fire across Canada, and globally.[28] Although there are uncertainties regarding the extent of these impacts on wildfire, the frequency, intensity, severity, duration and timing of wildfire and other natural disturbances is expected to be altered significantly with the changing climate.[29] Despite the uncertainties, trends within the data are visible.

Climate scientists expect that the warming global climate will trend towards wildfires that are increasingly larger, more intense, and more difficult to control; it is likely that these fires will be more threatening throughout the wildland-urban interface due to increased potential fire behaviour, fire season length, and fire severity. Researchers studying the relationship between climate change and potential impacts of wildfires to Canadian forests have found that:

- Fuel moisture is sensitive to temperature change, and projected spring precipitation increases will be insufficient to counteract the impacts of the projected summer precipitation decreases

[28] Flannigan, M.D et al. (2009). *Implications of changing climate for global wildland fire.* International Journal of Wildland Fire 18, 483-507.
[29] Dale, V., L. Joyce. S. McNulty, R. Neilson, M. Ayres, M. Flannigan, P. Hanson, L. Irland, A. Lugo. C. Peterson, D. Simberloff, F. Swanson, B. Stocks, B. Wotton. 2001. *Climate Change and Forest Disturbances*. BioScience 2001 51 (9), 723-734.

and increases in temperature. Results conclude that future conditions will include drier fuels and a higher frequency of extreme fire weather days.[30]

- The future daily fire severity rating is expected to have higher peak levels, and head fire intensity is expected to increase significantly in western Canada. The length of fire seasons is expected to increase, and the increase will be most pronounced in the northern hemisphere. Fire season severity seems to be sensitive to increasing global temperatures; larger and more intense fires are expected, and fire management will become more challenging.[31,32]

Regional climate projections for Squamish indicate that the community will experience warmer average temperatures, more variable precipitation and an increase in extreme weather events over the coming decades. Annual average temperatures are projected to rise by 1.5°C to 3°C by mid-century, with the most significant warming expected during the summer months[33].

Although total annual precipitation is expected to increase modestly, seasonal patterns will shift. Winters will bring more rainfall and less snowfall, resulting in reduced snowpack and earlier spring runoff. Conversely, summer precipitation is projected to decline, leading to hotter, drier summers that elevate the potential for drought and wildfire activity. These shifts are expected to extend the length and intensity of the local fire season.

In addition to an increase in fire danger days, more frequent and intense storm events, such as atmospheric rivers, are anticipated, increasing the risk of flooding, slope instability and post-fire erosion. Extended periods of summer drought are already contributing to forest stress and tree mortality, particularly among western redcedar[34], a species highly sensitive to water deficit. Tree decline and die-off not only affect forest health and biodiversity but also increase the accumulation of dry, combustible fuels in forested areas surrounding the community.

Collectively, these climate trends are expected to result in more frequent, larger and harder-to-control wildfires in the Sea-to-Sky region. For the District of Squamish, this underscores the importance of integrating climate adaptation into wildfire risk reduction, ensuring that fuel management, land-use planning and emergency preparedness reflect a future characterized by longer, drier summers and higher fire potential.

[30] Flannigan, M.D., B.M. Wotton, G.A. Marshall, W.J. deGroot, J. Johnston, N. Jurko, A.S. Cantin. 2016. *Fuel moisture sensitivity to temperature and precipitation: climate change implications*. Climatic Change (2016) 134: 59-71. Retrieved from: https://link.springer.com/content/pdf/10.1007%2Fs10584-015-1521-0.pdf.
[31] Flannigan, M.D., A.S. Cantin, W.J. de Groot, M. Wotton, A. Newbery, L.M. Gowman. 2013. *Global wildland fire season severity in the 21st century*. Forest Ecology and Management (2013) 294: 54 - 61.
[32] Jandt, R. 2013. *Alaska Fire Science Consortium Research Brief.* 2013-3.
[33] Community Climate Action Plan Update | Let's Talk Squamish
[34] Community Climate Action Plan Update | Let's Talk Squamish

4.2 WILDFIRE HISTORY

4.2.1 NATURAL DISTURBANCE REGIME

The Eligible WUI can be described using the Biogeoclimatic Ecosystem Classification (BEC) system, which divides the province into zones based on vegetation, soils and climate. Subzones reflect relative precipitation and temperature and are linked to Natural Disturbance Types (NDTs) that describe the frequency and severity of pre-colonial disturbance events. Understanding these patterns supports the design of fuel treatments that are both ecologically and socially appropriate.[35].

Most of the Eligible WUI lies within the Coastal Western Hemlock Dry Maritime (CWHdm) subzone, with smaller areas of Coastal Western Hemlock Dry Submaritime (CWHds1) and Coastal Western Hemlock Very Wet Maritime (CWHvm1) (Map 6).

The CWHdm subzone is characterized by mild winters and warm, dry summers. Moisture deficiencies are uncommon on zonal sites. Typical forest stands include western hemlock, Douglas-fir and western redcedar. The CWHdm is classified as Natural Disturbance Type 2 (NDT2) - ecosystems with infrequent stand-initiating events. Historically, wildfires in these areas were relatively small (20 - 1,000 hectares) and infrequent, producing a patchwork of mature and younger forest stands. The mean disturbance interval is approximately 200 years.

The CWHds1 represents a transition between coastal and interior ecosystems. It experiences drier summers and cooler winters than the CWHdm, with moderate snowfall and more common seasonal moisture deficits. Forests are dominated by Douglas-fir and western hemlock, with some western redcedar. The historical wildfire regime is similar to that of the CWHdm - low frequency and typically small in size.

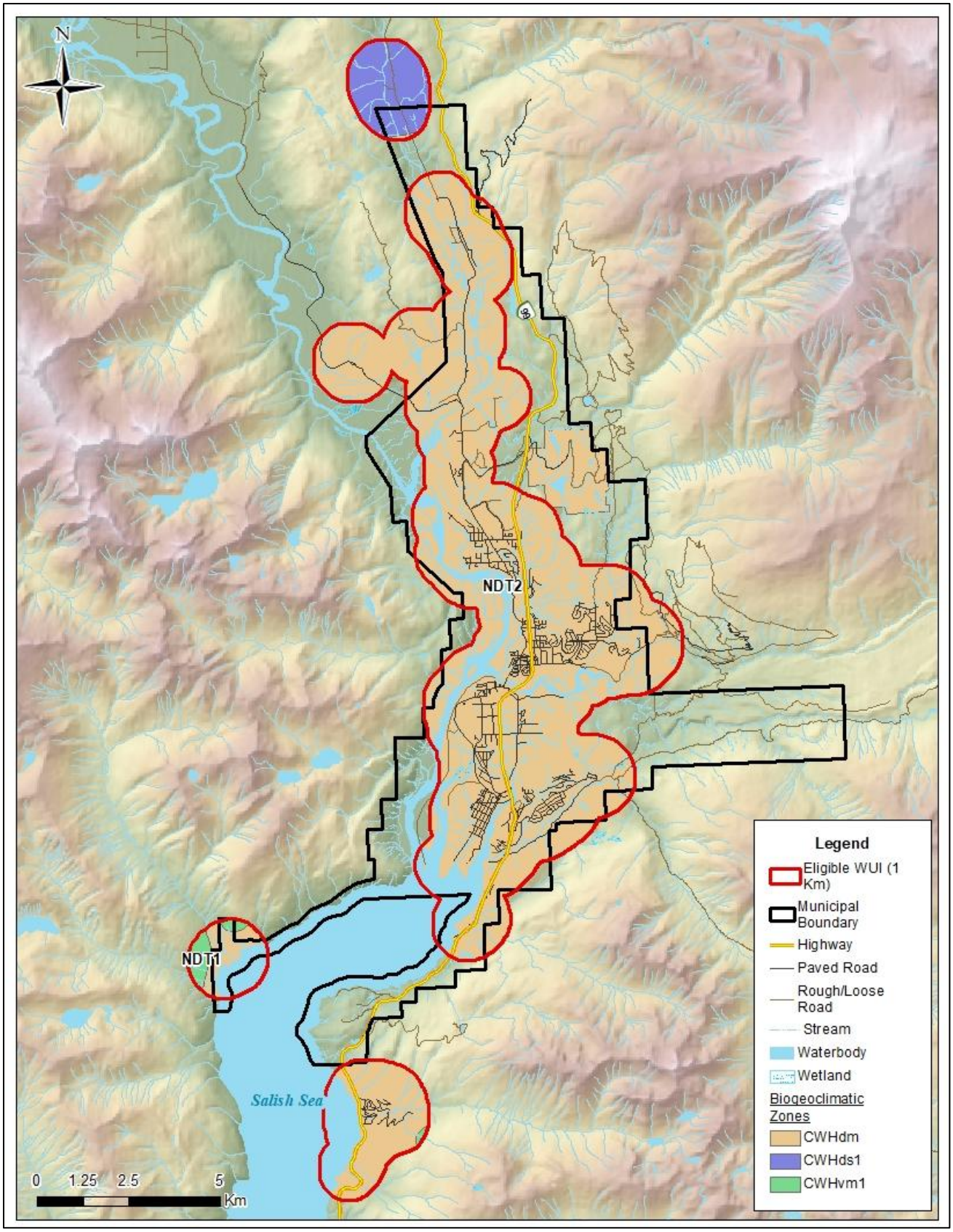
The CWHvm1 occurs at elevations of roughly 200 - 700 m and has a wet, mild climate with long growing seasons. Dominant tree species include western hemlock, amabilis fir, and western redcedar. The CWHvm1 is classified as Natural Disturbance Type 1 (NDT1) - ecosystems with rare stand-initiating events. Disturbances are generally small and localized, resulting in uneven-aged forests shaped by occasional fire, wind, or landslides. The mean disturbance interval is approximately 250 years, and wildfire mitigation efforts are less applicable in this subzone due to limited fuel continuity and infrequent disturbance.

Table 13. Biogeoclimatic zones and natural disturbance types in Squamish's Eligible WUI.

Biogeoclimatic Zone	Natural Disturbance Type	Area (ha)	Percent of Eligible WUI
CWHdm: Coastal Western Hemlock, Dry Maritime	NDT2	9730	94%
CWHds1: Coastal Western Hemlock, Dry Submaritime	NDT2	487	5%

[35] Province of British Columbia, 1995. Biodiversity Guidebook, s.l.: s.n.

Biogeoclimatic Zone	Natural Disturbance Type	Area (ha)	Percent of Eligible WUI
CWHvm1: Coastal Western Hemlock, Very Wet Maritime	NDT1	101	1%



Map 6. Natural disturbance types and biogeoclimatic zones within Squamish's Eligible WUI.

4.2.2 HISTORIC WILDFIRE OCCURENCES

Wildfires have occurred in and around Squamish with moderate frequency, and while large fires have been relatively uncommon within the Eligible WUI, several recent events have demonstrated the area's exposure to wildfire. BC Wildfire Service records show 310 reported ignitions within the Eligible WUI, 55% of which were human-caused. Nearly half of all ignitions have an undetermined cause, and 26% are classified as nuisance fires, including escaped campfire or debris burn incidents. Eighteen human-caused ignitions have occurred within the last decade. As illustrated on Map 7, many ignition points overlap with trail networks, reflecting the influence of recreation on local fire occurrence.

The 2015 lightning-caused Elaho Fire remains the most significant wildfire in the broader region in recent history. Ignited by lightning in late June 2015, it burned over 12,000 hectares on both sides of the Elaho and Sims Creek drainages, roughly 30 kilometres northwest of the municipality. Spread was driven by steep slopes and strong outflow winds from the Interior. A number of old growth stands burned, showing the potential of C-5 fuel types to burn at high severity under extreme fire weather conditions. In 2025, 1,155 hectares of this fire area re-burned within the existing scar, without expanding beyond its original perimeter. The Elaho Fire continues to serve as a reminder of the region's potential for large-scale wildfire events during periods of extended drought and high winds. Although lightning-caused ignitions are less frequent, they typically occur at higher elevations where continuous forest cover and limited access allow them to grow larger and they are generally a lower operational priority than fires closer to communities.

Several notable fires have also occurred in the Squamish Valley over the past decade. In 2019, a structure fire spread into the surrounding forest, burning approximately 70 hectares upslope. In 2020, the Magee Road Fire grew to 200 hectares following an escaped backyard burn, prompting evacuation alerts for several residences in the Upper Squamish Valley. In 2021, a lightning-caused fire on Cloudburst Mountain burned under dry conditions, illustrating the capacity for mixedwood stands to sustain active crown and surface fire behaviour before leaf-out in spring.

Within the District boundary and in the Community Forest, the 2025 Dryden Creek Fire was the most significant event in recent years. The fire ignited in July 2025 on a southwest-facing slope in a C-3 forest stand and grew to 59.5 hectares. It produced spotty surface fire behaviour, spreading northward with prevailing winds and triggering an Evacuation Alert for properties in SkyRidge and along Depot Road, and an Evacuation Order for two properties.[36] Although the fire remained upslope from structures, the homes on Depot Road and the Mt. Fun campground remained under alert afterward due to rockfall hazards created by burned slope instability. The fire was human-caused and associated with a nearby trail network. The District's EOC was activated, and Squamish Fire Rescue collaborated closely with BC Wildfire Service on suppression and public communication. The Fire Chief noted Voyant Alert and the BC Wildfire Service mobile app as a valuable public information resources during this incident.

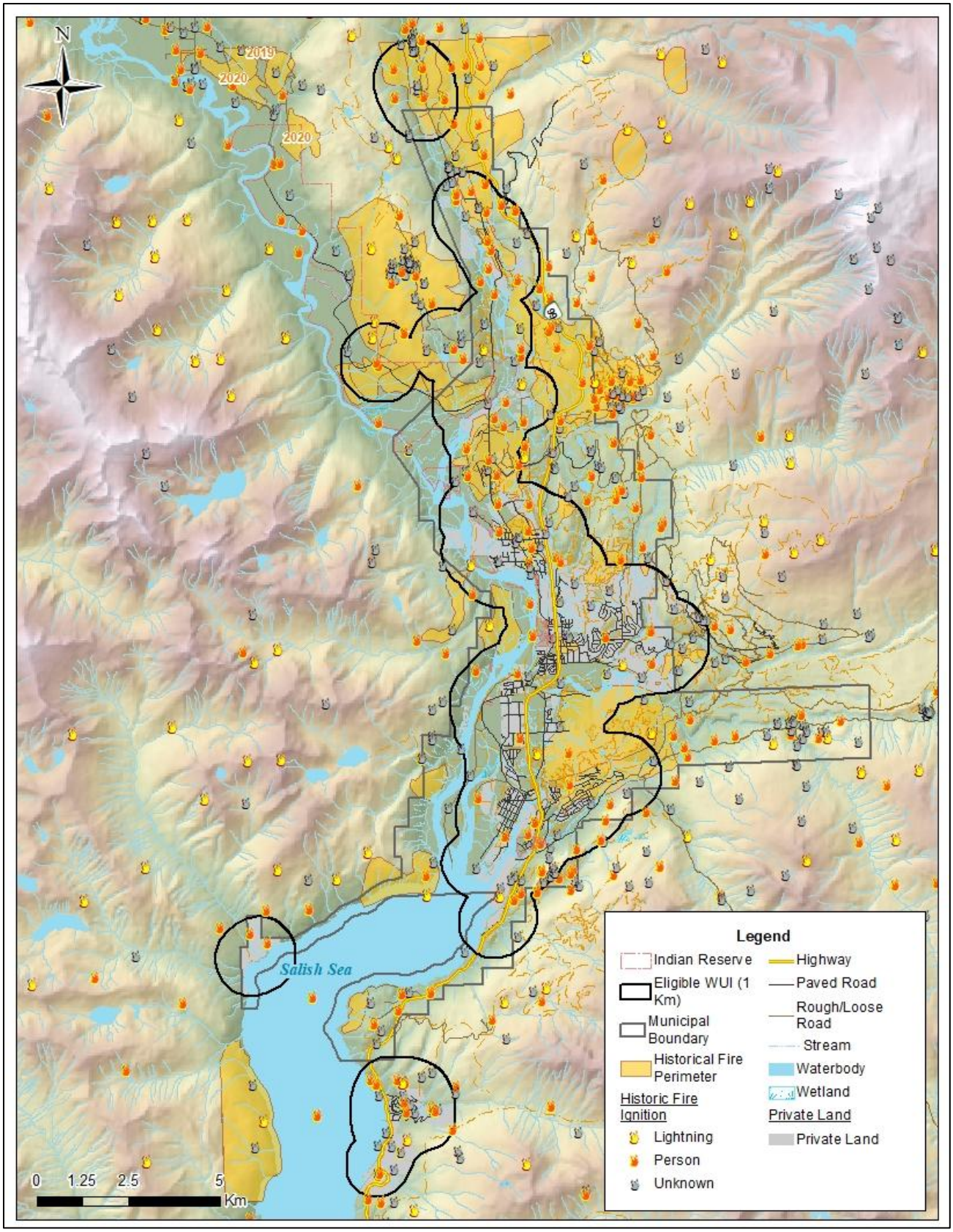
[36] District of Squamish. *Dryden Creek Wildfire*. https://squamish.ca/public-safety-services/emergency-program/emergency-updates/dryden/

A number of smaller fires also occurred around Squamish during in late August and September 2025. While minor in size, these events indicate an extended fire season consistent with observed regional trends.

In recent years, ignition trends have shifted, reflecting changing human use patterns and drier shoulder seasons. Squamish Fire Rescue has responded to increasing numbers of target-shooting-related fires at unsanctioned ranges along the Mamquam Forest Service Road, where abandoned appliances and propane tanks are frequently used as targets. Encampment fires are another growing concern, often occurring in forested areas close to services or in less visible locations around the wildland-urban interface. Additionally, ignition from discarded smoking materials along Highway 99 are somewhat common.

Squamish's fire history reflects a predominance of small, human-caused ignitions with occasional larger events under extreme conditions. The municipality's expanding interface footprint, extensive trail network, and longer dry seasons underscore the importance of continued public education, prevention, and FireSmart outreach.

Photo 2. Left: Active Dryden Creek Fire in July 2025
Right: Post-fire conditions of the Dryden Creek Fire, showing surface fire effects and limited crown involvement



Map 7: Historic fire occurrences in Squamish's Eligible WUI

4.3 RISK FRAMEWORK AND RISK CLASS MAPS

BC Wildfire Services has developed a WUI Risk Class Framework to support wildfire risk reduction initiatives. The risk-based framework considers the likelihood of a wildfire event and potential consequences to communities and values. Differing risk levels require tailored risk management to minimize negative impacts from wildfire. This framework is intended to enable cost effective wildfire risk reduction strategies at local and provincial scales[37]. Through the identification of risk level, priorities for mitigation and opportunities for increasing community resiliency are both enhanced.

Provincial Strategic Threat Analysis

The Provincial Strategic Threat Analysis (PSTA) is a series of publicly available spatial datasets designed to consistently assess and map different aspects of wildfire threat across British Columbia. These datasets evaluate wildfire threat using three core fire behaviour components: head fire intensity, historic fire density, and spotting impact. Together, these layers provide a standardized, landscape-level depiction of wildfire threat that supports provincial planning and funding programs, including CRI FCFS.

The PSTA is intended as a starting point for more detailed local analyses and is not suitable for determining site-specific fuel management or operational strategies. PSTA ratings must be validated through stand-level threat analyses (Appendix B: WTA Plots and Photos).

When combined with provincial WUI mapping, PSTA produces WUI Risk Class polygons that identify areas where wildfire threatens structures or critical values. These Risk Class ratings support priority-setting and strategic mitigation planning but do not replace local expert judgment.

For Squamish, PSTA results indicate that 36% of the Eligible WUI is classified as Moderate threat and 21% as High, with smaller areas mapped as Extreme (3%), Low (3%), and Very Low/No Threat (8%). Approximately 28% of the Eligible WUI consists of private land, for which PSTA threat classifications are not available. These results provide a broad overview of wildfire threat conditions and correspond with the findings of the local wildfire threat analysis (Section 4.4), which reflects finer-scale stand, fuel and topographic variation.

PSTA fire risk analysis is shown on Table 14 and displayed on Map 8.

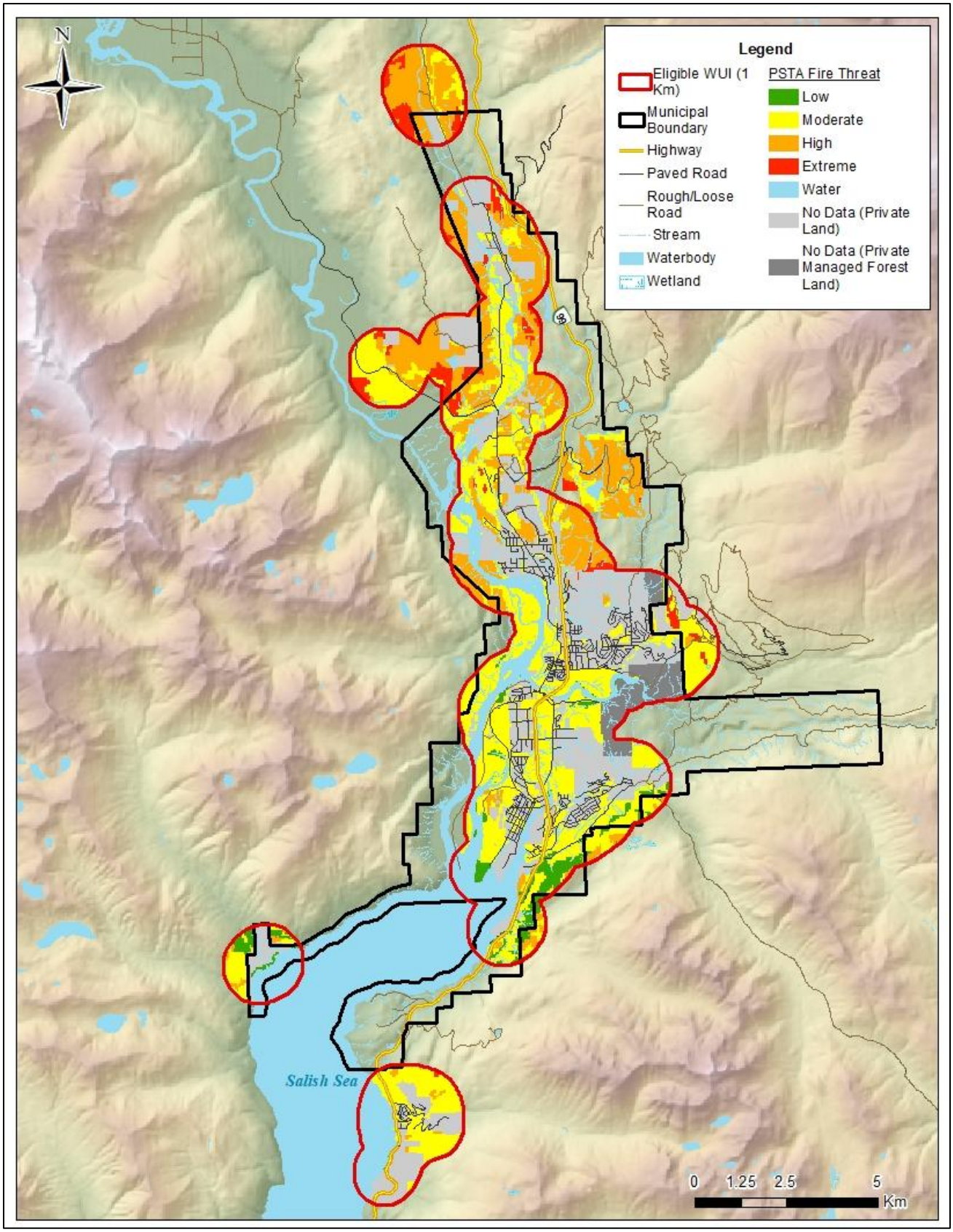
Table 14. Provincial Strategic Threat Analysis (PSTA) score for Squamish's Eligible WUI.

PSTA Fire Threat			
Threat Class	**Hectares**	**Percentage (%) of Eligible WUI**	**Percentage (%) of Assessable Public Land[38]**
Extreme	310	3%	4%

[37] Wildland urban interface risk class maps - Province of British Columbia

[38] PSTA fire threat ratings are only available for assessable public land. Private land is not included in provincial threat modelling.

PSTA Fire Threat			
Threat Class	**Hectares**	**Percentage (%) of Eligible WUI**	**Percentage (%) of Assessable Public Land[38]**
High	2169	21%	30%
Moderate	3692	36%	51%
Low	334	3%	5%
Very Low/No Threat (Water)	791	8%	-
No Data (Private Land)	*2842*	28%	-



Map 8. Squamish PSTA Fire Threat Rating and WUI Risk Class Rating

4.4 LOCAL WILDFIRE RISK ASSESSMENT

This section presents the results of the local wildfire risk assessment completed for the District of Squamish, using stand-level data and field verification to refine provincial threat classifications. The local wildfire risk analysis was completed to supplement the provincial PSTA threat analysis, which is generated at a provincial scale and must be validated through stand-level assessment by a qualified professional to ensure that local fuel and topographic variation is accurately captured.

There are two main components of this local risk assessment: the *wildfire behaviour threat class* (fuels, weather and topography sub-components) and the *WUI risk class* (structural sub-component). The local wildfire threat assessment process includes several key steps as outlined in Appendix D: Local Wildfire Risk Assessment Process and summarized as follows:

- **Fuel type attribute assessment:** ground truthing/verification and updating as required to develop a local fuel type map (Section 4.1.1).
- **Consideration of the proximity of fuel to the community:** recognizing that fuel closest to the community usually represents the highest hazard.
- **Analysis of predominant summer fire spread patterns:** using wind speed and wind direction during the peak burning period using ISI Rose(s) from BCWS weather station(s). Wind speed, wind direction, and fine fuel moisture conditions influence wildfire trajectory and rate of spread.
- **Consideration of topography in relation to values** (Section 4.1.2): slope percentage and slope position of the value are considered, where slope percentage influences the fire's trajectory and rate of spread and slope position relates to the ability of a fire to gain momentum uphill.
- **Stratification of the WUI:** according to relative wildfire threat based on the above considerations, other local factors, and field assessment of priority wildfire risk areas.

Wildfire Threat Assessment (WTA) plots were completed over a number of field days in July 2025 in conjunction with verification of fuel types (see Appendix D-1: Fuel Typing Methodology and Limitations). Field assessment locations were prioritized based upon:

- **Proximity to values at risk:** Field assessments were clustered in the intermix and interface, as well as around critical infrastructure.
- **Prevailing fire season winds:** More field time was spent assessing areas upwind of values at risk, especially in potential locations for landscape-level fuel breaks.
- **Local knowledge:** Areas identified as hazardous, potentially hazardous, with limited access/egress, or otherwise of particular concern as vulnerable to wildfire, as communicated by local fire officials and community forest representatives.
- **Observations:** Areas potentially not recognized prior to field work were visually identified as hazardous and assessed during the week.

- **Verifying provincial classification:** Areas classified as high threat in the provincial PSTA dataset, or with an uncommon fuel type, were assessed to ground-truth the fuel type and threat, even if they were relatively far from values.

Wildfire Threat Class Analysis

Classes of the wildfire threat analysis are as follows:

- **Very Low:** Waterbodies with no forest or grassland fuels, posing no wildfire threat;
- **Low:** Developed and undeveloped land that will not support significant wildfire spread;
- **Moderate:** Developed and undeveloped land that will support surface fires that are unthreatening to homes and structures;
- **High**: Landscapes or stands that are continuous forested fuels that will support candling, intermittent crown fires, or continuous crown fires. Often located on steeper slopes, rough or broken terrain, and/or south or west aspects.
- **Extreme:** Continuous forested land that will support intermittent or continuous crown fires.

The results of the wildfire threat class analysis are shown on Map 9 and in Table 15 below. The Eligible WUI is characterized primarily by low to moderate wildfire threat, with localized pockets of high and extreme threat concentrated along steep, forested slopes surrounding the valley.

Approximately 43% of the Eligible WUI is classified as low wildfire threat, corresponding to mixedwood and deciduous stands with moderate to high broadleaf composition, O1-a/b (grass/herb) areas and flat-lying C-5 fuels with limited surface loading. Moderate threat areas represent about 17% of the Eligible WUI (24% of assessable public land) and are typically associated with C-5 and C-7 fuels on moderate to steep slopes, or C-3 fuels on flatter terrain. These stands are capable of supporting active surface fire behaviour with limited torching potential under dry and windy conditions. These characteristics are consistent with the conditions observed during the June 2025 Dryden Creek wildfire, which burned through steep C-7 fuel types classified as Moderate wildfire threat, demonstrating the potential for rapid fire spread within this risk class under favourable weather conditions

High and extreme wildfire threat polygons comprise approximately 3% of the Eligible WUI, primarily located along the upper valley edges where terrain steepens abruptly above developed areas. These areas include the slopes of the Smoke Bluffs Park and the Skyridge neighbourhood. High and extreme areas are most commonly C-3 fuels on moderate to steep slopes, often south- or southwest-facing, with continuous conifer canopies. These sites are largely untreatable due to extreme topographic constraints.

While the mapped results reflect broad spatial trends in wildfire threat, they may understate fire behaviour potential in localized areas, particularly within C-5 and C-7 stands where surface fuel accumulation, ladder fuels or suppressed understory stems persist. These micro-scale hazards are most relevant near the urban fringe and along trail corridors and park interfaces, where small, targeted treatment opportunities exist but may not be fully reflected in polygon-level threat classifications.

The urbanized valley floor and developed neighbourhoods are primarily classified as low threat, although private properties within these zones were excluded from the analysis. Wildfire hazards associated with ornamental vegetation, landscaping and private fuel accumulation are therefore not reflected in the mapping and are further discussed in SECTION 5:.

Despite the high hazard potential of the steep surrounding slopes, these areas also function as natural containment boundaries, as their rugged topography make downhill fire spread toward developed areas less likely as well as limits development and accessibility into these areas. Strategic mitigation efforts should continue to focus within accessible interface zones and recreation corridors, where ignition likelihood and suppression opportunities are greatest.

Table 15: Wildfire Threat Class Analysis ratings.

Wildfire Threat			
Threat Class	**Hectares**	**Percentage of Eligible WUI**	**Percentage of Assessable Public Land[39]**
Extreme	97	1%	1%
High	162	2%	2%
Moderate	1768	17%	24%
Low	4386	43%	59%
Very Low/No Threat (Water)	1063	10%	14%
No Data (Private Land)	*2842*	28%	-

WUI Risk Analysis

The WUI risk analysis evaluates the structural component of wildfire risk by assessing how fuels, topography, and fire behaviour interact with community development patterns and proximity of structures to hazardous fuels.

In this analysis, WUI Risk is quantified when the Wildfire Threat (the above) is assessed as high or extreme, causing potential of unacceptable wildfire risk when near communities and developments. WUI Risk Classes are described below:

- **Low**: The high or extreme threat is sufficiently distant from developments, having no direct impact on the community and is located over 2 km from structures;
- **Moderate**: The high or extreme threat is sufficiently distant from developments, having no direct impact on the community and is located 500m to 2 km distance from structures;

[39] Wildfire threat modelling was completed for assessable public land only. Private land was not included in the wildfire threat analysis and is therefore not represented in the threat classification.

- **High**: The high or extreme threat has potential to directly impact a community or development and is located 200m to 500m from structures; and
- **Extreme**: The high or extreme threat has potential to directly impact a community or development and is located within 200m from structures.

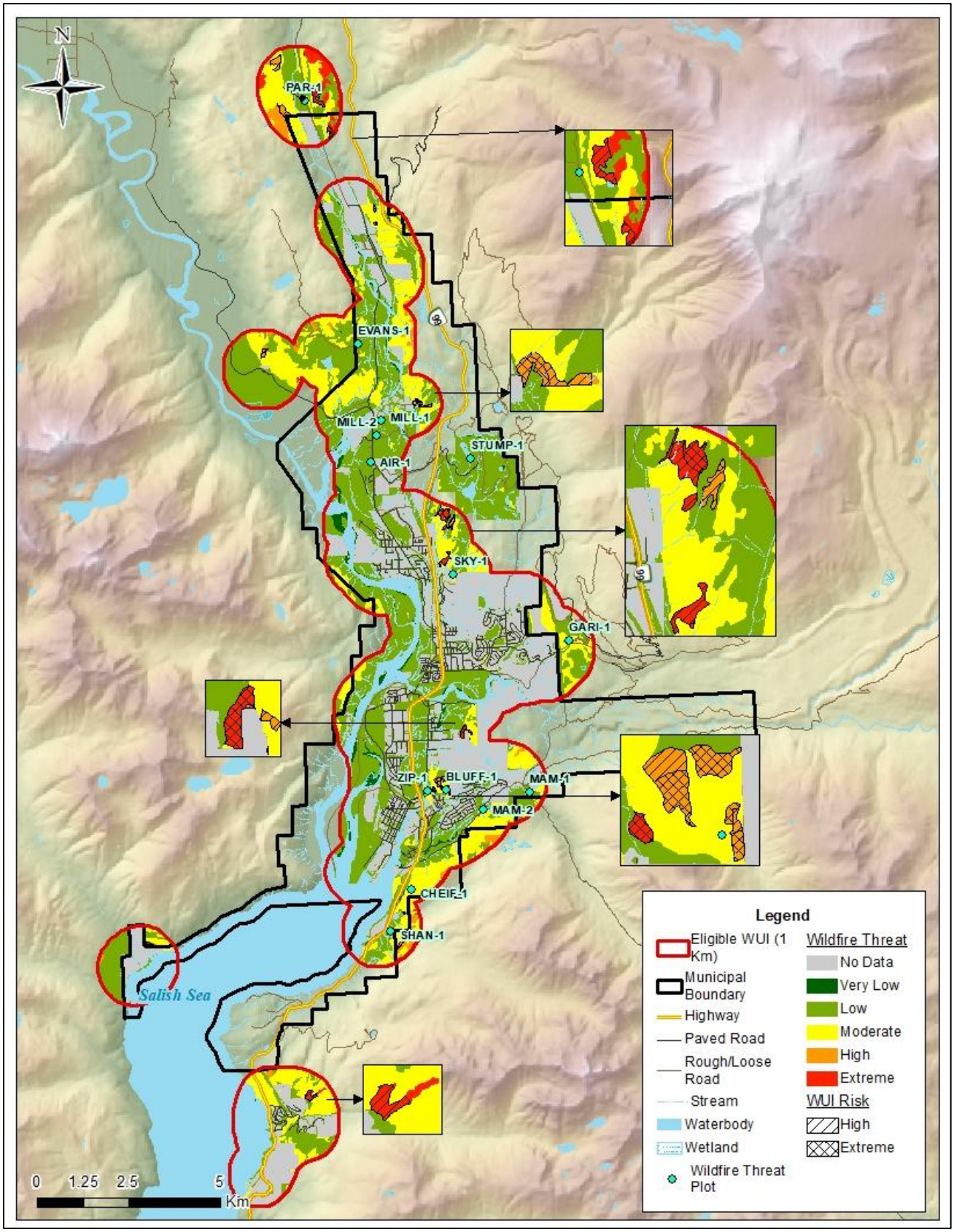
Table 16 below (and also displayed on Map 9) summarizes the WUI Risk Classes within Squamish. Results of the WUI risk analysis indicate that areas of high or extreme WUI risk are limited in extent but are concentrated in key interface locations where steep terrain and continuous fuels border development. The most notable concentrations occur in neighbourhoods adjacent to Smoke Bluffs Park, such as Hospital Hill, where C-3 fuels abut residential development. Additional high-risk areas are located along the lower slopes of Shannon Falls Provincial Park and the Stawamus Chief Provincial Park with smaller pockets present near the SkyRidge neighbourhood and Depot Road and along the Tantalus Range near Brohm Lake.

In general, the Eligible WUI displays a predominantly low to moderate interface risk profile, with only ~1% of assessable public land categorized as high or extreme. However, as Squamish continues to expand into interface and intermix environments, new developments are increasingly located adjacent to steep, forested slopes and continuous fuels. This pattern, combined with high recreational use, underscores the importance of continued wildfire risk reduction through land-use planning, FireSmart implementation, and interagency coordination.

This analysis excludes private land (28% of the Eligible WUI), where localized hazards such as dense vegetation, ornamental conifers and untreated surface fuels may occur but are addressed in SECTION 5:.

Table 16: WUI Risk Analysis ratings

WUI Risk			
Risk Class	**Hectares**	**Percentage of Entire Eligible WUI**	**Percentage of Assessable Public Land**
Extreme	16	<1%	<1%
High	56	1%	1%
N/A (Moderate, Low, Very Low *Wildfire Threat Class*)	7217	70%	97%
No Data (Private Land)	*2841*	28%	-



Map 9. Squamish's Local Fire Threat and WUI Risk Rating

4.5 HAZARD, RISK, AND VULNERABILITY ASSESSMENT

As part of municipal emergency management programs, local authorities have a mandate to evaluate relative risk. Section 2(1) of the *Local Authority Emergency Management Regulation of the BC Emergency Program Act*[40] states that emergency plans must reflect the local authority's assessment of the relative risk of occurrence and the potential impact on people and property of the emergencies or disasters that could affect all or any part of the jurisdictional area for which the local authority has responsibility.

A *Hazard, Risk and Vulnerability Analysis (HRVA)* is a tool that local governments can use to fulfill that requirement. Emergency Management BC supports this by providing an online HRVA tool and associated documents. The purpose of an HRVA is to help a community make risk-based choices to address vulnerabilities, mitigate hazards and prepare for response and recovery from hazard events. The HRVA process assesses sources of potential harm, their likelihood of occurring, the severity of their possible impacts and who or what is particularly exposed or vulnerable to these impacts.[41]

The District of Squamish's HRVA was completed in 2015 as part of the *Community Risk Assessment* and is now due for an update to reflect current conditions. The report identifies and ranks hazards such as earthquake, wildfire, hazardous materials, flood and interface structure fire using a standardized likelihood–consequence methodology. It also maps critical infrastructure, lifelines, vulnerable populations and special occupancies that may be disproportionately impacted by emergencies.

Wildfire is identified in the 2015 HRVA as a moderate-to-high priority hazard for Squamish due to the community's exposure to steep forested terrain, high recreational use, seasonal drought conditions and increasing interface development. The HRVA notes that the number of residents living in or adjacent to forested areas has increased, heightening both ignition likelihood and structural vulnerability.[42]

Although the 2015 assessment provides a strong foundation, it predates several significant hazard trends, including more frequent extreme-weather events, extended fire seasons and increased development and recreational pressure. An updated HRVA that incorporates current wildfire science, climate impacts and changes to the built environment would improve integration between municipal emergency management and ongoing wildfire risk reduction planning.

[40] Local Authority Emergency Management Regulation. BC Reg 380/95 O.C. 1075/95. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/380_95

[41] Government of BC. HRVA Example Report. https://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/emergency-preparedness-response-recovery/local-government/hrva/hrva_forms-step_8-anytown_bc-sample_hrva_report.pdf

[42] Community-Risk-Assessment-FINAL-web.pdf

SECTION 5: FIRESMART DISCIPLINES

FireSmart is the nationally accepted set of principles, practices, and programs for reducing losses from wildfire.[43] FireSmart concepts, including recommended FireSmart guidelines,[44] have been formally adopted by almost all Canadian provinces and territories, including British Columbia in 2000. 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 following parts of this section provide information on each FireSmart discipline. FireSmart activities that Squamish has already implemented and recommended actions to strengthen programming are discussed. Recommendations are summarized in the Executive Summary (Table 1. Community Wildfire Resiliency Plan Recommendations). Most actions are fundable through the CRI FCFS program.

Neighbourhood Overview

Squamish has a wide range of interface and intermix neighbourhoods where homes are built adjacent to or within forested areas. As new neighbourhoods continue to expand into intermix and interface areas, exposure to wildfire has increased across the community. Many developments are situated near continuous conifer forest and steep slopes where access, egress and suppression can be challenging. Older areas with established vegetation and variable construction standards also contribute to local ignition potential.

Implementing FireSmart principles and ongoing public education is important for both new and established neighbourhoods, particularly where single access routes, steep grades and forest adjacency

[43] FireSmart is the registered trademark held by the Partners in Protection Association.
[44] 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

increase risk. Table 17 below summarizes key wildfire vulnerabilities and resiliency features across Squamish neighbourhoods.

Table 17. Factors for vulnerability and resiliency of neighbourhoods in Squamish.

Neighborhood	Vulnerability	Resiliency
Valleycliffe	• Coniferous forest to the north • Scattered large conifers and ornamental shrubs near home • Many homes have wooden fences, decks, and vinyl siding	• Stawamus River and deciduous riparian strip on south and east sides • Flat terrain and medium irrigated lots • Deciduous right-of-ways to the west • Asphalt roofs common; within hydrant network and good access • Multiple access routes
Crumpet Hill	• Interface • Single access and egress route with steep grades • Abuts continuous forest land in all directions	• New construction mostly FireSmart compliant • Metal roofs and concrete siding common • Irrigated lawns and minimal ornamental vegetation; good immediate zones
Northridge/ Hospital Hill	• Abuts Smoke Bluffs Park with high ignition potential and continuous forest cover • Narrow roads and several dead ends • Poor setbacks; homes close to one another	• Neighbourhood FireSmart assessment completed (2022) • Mixed construction materials with varying FireSmart compliance
Sea to Sky	• Narrow roads limit access and egress • Some homes with cedar hedging	• New construction with metal & fibre-cement siding and asphalt & metal roofing • Mostly deciduous landscaping • Good forest setback
Downtown	• Limited egress; no alternative access when trains are passing • Numerous encampments with high ignition potential • Dense population and closely spaced buildings	• Very little vegetation or wildland fuel continuity • Most buildings are FireSmart-compliant • Good access throughout neighbourhood
Dentville	• Ignition potential from railway • Older homes in the south have variable construction materials and FireSmart compliance • Cedar hedging common around older properties	• Mostly non-fuel with large portions or industrial development • Edgewater homes are newer with little surrounding vegetation
Garibaldi Highlands /University Area	• Interface/intermix • Poor forest setbacks and continuous forestland surrounding neighbourhood • Tall coniferous trees often overtopping homes	• Homes generally well maintained with asphalt roofs • Neighbourhood FireSmart assessment completed

Neighborhood	Vulnerability	Resiliency
	• Single access/egress	
Skyridge	• Interface neighbourhood with continuous forestland upslope • Steep road grades and single access/egress route • Cedar hedging is common	• New construction with concrete/vinyl siding and metal/asphalt roofs • Homes generally built to modern FireSmart standards • Good immediate zones
Brackendale	• Large coniferous trees and vegetation common • Cedar hedging frequently used as visual screen • Variable building stock with mixed FireSmart compliance	• Good access/egress routes • Medium-sized lots with irrigated lawns • Homes generally well-maintained
Squamish Valley	• Single access and egress route • Frequent camping and visitor use increase ignition potential • Large rural lots and farms complicate evacuation logistics • Water supply limitations noted by the fire department • History of wildfires in the area	• Active local fire brigade with basic suppression equipment • Past wildfire workshops and education initiatives completed • Natural water source from Squamish River
Paradise Valley	• Single access and egress route • Water supply limitations noted by the fire department • Forested on all sides of homes and roads; intermix conditions • Ignition potential from nearby railway	• Neighbourhood FireSmart assessment completed on Midnight Way (2022)

5.1 EDUCATION

Description

Public education and outreach play a critical role in helping a community prepare for and prevent a wildfire. Participating in wildfire risk reduction and resiliency activities also promotes a sense of empowerment and shared responsibility. A successful public education campaign that builds awareness and understanding among residents and visitors can support the implementation of projects related to other FireSmart disciplines. FireSmart education activities constitute the 'engagement' phase of the FireSmart Roadmap and are the foundation for progress towards resiliency (SECTION 6:).

FireSmart education in Squamish has expanded significantly since 2017. The District is in the process of establishing a FireSmart Coordinator role to continue program growth and delivery. The intent is to bring the role in-house and provide ongoing support to enable consistent, year-round education, outreach and community engagement. While interim capacity has supported recent program delivery, a dedicated, long-term FireSmart Coordinator position is needed to provide continuity and advance implementation of CWRP recommendations. The District is continuing to strengthen and expand the FireSmart program,

including providing additional support to maintain consistent, year-round education, outreach, and community engagement.

Analysis

Perceived wildfire risk in Squamish remains relatively low, influenced by the community's coastal location and historically infrequent structure losses. Although awareness has grown in recent years, many residents still have limited understanding of individual responsibilities and the importance of taking action on their own properties.

The District of Squamish delivers FireSmart education through multiple channels, including public-facing web content and community events. The District's FireSmart webpage provides centralized access to FireSmart Home Ignition Zone assessment booking, chipper program details, plant and landscaping guidance, the wildfire-resistant landscaping bylaw, Wildfire Development Permit Area materials and FireSmart BC resources. The page also hosts video messages from the Fire Chief on FireSmart practices and recent wildfire events.

Several elements of the program have proven particularly effective. The community chipper program has become a major driver of engagement. FireSmart Home Ignition Zone assessments have also become a key educational tool, with approximately one hundred completed since 2021. Rebates and retrofits have begun to gain traction, though uptake remains gradual.

Community engagement remains a key limiting factor in FireSmart program expansion. Neighbourhood-level FireSmart assessments and workshops have been delivered in areas such as Garibaldi Highlands and Midnight Way, but maintaining momentum has been challenging. Few neighbourhood champions have emerged to lead ongoing activities and follow-through tends to decline once the assessment phase is complete. Many Squamish households prioritize recreation opportunities and face ongoing housing-affordability pressures, leaving limited capacity to take on volunteer roles related to wildfire preparedness.

Reaching residents in rural or large-lot areas, particularly the Squamish Valley, also remains difficult, and renters, newcomers, and transient workers are consistently underserved. This also includes owners of large, forested private parcels that extend into interface terrain and contribute to continuous fuel connectivity between development and surrounding wildlands. Participation in standard FireSmart programming in these areas has been limited.

Visitor education is an ongoing priority. The community sees high numbers of seasonal campers and recreational users who are less familiar with local fire danger. BC Wildfire Service operates educational kiosks on busy long weekends and patrols nearby forest service roads during warm, dry periods, while Squamish Nation's Fire Guardian Program provides additional outreach during key periods. BC Parks has noted that inconsistent fire ban and restriction messaging between agencies creates confusion for visitors, highlighting the need for clearer and more coordinated communication across jurisdictions.

Unregulated target shooting has also been identified as a recurring ignition source in the Squamish backcountry. These activities often occur in informal sites with dry surface fuels and limited oversight, highlighting a need for clearer education and more visible guidance in known problem areas. The fire department has responded to an increase in target-shooting-related wildfires along the Mamquam forest service road, where dumping sites are commonly used as unsanctioned shooting ranges. Discarded appliances, propane tanks and similar materials are frequently used as targets, and the rising use of binary exploding targets further increases ignition risk.

Fire risks linked to unsanctioned encampments continue to be a concern, particularly where open flames, propane appliances, and debris accumulation occur close to forested edges. Emergency services noted a number of encampment-related ignitions in recent years, including a trailer fire in the downtown core in early 2025, underscoring the need for coordinated outreach and monitoring.

The Dryden Creek Fire highlighted strengths of the District's education program. During the wildfire, the FireSmart Coordinator, working with the Youth Climate Action Corps, distributed printed evacuation checklists and emergency kit information door-to-door, as well as coordinated debris removal from Mt. Fun Basecamp. The event also prompted a surge in resident interest in FireSmart assessments and vegetation disposal, demonstrating the value of timely, visible engagement.

Squamish now operates a more mature FireSmart education program than existed in 2017, but sustained staffing, more consistent interagency messaging and expanded outreach to visitors and harder-to-reach neighbourhoods remain key areas for improvement.

Action Planning

Strengthening public education is a key opportunity for the District to advance wildfire resiliency over the next five years. While Squamish's FireSmart program has expanded significantly since 2017, engagement varies across neighbourhoods, visitors, and community groups Several persistent challenges relate directly to education, including difficulty reaching high-risk interface neighbourhoods, inconsistent fire ban and fire danger messaging across agencies and limited patrol presence during peak recreation periods. Addressing these gaps will require coordinated education and enforcement efforts that align with current fire science and BC Wildfire Service direction for wildfire prevention and public compliance.

Establishing a full-time FireSmart Coordinator is foundational to addressing these gaps and supporting the continued expansion of FireSmart programming in Squamish. A dedicated position would provide the continuity needed to deliver regular FireSmart education, manage community champions, coordinate neighbourhood assessments, support fuel management initiatives, and maintain alignment across land managers and agency partners. As Squamish continues to grow into interface areas, a permanent FireSmart Coordinator role is increasingly necessary to meet rising demand and program complexity. While staff capacity remains a constraint, the development of neighbourhood champions plays an important complementary role in sustaining local education and event coordination.

Neighbourhood-level engagement is an important focus. While some areas have completed neighbourhood assessments and hosted workshops, ongoing participation has been difficult to sustain.

Expanding the pool of neighbourhood champions, supported by the FireSmart Coordinator, will help distribute workload and reduce reliance on municipal staff. Champions play an important role in sustaining ongoing FireSmart participation in priority neighbourhoods. Neighbourhood champions can help deliver FireSmart education, organize or support chipping days and guide their neighbourhoods through the steps required to achieve FireSmart Canada Neighbourhood Recognition. The FireSmart Coordinator should explore proactive approaches to identifying engaged residents who could serve as champions, including leveraging strata annual general meetings, capitalizing on increased awareness following recent wildfire events, engaging recreation clubs or trail associations and building relationships with neighbourhood organizers or volunteer-led community groups.

Targeted FireSmart outreach should be developed for owners of large, forested private properties that extend into interface terrain. Education materials and engagement approaches should be tailored to the scale and context of these parcels, with a focus on priority areas near structures, access routes and adjacent public lands. Improving awareness and participation in these areas would help reduce fuel continuity across the wildland-urban interface while remaining consistent with education-led wildfire risk reduction approaches.

Improving the consistency and visibility of wildfire messaging across agencies and land managers is another key priority. Residents and visitors need clearer, more practical guidance linked to fire danger ratings, seasonal restrictions and high-risk activities. Expanding education beyond general fire-ban notices, particularly at trailheads, campgrounds, and busy recreation corridors, would help reach audiences who are currently difficult to engage. This includes both local residents, as well as the significant number of out-of-town visitors who recreate in the community during high fire danger periods. District staff also identified that developing impactful, Squamish-specific social media campaigns could help address the lack of awareness about the District's Wildfire Management Landscaping Bylaw and Wildfire Development Permit Area; this is further discussed in Section 5.2.

Public education should also be expanded to address wildfire risks associated with unregulated target shooting. Clear signage in high-use locations, coordinated messaging during periods of elevated fire danger and stronger outreach in known activity areas would help reduce preventable ignitions while promoting safer recreational habits.

Similarly, the District would benefit from a more coordinated educational approach to unsanctioned encampments. Targeted outreach could help reduce fire hazards associated with open-flame use and combustible material accumulation. Regular monitoring paired with directed education would strengthen prevention efforts in areas where encampments are common.

Continuing to integrate education into existing touchpoints such as the chipping program, FireSmart Home Ignition Zone assessments and community events (e.g., Farmer's Market, Logger Sports, Brackendale Fall Fair) will help promote FireSmart principles and increase participation. Partnering with agencies like Squamish Fire Rescue, BC Wildfire Service and BC Parks will deliver a consistent message to further improve public awareness, particularly for recreational users.

A summary of recommendations related to FireSmart education is detailed in Table 1.

5.2 LEGISLATION AND PLANNING

Description

Municipal bylaws and planning policies play an important role in shaping how wildfire risk is managed across the community. Regulations that influence landscaping, development, servicing, vegetation management and permitted activities can support FireSmart principles. Reviewing these tools through a wildfire lens helps identify where requirements may unintentionally increase structure vulnerability or limit fuel management and where stronger or clearer provisions could reduce ignition potential, improve defensible space or support safer access and egress. Ensuring that legislation and planning frameworks align with local wildfire conditions is a key step toward building a more resilient community.

Analysis

Squamish has a broad and evolving policy framework that supports aspects of community wildfire resiliency. Several bylaws directly influence ignition prevention, vegetation management and development in interface areas, while others provide authority for Squamish Fire Rescue to address hazardous conditions on public and private lands. The framework demonstrates meaningful progress since the last CWPP, though there are still opportunities to strengthen and better coordinate FireSmart-aligned policies.

The Fire Service Bylaw remains a strong foundation that provides authority for fire prevention, inspections, hazard removal, and the regulation of open burning. The bylaw has also been amended to prohibit the use of consumer fireworks within the District, a measure that came into effect in October 2025 and further reduces the potential for human-caused ignitions. This amendment is particularly important given Squamish's high recreational use and the frequency of fire restrictions during the summer months.

A major advancement since the last plan is the adoption of the Wildfire Landscaping Management Bylaw. This bylaw directly addresses vegetation-related structure vulnerability and applies FireSmart landscaping principles within designated hazard areas. It provides a clear regulatory framework that reinforces FireSmart landscaping expectations applied through development review and redevelopment. However, public awareness and understanding of wildfire risk and associated landscaping requirements remain limited, and enforcement capacity is constrained. As a result, compliance in existing neighbourhoods has been low and high-risk vegetation such as cedar hedges continues to be planted in many single-family areas. Ensuring compliance over time will therefore rely largely on improved education and awareness, supported by clear, accessible guidance for property owners.

To date, targeted education related specifically to wildfire regulatory tools has been limited. Increasing awareness of prohibited practices, the rationale behind requirements and the relationship to rising wildfire risk will support improved compliance over time and help reduce reliance on enforcement, which can be constrained at times.

Several other bylaws also influence wildfire resilience. The Camping Bylaw regulates camping on municipal lands and provides tools to manage ignition risk associated with informal camping and encampments, which often occur near forested edges. The Tree Management Bylaw sets out rules for tree removal, protection and replacement. This can affect how easily hazardous coniferous trees or overhanging vegetation can be mitigated on private property. The Subdivision & Development Control Bylaw establishes road design, access and egress standards, water supply requirements and hydrant spacing. These are important considerations in neighbourhoods where steep grades, narrow roads and single access routes complicate emergency response and evacuation, like Garibaldi Highlands, Skyridge, Capilano University, Crumpit Woods and Hospital Hill.

As Squamish continues to grow into interface and intermix terrain, the policy framework should continue to evolve. Stronger enforcement mechanisms and ongoing integration of FireSmart principles into development, landscaping and land-use planning will continue to be important for managing future risk.

A summary of bylaws relevant to community wildfire resiliency planning is provided in Table 18.

Table 18. Summary of local bylaws relevant to community wildfire planning

Bylaw	Policy Description & *Relationship To CWRP*
Fire Service Bylaw No. 2314 (2016)	This bylaw establishes the structure, authority and responsibilities of Squamish Fire Rescue. It defines fire prevention and inspection powers, authorizes firefighters to enter properties to remove or mitigate fire hazards and regulates activities such as open burning, fuel-storage permits and compliance orders. It is the primary enforcement tool for addressing hazardous conditions on private and public land. ***Takeaway:*** *Foundational bylaw for wildfire risk reduction. It directly supports FireSmart by enabling the District to regulate burning, enforce hazard mitigation and ensure properties meet fire-safety standards.*
Wildfire Landscaping Management Bylaw No. 2834 (2021)	This bylaw regulates landscaping within designated wildfire hazard areas. It restricts flammable vegetation, guides FireSmart-aligned planting and spacing and ties these requirements to new development and redevelopment through the Wildfire Development Permit Area. ***Takeaway:*** *Strong FireSmart-specific regulatory tool that directly addresses vegetation-related structure ignition risk and is a key mechanism for implementing this CWRP. Its effectiveness would be strengthened through increased public education (social media campaign) and clearer guidance.*
Wildfire Development Permit Area (DPA) Bylaw No. 2809 (2021)	This bylaw establishes wildfire hazard area and guidelines within the OCP, including requirements related to siting, building design, access and egress and landscaping in areas of elevated wildfire risk. The DPA is applied through rezoning, subdivision and development permit processes to guide wildfire-resilient new development and redevelopment in the wildland-urban interface.

Bylaw	Policy Description & *Relationship To CWRP*
	***Takeaway**: Key planning tool for wildfire risk reduction in new development. The current structure can be difficult to interpret. Improving clarity and alignment with FireSmart BC guidance would support more consistent application and understanding.*
Camping Bylaw No. 2829 (2019)	This bylaw regulates where camping is permitted on municipal lands and provides enforcement tools for unauthorized camping, open fires and debris accumulation. It applies to public parks, boulevards and other municipal lands commonly used by transient visitors or encampments which are locations associated with recurring nuisance fires. ***Takeaway:** Important for reducing human-caused ignitions linked to camping and encampments, especially in interface areas and along major access corridors.*
Tree Management Bylaw No. 2640 (2024)	This bylaw regulates the cutting, removal, protection and replacement of trees. It outlines permit requirements, defines protected trees and sets conditions for tree removal and replanting. It indirectly affects wildfire risk by influencing how hazardous trees are removed and how woody debris is managed. ***Takeaway:** Integration with FireSmart vegetation and maintenance standards would strengthen its wildfire-reduction role.*
Subdivision & Development Control Bylaw No. 2373 (2015)	This bylaw governs servicing and design standards for subdivisions, including road width and grade, emergency access and egress, hydrant spacing, fire-flow requirements and water-servicing standards. These requirements directly affect emergency response capability and evacuation safety in WUI neighbourhoods. ***Takeaway:** Critical for ensuring new development supports safe access, firefighting operations and adequate water supply during a wildfire.*
Zoning Bylaw No. 2200 (2011, consolidated 2025)	This bylaw regulates land use, density, building height, setbacks and development form across the District. It also ties into the Wildfire Development Permit Area through zoning schedules and development triggers. Land-use designations influence the pattern of interface growth, building placement on slopes and proximity to forested areas. ***Takeaway:** Influences long-term wildfire exposure by guiding where and how new development occurs. Stronger integration with FireSmart principles (e.g., density, setbacks, siting in hazardous terrain) would enhance wildfire resilience.*
Unsightly Premises Bylaw No. 1868 (2005)	This bylaw regulates the accumulation of debris, combustible waste, discarded materials and unmanaged vegetation on private property. It allows the District to order cleanup where conditions pose a hazard or constitute a nuisance.

Bylaw	Policy Description & *Relationship To CWRP*
	Takeaway: *Useful for reducing surface fuel buildup on private properties. Supports FireSmart by enabling removal of hazardous accumulations that increase ignition potential.*
Smoking Regulation Bylaw No. 2042 (2008)	This bylaw restricts where smoking is permitted and requires appropriate signage. It applies to public spaces including parks, trails, and facility perimeters. ***Takeaways:*** *Reduces human-caused ignition potential in public areas, especially along roadsides, trails and high-use recreation spaces.*
Parks Use Bylaw No. 1752 (2003)	This bylaw regulates public behaviour and permitted activities in municipal parks. It restricts open fires, controls smoking, regulates camping and overnight stays and governs activities that could create ignition sources. It also enables enforcement in high-use natural areas. ***Takeaway:*** *Important for managing ignition risk in parks and natural areas, particularly where trails and recreation overlap dense fuels.*
Land Development Procedures Bylaw No. 2632 (2018)	This bylaw sets procedures for development applications, including referrals, permit requirements, submission standards, and conditions for Development Permit Areas. It establishes the process for reviewing applications within the Wildfire Development Permit Area and ensures wildfire hazard considerations can be applied early in the development review process. ***Takeaways:*** *Key administrative tool for implementing Wildfire Development Permit Area guidelines. Effective for integrating FireSmart-related requirements into development approval processes.*
Invasive Species Management Bylaw No. 2786 (2020)	This bylaw regulates the control, removal, and disposal of invasive plant species. Many invasive species (e.g., Himalayan blackberry, Scotch broom) are highly flammable and create continuous fine fuels along roadsides and disturbed areas. The bylaw influences how vegetation is managed on both public and private lands. ***Takeaway:*** *Managing invasive species helps reduce flashy fuel continuity and improves access.*

Action Planning

The District of Squamish's existing bylaw and planning framework is generally comprehensive and has evolved meaningfully since the 2017 CWPP with new and updated bylaws that better support FireSmart principles and guide development in the wildland-urban interface. Despite this progress, several areas would benefit from clearer enforcement and stronger wildfire-specific direction, as well as improved public education to increase awareness of wildfire risk and applicable bylaw requirements.

Improving education and outreach related to the Wildfire Landscaping Management Bylaw is a key priority. Targeted, District-specific education campaigns should be developed to clearly communicate prohibited landscaping practices, explain wildfire risk in the local context and outline potential consequences of non-compliance. Messaging should prioritize visual, plain-language content and be delivered through regular use of District social media channels, the District website and other established communication platforms. The District may benefit from the engagement of a graphic designer or communications specialist to ensure social media campaigns are as effective and attention-grabbing as possible.

Education campaigns related to the Wildfire Landscaping Management Bylaw should be timed to align with peak landscaping seasons and periods of elevated wildfire risk. Clear, accessible guidance will help increase understanding of bylaw requirements and encourage voluntary compliance in existing neighbourhoods. Education-led approaches can also support enforcement by improving transparency and public acceptance of regulatory requirements.

Squamish Fire Rescue has also identified fireworks as a recurring ignition concern and is pursuing a dedicated fireworks bylaw. Establishing clear restrictions or seasonal prohibitions would help reduce preventable ignitions during periods of elevated fire danger.

A summary of recommendations related to legislation and planning is detailed in Table 1 of the Executive Summary.

5.3 DEVELOPMENT CONSIDERATIONS

Description

Land-use planning and development regulations are essential tools for reducing the exposure of buildings, neighbourhoods and critical infrastructure to wildfire. In this context, ‘development’ includes homes, commercial structures, institutional buildings, accessory structures, attached features such as decks and fences, as well as the infrastructure that supports them such as roads, bridges, water supply systems and utilities.

Key considerations include development location relative to hazardous forest fuels and steep slopes, road access and egress, water availability for firefighting, the use of ignition-resistant construction materials, lot size and structure spacing and landscaping requirements. Development Permit Areas (DPAs) play a central role, as municipalities can require FireSmart-aligned siting, design, and landscaping practices within designated hazard areas. These tools are particularly important given the limits placed on building bylaws under the BC Building Act.

Analysis

Development pressures in Squamish have increased significantly since the 2017 CWPP, with new neighbourhoods expanding into steeper terrain and closer to continuous forested land. As remaining valley-bottom lands become constrained, more development is occurring on slopes and in forest-adjacent

areas, increasing direct interface with wildland fuels. Many newer homes incorporate more fire-resistant construction such as metal or asphalt roofs, fibre-cement siding and minimal ornamental vegetation. Older homes, however, still exhibit vulnerabilities such as combustible siding, wood fencing attached to structures and nearby coniferous landscaping.

Increasing residential density through secondary suites, accessory dwelling unit conversions and rezonings that allow triplexes, fourplexes and townhomes has also resulted in a greater number of dwelling units in close proximity. This pattern increases the potential for structure-to-structure fire spread, particularly where combustible attachments or shared fencing are present.

Critical infrastructure also plays an important role in Squamish's wildfire exposure. The District completed critical infrastructure wildfire vulnerability assessments in 2021. However, recommendations from these assessments have not yet been implemented. Several water, transportation and utility assets remain susceptible to wildfire impacts, particularly those located adjacent to forested corridors or in areas with limited access.

Wildfire exposure is strongly shaped by topography in Squamish. Several neighbourhoods with newer development, such as Skyridge, Crumpit Woods, Quest and the new Finch Drive area, are situated on steep grades with single access and egress routes. These design constraints increase risk during both response and evacuation (Section 5.1), and underscore the importance of wildfire-informed subdivision standards for future build-out.

Water availability for firefighting also remains a notable constraint in several rural or unserviced parts of the District. Emergency services identified that areas such as Paradise Valley lack hydrant networks and rely on tenders and shuttle operations, which can be challenging given distance, road width and bridge limitations. These constraints increase structural vulnerability during fast-moving wildfires.

Older neighbourhoods like Downtown, Dentville and Valleycliffe are characterized close building spacing, connected fences, flammable attachments and a mix of aging construction materials. Many homes still do not meet FireSmart recommended setbacks from adjacent forest land. Subdivision development applications are now reviewed by Squamish Fire Rescue to ensure appropriate hydrant placement and emergency access and egress, consistent with recommendations from the 2017 CWPP.

The Official Community Plan, updated since the last CWPP, now integrates wildfire considerations throughout land-use and environmental policy. It includes a Wildfire DPA that establishes siting, setback, building material and vegetation guidelines for development in high-hazard areas. While the Wildfire Hazard DPA has been applied effectively to new development through rezoning, subdivision, and development permit processes, it is not intended to retrofit or address existing legally non-conforming development patterns. As a result, its influence on legacy single-family neighbourhoods, where much of the District's highest interface hazard exists, is inherently limited. Wildfire risk reduction on existing properties is instead primarily addressed through the Wildfire Landscaping Management Bylaw.

Staff report that the current DPA structure is complex and difficult to interpret, which can create confusion for applicants and challenges for consistent implementation. Post-development wildfire risk reduction in

existing neighbourhoods is primarily addressed through the Wildfire Landscaping Management Bylaw rather than the DPA.

Action Planning

Squamish's development framework has strengthened considerably since the 2017 CWPP through the adoption of a Wildfire DPA and several bylaws. The Wildfire DPA is one of the District's most impactful regulatory tools for reducing wildfire exposure in new development and redevelopment. . Its effectiveness depends on clear communication of requirements early in the development permit process and consistent application during review.

Wildfire risk reduction on existing single-family properties is primarily governed by the Wildfire Landscaping Management Bylaw, which regulates flammable vegetation near structures. Uptake of the bylaw's requirements remains variable, and non-compliant landscaping continues to be implemented during construction and property renovations. Improving education, internal coordination, and follow-up through existing planning and complaint-based processes would support improved compliance across the wildland-urban interface.

The District may benefit from undertaking a future update of the Wildfire Hazard DPA to simplify interpretation and strengthen alignment with FireSmart BC guidelines. A clearer structure, such as tiered hazard zones, streamlined requirements and more direct linkage to FireSmart vegetation and building guidance, could help reduce confusion for applicants and improve consistency in staff review. A more intuitive DPA format would also support post-development compliance and make it easier for homeowners, builders and designers to understand what is required.

Implementing the recommendations from the 2021 FireSmart Critical Infrastructure assessments should be completed as feasible. These assessments identified site-specific vulnerabilities for key water, utility and transportation assets. Action on recommendations has not yet advanced. Prioritizing readily achievable actions, such as FireSmart vegetation management around high-risk assets, would support early progress while larger or more complex upgrades are advanced over the next five years.

Assessing and improving water delivery capacity for wildfire suppression in areas not serviced by hydrants should be a priority. Rural and outlying areas such as Paradise Valley rely on tender shuttles and access to natural water sources, but operational challenges can limit the effectiveness of these approaches. A targeted review of water-supply logistics, undertaken jointly by Squamish Fire Rescue and Engineering, would help identify feasible improvements, confirm drafting points and clarify requirements for future development in unserviced areas.

These actions, combined with stronger Wildfire Hazard DPA enforcement, will help the District guide future growth in a way that reduces long-term exposure to wildfire.

A summary of recommendations related to FireSmart Development Considerations is detailed in Table 1 of the Executive Summary.

5.4 INTERAGENCY COOPERATION

Description

The goal of interagency cooperation is to approach community wildfire resiliency planning from a landscape-level, multi-agency perspective. Coordination and cooperation are required to develop an effective CWRP and to be prepared in the event of a wildfire. Inter-agency cooperation increases the ability of local governments to plan for and respond to emergencies effectively. Working together with adjacent jurisdictions can help increase awareness of different agencies' priorities and concerns.

A Community FireSmart and Resiliency Committee (CFRC) is recommended as part of the CWRP development process.[45] A CFRC reflects the key planners and responders most involved in local FireSmart, wildfire resiliency planning, wildfire and emergency response and land management specific to the wildland-urban interface. Committees such as this foster collaborative problem solving and planning and delineate required roles and actions during times of emergency response.

Analysis

Interagency cooperation in Squamish has strengthened since the 2017 CWPP. The District works regularly neighbouring jurisdictions and agencies involved in land management and emergency response.

A Community FireSmart and Resiliency Committee has been established are part of this CWRP process. The Squamish CFRC provides a shared table for partners to discuss FireSmart programming, risk reduction, public education, operational challenges and cross-jurisdictional issues. Participation from Emergency Management and Planning staff, the Squamish Fire Department, Squamish Nation, the Squamish-Lillooet Regional District, the Squamish Community Forest, BC Wildfire Service and BC Parks has strengthened communication and helped align messaging, priorities and seasonal preparedness activities.

Interagency cooperation was also demonstrated during the 2025 Dryden Creek Fire, where Squamish Fire Rescue, BC Wildfire Service, municipal departments and Squamish Nation worked closely together throughout the response. This included coordinated structure protection, unified public messaging, shared operational updates, and collaboration across agencies to support residents and visitors in affected areas. The fire reinforced the importance of cross-agency communications and the value of having trusted relationships and established communication channels prior to an incident.

A significant portion of the forested land base surrounding Squamish lies within provincial parks, making BC Parks a critical partner in reducing wildfire risk to both the community and the park values that support recreation, tourism, ecological function and overall community well-being. BC Parks undertakes a range of prevention and preparedness activities, including visitor education, signage, regular patrol and coal-disposal infrastructure at high-use sites such as Murrin Park. Front-country operators, backcountry rangers and park assistants play an important role in reducing human-caused ignitions by monitoring

[45] Starting in 2024, UBCM CRI funding for the FireSmart Community Funding & Supports program will be contingent on having an active CFRC.

trailheads and high-use recreation areas during fire bans and periods of elevated fire danger. BC Parks meets annually with the BC Wildfire Service and maintains a wildfire response plan for each park, including detailed maps, points of contact and operational guidelines that are reviewed and updated every year. BC Parks also maintains a permanent Land and Resource team, funded through the BC Wildfire Service Crown Land Wildfire Risk Reduction (CLWRR) program, which works exclusively on wildfire prevention and risk reduction across the provincial park system. A recurring challenge identified by BC Parks is the lack of consistency in fire danger ratings and fire-ban messaging across agencies, which can create confusion for visitors. FireSmart vegetation and fuel management considerations for BC Parks are discussed further in Section 5.7.

The Squamish Community Forest has met on various occasions with District of Squamish Emergency Planning and FireSmart staff to explore opportunities for collaboration and information sharing. The Community Forest aims to maintain this connection, recognizing that while the respective land bases only overlap in limited areas, coordinated planning and communication can strengthen wildfire risk reduction outcomes across adjacent tenures.

Fuel management activity in the Squamish area occurs across multiple jurisdictions, including BC Parks, the Squamish-Lillooet Regional District, the Squamish Community Forest, the Ministry of Forests Natural Resource District and Squamish Nation. While agencies communicate regularly, there is currently no formal cross-agency mechanism for coordinating treatment timing, sharing planned work, or identifying overlaps and gaps across jurisdictions. The absence of a shared tracking system has led to gaps in communication. Improved coordination would also support more consistent public messaging around treatment objectives, sequencing and expected outcomes, reinforcing stakeholder understanding and public support.

Several ongoing challenges extend beyond Squamish's administrative boundary and require coordinated solutions. Fire ignitions and non-compliance with fire bans are major concerns in the backcountry, particularly along the Squamish Valley and Mamquam forest service roads. Multiple agencies support backcountry fire-prevention outreach, including BC Wildfire Service through seasonal information kiosks at forest service roads and Squamish Nation's Fire Guardian Program. A significant proportion of public recreation use occurs outside the defined Eligible WUI, and much of it takes place outside provincial parks, including within the Squamish Community Forest and other Crown lands. Publicly available trail-use data and mapping platforms demonstrate the intensity of recreation activity in areas immediately adjacent to the WUI boundary. Expanding wildfire-risk planning through interagency cooperation to better reflect high-use recreation zones near the WUI would strengthen prevention efforts and improve alignment between ignition risk and program eligibility.

Vegetation encroachment along utility and transportation corridors have also been identified as a concern that require multi-agency coordination.

Squamish now operates within a more collaborative regional environment than existed in 2017, with regular interagency communication. Continued structure, consistency and shared planning will be essential as the community grows and wildfire exposure increases in interface and intermix areas.

Action Planning

Squamish should continue to strengthen interagency cooperation by maintaining and expanding the Community FireSmart and Resiliency Committee as the central platform for year-round communication and cross-dictional planning. Quarterly meetings will support ongoing progress tracking and improve coordination among partner agencies .

Building on the collaboration demonstrated during the Dryden Creek Fire, partners should use the event to identify gaps and lessons learned and continue to refine cross-agency communication protocols. Strengthening alignment on seasonal preparedness, visitor-education campaigns and ignition-prevention strategies across jurisdictions will improve collective readiness.

To improve coordination across land managers, the Squamish should establish and lead an interagency fuel management planning forum under the Community FireSmart and Resiliency Committee. Semi-annual meetings would provide a structured venue for agencies to share planned fuel treatments, coordinate timing, avoid duplication and align priorities within the wildland-urban interface. The FireSmart Coordinator should also participate in the broader Sea to Sky Fuel Management work group and report back to this forum to maintain regional alignment. A shared tracking table, maintained and circulated through the Community FireSmart and Resiliency Committee, should document completed and planned fuel management activities to ensure partnering agencies are aware of work occurring across the landscape.

Closer coordination with BC Hydro, Canadian Pacific Rail and the Ministry of Transportation and Infrastructure is important to address vegetation maintenance along transmission corridors, railways and highway rights-of-ways where past ignitions have occurred and where operational safety depends on reliable access.

Sustaining these relationships will help Squamish and its regional partners continue to respond effectively to wildfire risk at the landscape scale. Additional recommendations and action items that Squamish can implement to increase interagency cooperation are listed in Table 1 in the Executive Summary.

5.5 CROSS-TRAINING

Description

All staff and agency partners who are expected to participate in the development and implementation of this plan, or participate in wildfire response and recovery, should be appropriately trained. Cross-training ensures that municipal staff are aware of wildfire specifics and wildfire response, that structural firefighters are experienced and trained with wildfire behaviour and suppression and that wildfire fighters are experienced and trained with structure protection.

Analysis

Squamish Fire Rescue and BC Wildfire Service maintain a strong operational relationship supported by annual pre-season joint training sessions. Joint-training sessions such as *Wildland Firefighter the Level 1* (SPP-T-WFF1), *Wildland Structure Protection Program* (SPP-115) and *Engine Boss* (S-231) programs, focus on interface suppression strategies, hose deployment, safety protocols and coordinated structure protection. Regular contact during the fire season further reinforces shared situational awareness and familiarizes both agencies with local conditions.

The importance of these relationships was demonstrated during the 2025 Dryden Creek Fire, where Squamish Fire Rescue and BC Wildfire Service worked in close coordination throughout the response. BC Wildfire Service arrived promptly, supported Squamish Fire Rescue operations and maintained clear communication with municipal command. Both agencies identified this incident as a positive example of interagency integration.

As development continues to expand into forest-adjacent and steeper terrain, interface-specific operational skills such as long hose lays, steep-slope access, water shuttle and drafting operations in areas without hydrants and structure protection in neighbourhoods with limited egress should continue to be improved across the fire department in coordination with BC Wildfire Services. Given the increasing frequency of local ignitions, high recreational use of forest service roads and development into steeper areas, maintaining and expanding joint training remains essential for operational readiness.

In addition to operational wildfire skills, broadening EOC capacity across municipal departments will improve the District's ability to manage prolonged or multi-agency emergency events. The District relies on a small pool of trained staff during complex emergencies, and recent wildfire and flood events have highlighted the strain on surge capacity. Increasing the number of municipal staff trained in foundational emergency management strengthen Squamish's capacity to support coordinated, sustained EOC activations.

Action Planning

Building on the strong operational relationship already in place, Squamish Fire Rescue should continue wildfire-specific skill development through a combination of internal training, BCWS-supported sessions and recognized provincial courses.

Joint training with BC Wildfire Service should continue to be a central preparedness activity. Annual preseason sessions already provide important alignment on tactics and communication, and expanding these to include structure-protection scenarios, interface suppression exercises, and drafting or water-shuttle practices would help address challenges encountered in neighbourhoods such as Skyridge, Finch Drive, Crumpit Woods, and Paradise Valley. Given the high rate of paid-on-call turnover, ensuring that new staff receive wildfire-specific training at the start of each fire season is essential for maintaining operational readiness and consistent response capacity.

Squamish should also expand EOC training across municipal departments to increase surge capacity during major wildfire or multi-hazard events. Providing staff with introductory emergency management training, such as the Justice Institute of BC's *Incident Command System Level 100 (ICS-100)*[46] and *Emergency Management in Canada*[47], would strengthen understanding of roles and coordination processes during EOC activations. Increasing the number of trained staff improves cross-departmental coordination and ensures that the District can sustain prolonged EOC activation when required.

Squamish Fire Rescue may also wish to take a more active regional role by hosting cross-training exercises for neighbouring fire departments and local fire brigades, including Britannia Beach Volunteer Fire Department and the North Squamish Fire Society. These joint activities strengthen interoperability and improve collective readiness for multi-agency events.

To support broader FireSmart integration, the reinstated FireSmart Coordinator, Squamish Fire Rescue and relevant Emergency Program staff would benefit from attending the annual Wildfire Resiliency and Training Summit. This event provides exposure to provincial initiatives, best practices, and lessons learned from other interface communities.

Partner land managers may benefit from introductory FireSmart vegetation-management training, such as FireSmart 101, FireSmart Landscaping and Wildfire Risk Reduction Basics, to strengthen shared understanding of forest fuels in high-use recreation areas. Improving awareness across agencies supports more consistent decision-making during preparedness and response and complements the interagency cooperation described in Section 5.4.

A summary of recommendations related to cross-training is provided in Table 1.

[46] Incident Command System Level 100
[47] Introduction to Emergency Management in Canada

5.6 EMERGENCY PLANNING

5.6.1 PRE-INCIDENT PLANNING

Description

Pre-incident planning ensures that local agencies, partners, and supporting organizations are prepared to respond effectively during a wildfire event. Although provincial resources are generally available through the Coastal Fire Centre, simultaneous incidents across the region can limit BC Wildfire Service capacity—particularly aircraft and specialized crews. Local readiness therefore plays a critical role. Effective pre-incident planning includes updated emergency plans, trained staff, functional communication systems, mutual aid agreements, evacuation planning, and the ability to coordinate quickly across responding organizations.

Analysis

Emergency management in Squamish is coordinated through the *District's Comprehensive Emergency Management Plan* as discussed in detail in Section 3.2.2. These documents guide emergency roles, structures, and procedures and are being progressively aligned with the Emergency and Disaster Management Act.

Operational capacity is provided through the Squamish Emergency Program, which integrates municipal staff and multiple volunteer organizations including Squamish Search and Rescue, Royal Canadian Marine Search and Rescue, Emergency Social Services and Emergency Communications volunteers. During emergencies, the Emergency Operations Centre (EOC) operates out of Fire Hall 1 and can function in-person, virtually or in hybrid format. The EOC is supported by seven days of backup power and has dedicated communication systems to maintain situational awareness during multi-agency responses.

Emergency communications form another core component of preparedness. Annual public education events such as Emergency Preparedness Week and Wildfire Preparedness Day include information on evacuation plans and personal preparedness. The Emergency Program also engages with community groups throughout the year to share evacuation plans and preparedness resources. The Voyage Alert system, operated jointly with Squamish Nation, provides real-time notifications to Squamish residents through phone, text, email and app-based alerts. Subscription to Voyage Alert has historically been low, remaining near 20% for the past three years. The Dryden Creek Wildfire in 2025 prompted a significant increase in registrations and subscriptions rose to 31.7%, which is the highest rate recorded in the District to date. Social media and public-information channels supplement this messaging, particularly during rapidly evolving events.

Recent wildfire seasons reinforced the strengths of Squamish's emergency planning while highlighting areas for improvement. Agencies coordinated closely during the incident, and the District's emergency

notification system, EOC structure and interagency communication protocols supported an effective response.

Squamish Fire Rescue noted that current full-time staffing levels are insufficient to keep pace with the community's rapid growth and increasing emergency service demands, which affects the department's ability to maintain year-round wildfire readiness, planning capacity and prevention work. As a composite department, Squamish Fire Rescue also experiences seasonal capacity constraints, as peak wildfire hazard coincides with reduced paid-on-call availability and increased incident volume associated with summer recreation. As development intensifies, these resource constraints place additional strain on the department's ability to keep risk-reduction activities aligned with emerging hazards.

Visitors and non-resident recreation users remain a persistent challenge for emergency preparedness. High-use areas such as the Squamish Valley and Mamquam forest service roads and popular trail networks have large numbers of transient users who are difficult to reach with traditional emergency notification systems. Many visitors do not follow local fire-danger messaging, are unfamiliar with evacuation routes and often lack cell coverage during high-risk periods. These conditions complicate wildfire response and highlight the need for visitor-specific communication and evacuation planning.

As the District continues to densify within interface terrain and major industrial projects come forward for approval, the need to integrate wildfire considerations into emergency access planning remains important. Ensuring that emergency response plans keep pace with neighbourhood growth, evolving infrastructure demands and changing fire behaviour under climate trends is a continued priority.

Action Planning

Squamish has built a strong emergency management foundation, but several areas require continued advancement to maintain readiness as wildfire risk and development pressures increase. Strengthening evacuation preparedness is a key priority. Conducting mock evacuation exercises for areas with complex access such as Paradise Valley, Garibaldi Highlands/University area and Downtown, would allow the District and partner agencies to test different scenarios, identify operational constraints and refine procedures in advance of a real emergency event.

Expanding the pool of trained emergency municipal staff will strengthen surge capacity during prolonged incidents. Training all municipal staff who may be assigned to the EOC on relevant protocols would increase the District's ability to sustain operations during extended activations or concurrent emergencies. The District should also evaluate opportunities to increase full-time Fire Rescue staffing to ensure the department can meet growing demands.

Planning documents should also be updated to reflect new growth and industrial development. Updating the *Squamish Comprehensive Emergency Response Plan* to address emergency access considerations for new large industrial projects would help ensure coordination and readiness for incidents involving specialized hazards or large worker populations. Updating the *Sea to Sky Multimodal Evacuation Plan* to

reflect new neighbourhoods and population growth would improve regional preparedness and ensure that routing assumptions remain valid as development expands. Emergency planning should also better account for the large number of non-resident visitors who recreate in Squamish throughout the fire season. Strengthening visitor-focused preparedness measures will improve situational awareness and support safer evacuations during rapidly evolving wildfire events.

Despite ongoing efforts to share evacuation plans with partner agencies and community groups, not all organizations that would be involved in a wildfire evacuation have full visibility of each other's plans or procedures. Broadly sharing emergency response and evacuation plans across all agencies involved in wildfire preparedness and response would help clarify roles and strengthen communication and resource coordination.

The fire department staffing structure should also be reviewed in the context of increasing wildfire risk and seasonal demand. In Squamish, peak wildfire hazard season coincides with periods when paid-on-call fire personnel availability can be more limited while incident volume is higher due to increased recreation activity. At the same time, development within the wildland-urban interface has expanded the area and complexity of response demands, often in steep terrain or neighbourhoods with constrained access. Reviewing options to strengthen career staffing and ensure consistent initial response capacity would reduce operational pressure during peak periods and enhance overall resilience during fast-moving wildfire events.

Enhanced technical analysis can also support local decision-making. Completing detailed wildfire behaviour and fire-spread modelling would improve the District's ability to anticipate potential growth patterns under different weather and fuel conditions to support more informed tactical planning.

A summary of recommendations related to emergency planning is provided in Table 1 of the Executive Summary.

5.6.2 WILDFIRE PREPAREDNESS CONDITION LEVEL

Description

Wildfire Preparedness Condition Levels provide a structured approach for scaling municipal readiness as fire danger increases. These local action guidelines outline tasks for municipal departments based on daily Fire Danger Ratings issued by the Coastal Fire Centre, allowing staff to incrementally adjust operations, communication and monitoring as conditions worsen.

Analysis

The District does not currently operate a formalized preparedness condition system tailored to wildfire. Instead, readiness is managed through a combination of internal situational awareness, BC Wildfire Service updates and real-time communication with partner agencies. While this approach is functional, establishing clear, fire-danger-based guidelines would help standardize expectations across departments,

improve communication consistency and support earlier mobilization of staff during high-risk periods. A formalized framework would help define when departments should increase monitoring, update public messaging or prepare for potential EOC activation.

Action Planning

Adopting a wildfire preparedness condition guide that is aligned with the Coastal Fire Centre's Fire Danger Class ratings would support coordinated readiness across municipal departments. Daily actions could include increased information gathering, updating fire-danger signage, maintaining closer contact with BC Wildfire Service and partner agencies and preparing EOC staff during high or extreme danger periods.

This approach would provide structured triggers for increased vigilance and ensure that operational readiness follows predictable, risk-based thresholds. Implementing such a system would require cross-departmental planning and could be incorporated as an annex to the *Comprehensive Emergency Management Plan*.

Table 19 below provides an example of local daily action guidelines aligned with anticipated wildfire conditions.

Table 19. Example of a Wildfire Preparedness Condition Guide[48]

Fire Danger Rating	Action Guidelines
LOW	• All Squamish staff on normal shifts. • Direct community members to BCWS (or SFR's webpage) for fire danger rating info.
MODERATE	• All Squamish staff on normal shifts. • Information gathering and dissemination through Squamish's CFRC. • Regional fire situation evaluated. • Direct community members to BCWS (or Squamish's webpage) for fire danger rating, update fire danger signs in the community.
HIGH	• All Squamish staff on normal shifts. • Regional fire situation evaluated. • Squamish EOC staff notified of Fire Danger Rating • Daily fire behavior advisory issued. • Establish weekly communications with the CFRC • Update fire danger rating signs in the community, and/or post updates on social media and SFR's webpage.
EXTREME	• Same conditions as 'High' Danger Rating. • SFR EOC staff considered for Level 1 activation standby. • SFR wildfire Incident Command Team members considered for stand-by/extended shifts.
FIRE(S) ONGOING	• All conditions apply as for Extreme (regardless of actual fire danger rating). • Mobilize EOC support if evacuation is possible, or if fire event requires additional support. • Implement Evacuation Alerts and Orders based on fire behaviour prediction and under the direction of the EOC or BCWS.

[48] 2023 CWRP Template

5.6.3 RECOVERY PLANNING

Description

Under the new *Emergency and Disaster Management Act*, municipalities are required to address all four pillars of emergency management: preparation, mitigation, response and recovery. Recovery involves restoring critical infrastructure, supporting displaced residents and coordinating long-term remediation and rebuilding efforts following a wildfire or other emergency. Municipalities are also authorized to make use of recovery-focused emergency powers. Accordingly, it is important to plan for this important pillar of emergency management.

Analysis

The District of Squamish incorporates recovery planning into its all-hazards emergency program. The *Comprehensive Emergency Management Plan* outlines roles and procedures for transitioning from response to recovery, including the potential appointment of a Recovery Planner and the use of Emergency Support Services (ESS) to provide food, accommodation and essential services for displaced residents.

Recovery needs in Squamish may vary significantly depending on the scale of the event. Large-scale interface wildfires could affect critical infrastructure, utility corridors, industrial assets and residential areas, requiring extended coordination with provincial agencies, private utilities and community partners. The ESS program is maintained by trained volunteers who provide essential support during evacuations and short-term recovery.

Action Planning

The District should continue strengthening recovery capacity by supporting Emergency Support Services volunteers through recruitment, training and program development. Maintaining strong relationships with ESS leadership and ensuring adequate staffing will help the District respond effectively to displacement caused by wildfires or other emergencies.

As emergency plans are updated under the EDMA, Squamish should continue to embed recovery considerations early in response planning and ensure that staffing, communication structures and partner coordination support a smooth transition into recovery operations.

5.7 VEGETATION AND FUELS MANAGEMENT

5.7.1 FIRESMART LANDSCAPING

Description

FireSmart landscaping reduces the likelihood that vegetation will act as a pathway for flame spread around homes, critical infrastructure, and community assets. It focuses on removing or modifying the

most hazardous vegetation in the Immediate Zone (0 - 1.5m), improving spacing and maintenance in the Intermediate Zone (1.5 - 10m), and reducing surface and ladder fuels in the Extended Zone (10 - 30m). These practices help limit the intensity of fire near structures, reduce ember receptivity and create defensible space to support suppression efforts.

In Squamish, FireSmart landscaping applies not only to private residential properties but also to municipal parks, trail corridors and critical infrastructure sites situated in or adjacent to wildland fuels.

Analysis

Since 2017, FireSmart landscaping in Squamish has expanded primarily through neighbourhood FireSmart assessments, community chipping events, FireSmart Home Ignition Zone assessments and the increasing visibility of FireSmart education materials. A Wildfire DPA-compliant hedge alternative guide is now available on the District's website to support residents in meeting landscaping requirements under the Wildfire Hazard DPA and Wildfire Landscaping Management Bylaw. Participation has grown significantly in recent years, demonstrating that residents are increasingly aware of vegetation-related ignition risks. Despite this progress, several persistent vegetation patterns continue to elevate community-level wildfire exposure.

Cedar hedges remain one of the most prominent FireSmart hazards observed across Squamish. These hedges are common in both older neighbourhoods and newer hillside developments, often forming continuous, unbroken fuel paths between properties. In many cases, they directly contact fences, house siding or deck structures in the Immediate and Intermediate Zones. Their high resin content and tendency to ignite quickly under ember exposure make them one of the most significant residential landscaping vulnerabilities in the community.

Photo 3. Continuous cedar hedging along Doward Drive

Surface fuel accumulations along trails and in parks are another notable concern. Field observations documented consistent build-up of branches and debris and ladder fuels within several high-use parks and trail systems. Trails with heavy recreational use, such as those in Smoke Bluffs Municipal Park, Shannon Falls Provincial Park, Murrin Lake Provincial Park, Stawamus Chief Provincial Park and Alice Lake Provincial Park show recurring accumulations of dry surface fuels along trail edges. While preventative measures such as fire bans, smoking restrictions and regular patrols are implemented during the wildfire season, elevated surface fuel loading in localized areas may promote ignition and fire spread upslope under dry and windy conditions.

FireSmart landscaping among residents remains uneven across neighbourhoods. Some areas actively maintain defensible space and participate in annual chipping events, while others, especially larger rural lots and properties along forest edges, exhibit dense flammable vegetation close to buildings.

While FireSmart awareness has grown, vegetation continuity, trailside surface fuels and flammable ornamental plantings remain significant contributors to structural vulnerability. Coordinated FireSmart landscaping efforts across private, municipal and provincial lands will significantly improve community resiliency.

Action Planning

Continuing and strengthening FireSmart landscaping across Squamish represents a significant opportunity to reduce community-level wildfire threat. While public participation in chipping events and FireSmart assessments has grown, the persistence of continuous fuel pathways and accumulations of trailside surface fuels highlight vegetation management needs for risk reduction. Addressing these issues will require both expanded municipal capacity and stronger support for residents and community groups.

Extending FireSmart vegetation management beyond private lots and into parkland and trail corridors should be undertaken. Incorporating routine trailside debris removal into the FireSmart program and supporting it through the existing community chipping system would help address this ongoing hazard. Establishing a seasonal FireSmart vegetation crew under the FireSmart Coordinator could provide the dedicated capacity needed to complete this work and support chipping events, including assisting residents with mobility challenges who may struggle to move debris to the roadside.

Park and land managers (e.g., BC Parks, private campground etc.) should also incorporate FireSmart vegetation management into trail and campground management by clearing surface fuel accumulations, pruning ladder fuels and creating low-hazard buffers along popular trails and campsites. FireSmart work should be focused in high-use recreation areas, such as Alice Lake, Stawamus Chief, Klahanie Campground campsites and popular trails like the Smoke Bluffs, Stawamus Chief, Shannon Falls Connector, Four Lakes Trail and Loop Trail where heavy foot traffic consistently elevate risk.

Trail planning, design and construction standards should also incorporate wildfire risk considerations and fuel management best practices. Integrating FireSmart principles into trail-building guidelines, such as managing vegetation along trail edges, avoiding accumulation of woody debris, limiting continuous ladder

fuels, and considering fuel breaks where appropriate, would help ensure that recreation infrastructure does not unintentionally contribute to fuel continuity or ignition exposure.

Partnerships with engaged community groups will further strengthen capacity. The Squamish Off-Road Cycling Association and Smoke Bluffs Association, who both play active stewardship roles throughout trails and parks, are well positioned to support vegetation management. Initiatives such as a community trail clean-up day or an 'Adopt-a-Trail' program would help address surface fuel build-up along popular climbing sites and hiking routes, with support from the District's chipping resources.

Reducing the widespread use of cedar hedges is another central opportunity. Cedar hedges throughout the District form combustible, continuous fuel paths between properties and in some cases directly connect forest fuels to homes. Developing a Cedar Hedge Reduction Incentive Program supported through cost-sharing or financial rebates would encourage voluntary removal or replacement with lower-flammability species. Targeted incentives could focus on properties backing onto forest edges, continuous hedge corridors and locations where hedges directly abut homes or fences.

Collectively, these actions will help the District reduce vegetation continuity and strengthen the defensible space around homes and community assets.

5.7.2 FUEL TREATMENTS

Description

Fuel treatments are designed to modify fire behaviour by reducing surface fuels, breaking up fuel continuity and lowering the likelihood that a surface fire will transition into the canopy. Treatments can take the form of linear fuel breaks, strategically placed polygons or smaller-scale mitigation wildland–urban interface areas. Effective fuel treatment units also provide anchor points for suppression crews during initial attack or extended operations.

To remain effective, fuel treatments must be implemented with appropriate suppression access and be maintained periodically, as fine fuels and ladder fuels begin to regenerate within a few years.

Analysis

Since the 2017 CWPP, the District of Squamish has made meaningful progress advancing several of the fuel management priorities identified in the previous plan. Multiple fuel management treatment units that were proposed in 2017 have been implemented through the CRI FCFS program. In parallel, the Ministry of Forests Natural Resource District has completed numerous fuel treatments on Crown land surrounding the District under the BC Wildfire Service Crown Land Wildfire Risk Reduction (CLWRR) program.

Despite this progress, implementation has faced challenges in recent years, most notably tendering barriers, limited contractor capacity and challenges associated with strict burn windows. Chipping requirements for debris management that were barriers to treatment completion have since been

amended at the provincial level[49]. Recent provincial fuel management guidance[50] identifies chipping and mastication as effective methods for reducing surface fuel loads and breaking fuel continuity when applied using best management practices, including thin dispersal of chipped material. As a result, several completed prescriptions, including remaining Airport treatment units and Merrill Park (Map 15, Map 16), now require minor updates to reflect current debris disposal guidance, which permits chipping and dispersal. These updates would make treatment units more feasible to implement and expand the pool of potential contractors.

The CLWRR program is the primary mechanism for implementing wildfire risk reduction treatments on Crown land. Within the Sea to Sky Natural Resource District, a WUI Wildfire Risk Reduction Plan is scheduled to be developed within the next few years. This planning process will guide treatment prioritization across the Natural Resource District and will involve early engagement with Squamish Nation, the Squamish Community Forest, BC Parks and the District of Squamish where proposed projects overlap jurisdictional boundaries. The Natural Resource District meets annually with licence holders and community forests through the Forestry Management Leadership Team (FMLT), where wildfire risk reduction is a recurring topic. Industry partners may also bring forward potential treatment areas at any time for review.

The Sea to Sky Natural Resource District has also completed recent fuel treatments under the Wildfire Risk Reduction Program on Crown land along Garibaldi Park Road, Paradise Valley and Evans Lake. The Natural Resource District reviews existing and newly completed CWRPs annually to determine how proposed treatment units align with regional priorities. At present, no high-priority treatment units surrounding Squamish have been identified from previous plans, but the Natural Resource District is open to new information emerging from this updated CWRP.

Within this context, several fuel management prescriptions developed under the former UBCM CRI program, such as Indian River Road and Highway 99, now fall outside the updated FCFS Eligible WUI due to the shift from a 2km to a 1km eligibility buffer. Because these prescriptions occur on Crown land, future implementation is best suited to the CLWRR program.

At a broader landscape scale, fuel management work is being completed in adjacent jurisdictions. The Sea to Sky Natural Resource District has completed recent fuel treatments under the Wildfire Risk Reduction Program on Crown land along Garibaldi Park Road, Paradise Valley, and Evans Lake. The Squamish Community Forest is in the progress of advancing pre-commercial thinning through its Silviculture Innovation Program, including treatment areas near Garibaldi Park Road and Ring Creek North Forest Service Road. However, implementation of these projects is funding-dependent and may be challenging where proposed treatment areas fall outside the current Eligible WUI boundary, despite their close proximity to treated areas and their location within a high-use recreation zone.

[49] fuelmngmtmethodsinbc_litreview_smc2024.pdf
[50] 2024_mastication_guidance_final.pdf, 2024_mastication_bmp_final.pdf

Park and land managers oversee several high-use recreation areas identified in this CWRP as priority locations for wildfire risk reduction. Trailsides, campsites and forested day-use areas showed recurring accumulations of fine fuels, downed branches and dense ladder fuels, particularly problematic given the high number of visitor-caused ignitions in the region.

Recent slash accumulations along cutblocks on Levette Lake forest service road were observed during fieldwork. Coastal slash loads can support high-intensity fire behaviour and were identified by BC Wildfire Service as a hazardous fuel type in the area.

Action Planning

Where proposed treatment units fall within District of Squamish jurisdiction, the District should prioritize advancing implementation through the CRI FCFS program and municipal capital planning. Treatments should focus on surface fuel removal, thinning from below and pruning to reduce ladder fuels and vertical fuel continuity, while retaining large, fire-resilient trees where appropriate.

Prescribed fire should also be considered as a potential treatment or maintenance tool where site conditions, ecological objectives, operational feasibility, and regulatory approvals allow. While prescribed burning may not be appropriate in all locations, it may be suitable for select portions of treatment units or as a follow-up maintenance treatment to reduce surface fuel accumulation and support long-term fuel management objectives.

In alignment with updated provincial fuel management guidance, the District should update and re-tender the Merrill Park, BFI, and Airport North prescriptions with revised chipping criteria that allow chipping and dispersal rather than pile burning. These amendments will remove a major barrier to contractor participation and support treatment implementation in the recommended order of priority: Brackendale Farmer's Institute, Merrill Park and Airport North. The District may also consider topping up FCFS funding with municipal contributions to improve bid competitiveness and ensure feasible contract delivery.

Existing fuel management prescriptions for Indian River Road and Highway 99 should be shared with the Ministry of Forests for consideration under the CLWRR program. Although these units now fall outside the updated Eligible WUI boundary, they remain strategically relevant, and since they are already developed, they are practical candidates for future provincial treatment planning. Minor updates may be required to reflect current fuel conditions, debris disposal criteria and access considerations, but the prescriptions are fundamentally implementation-ready. Providing these updated units to the Natural Resource District in advance of the forthcoming WUI WRR planning process will help ensure they are visible, reviewable and potentially incorporated into regional prioritization.

In the design and implementation of fuel reduction treatments, care should also be taken to avoid unintentionally creating new opportunities for unauthorized camping or high-risk recreational use. Treatment layouts should minimize the creation of large cleared landings, widened pullouts, or easily accessible open areas that could increase the likelihood of illegal camping or fire use within treated zones.

Removing large slash piles along recent cutblocks on Levette Forest Service Road is also a high priority to address coastal slash hazards identified by BC Wildfire Service.

Fuel treatments must also be maintained periodically. A multi-year maintenance schedule, coordinated through a District-led fuel management planning forum under the Community FireSmart and Resiliency Committee, will help ensure completed units remain effective as vegetation regenerates.

Public communication should also be strengthened. The District should host an annual fuel management open house with the Fire Chief, BC Wildfire Service and wildfire specialists to review lessons learned from the previous season. These events will help residents better understand the objectives of ongoing and future treatments. Creating a dedicated fuel management webpage with maps, updates and project summaries will further support public awareness.

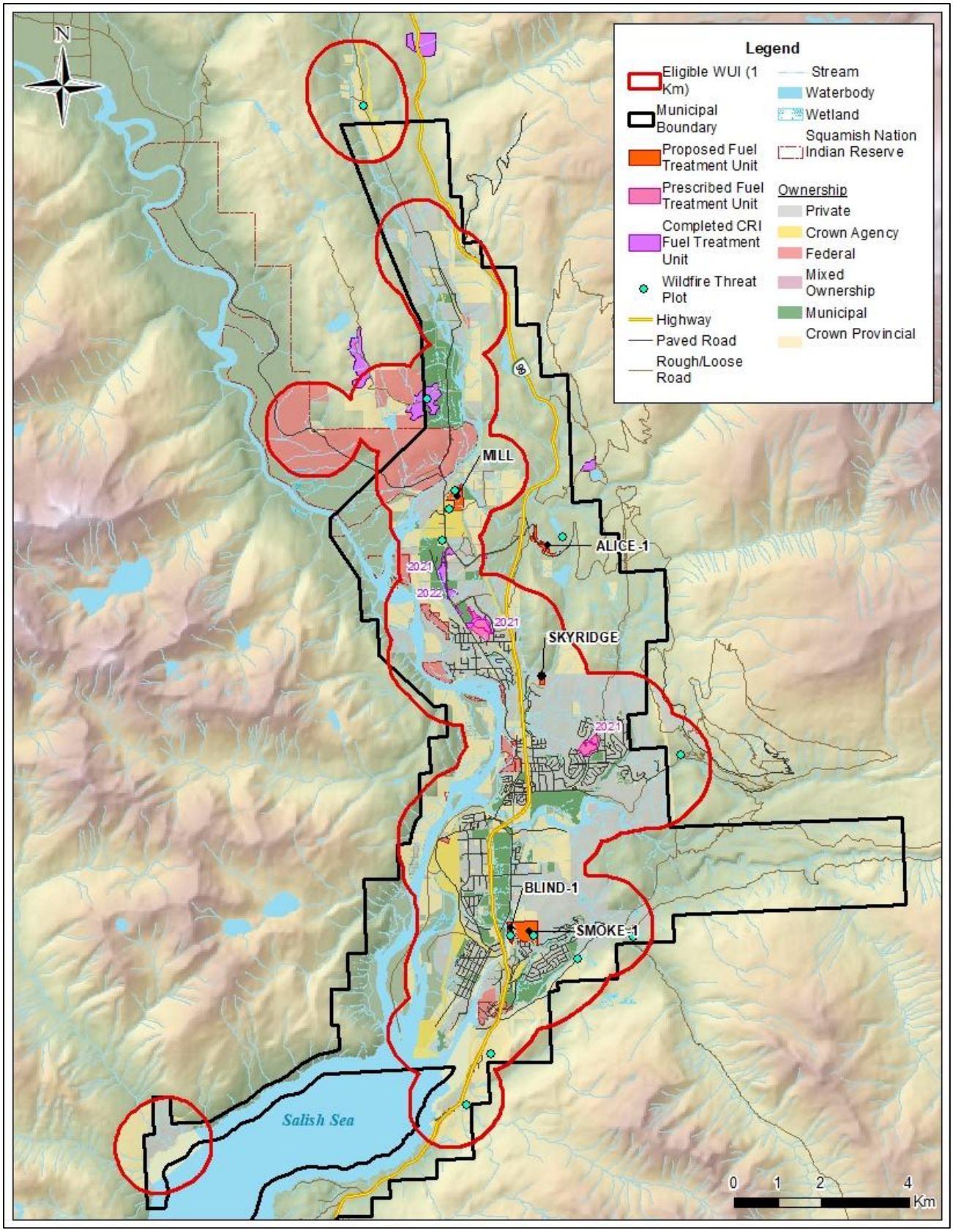
Several completed treatment areas, including the Ring Creek Road CLWRR treatment area, fall within what is now the Squamish Community Forest tenure. As this area serves as a gateway to the Community Forest and overlaps with popular bike trails, interpretive signage should be developed collaboratively with the Squamish Community Forest. The Community Forest has expressed interest in being involved in signage development and is in discussion with the Squamish Off-Road Cycling Association (SORCA) regarding interpretive signage at the Diamond Head bike parking lot at the base of trail networks. Coordinated messaging among the District, Squamish Community Forest, SORCA, and Squamish Nation would strengthen public understanding of fuel management objectives and reinforce shared stewardship of the landscape.

Fuel-treatment recommendations are summarized in Table 1. Proposed treatment units are detailed in Table 20 and illustrated on Map 10 through Map 18.

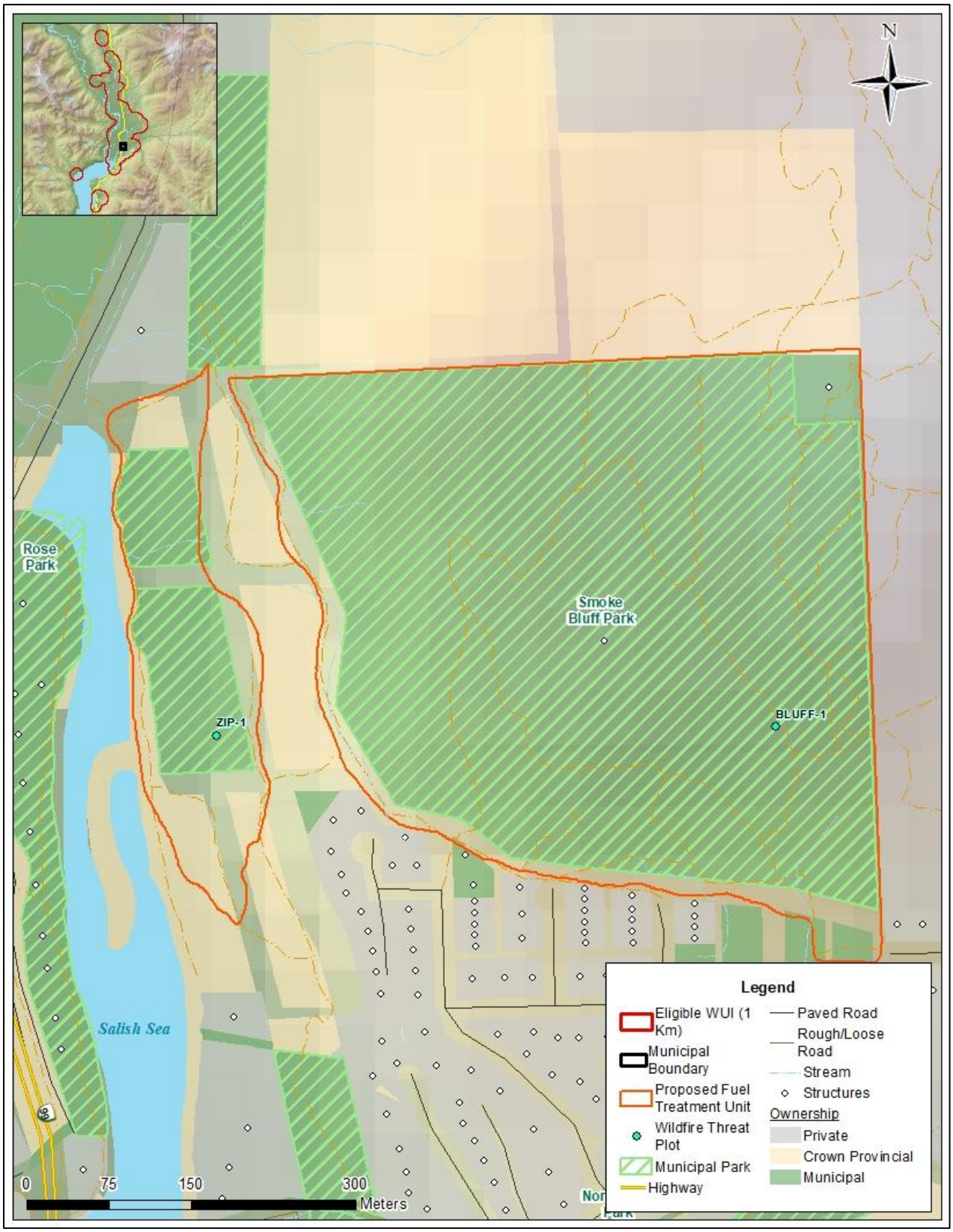
Table 20. Description of proposed treatment units

PTU Name	Priority	Area (Ha)	Treatment Rationale	Overlapping Values / Constraints
BLIND-1	High	4.2	This newly acquired municipal park forms the lower portion of Smoke Bluffs, an area with heavy public use for rock climbing and trails. Surface fuel accumulations are high, largely from trail and climbing route clearing and the site contains an old campsite with a history of ignitions. Occasional standing dead stems occur along rocky slopes, and cedars exhibit low-lying branches that increase ladder fuel hazard. This treatment would reduce ignition potential and tie effectively into adjacent low hazard, including Blind Bay channel downslope and the deciduous hydro line upslope.	This PTU is located on Municipal Land within the Eligible WUI and AOI and overlaps with Smoke Bluffs Municipal Park. Several trails and rock climbing areas overlap the unit. The unit overlaps with sensitive riparian habitat which will require site-specific protection measures during treatment planning and implementation.
SMOKE-1	Moderate	24.4	This PTU is characterized by dispersed C-3 and C-7 stands within a highly used municipal park. Rocky south- and southwest-facing slopes support clumps of pine trees that represent a hazardous fuel type identified within the District. Public use is concentrated along trails, climbing routes, and bench areas, increasing ignition potential. Due to steep, rocky terrain and constrained access, treatment would need to be highly selective and focused on forested clumps and bench features. A fuel management prescription would require significant stratification to define logical treatment areas and address site-specific constraints.	This PTU is located on Municipal Land within the Eligible WUI and AOI and overlaps with Smoke Bluffs Municipal Park. Several trails and rock climbing areas overlap the unit. Several trails and rock climbing areas overlap the unit.
MILL	Moderate	15.3	This unit was proposed in the 2017 CWPP but not implemented. It should be upgraded from a lower-priority treatment to a Moderate-priority unit due to its proximity to the railway track and wood mill which present ignition potential. Surface fuel accumulations are moderate to high in places due to natural self-pruning. Western red cedar ingress clumps are scattered throughout the understory. Treatment should focus on fuel removal in localized areas of accumulation and maybe relatively low effort. Alternatively- or in addition to - the Squamish Valley Rd roadside may be effectively mitigated with the District's chipper to remove easily accessible surface fuels	This PTU is located on Crown Provincial and Crown Agency land within the Eligible WUI and AOI. It abuts a sawmill and support and coordination with the respective land manager will be necessary to facilitate implementation.
SKYRDGE	High	2.3	This is a C-3 stand above the Skyridge community and directly adjacent to a preschool. The school has an adequate set-back from the upslope forest stand. The stand has a high component of ingress and suppressed stems, creating a hazardous multi-layered structure with continuous vertical and horizontal fuel continuity. The crown closure is high. Dead and suppressed stems are present throughout the stand. A trail intersects the PTU and is part of the greater trail network that is within the 2025 Dryden Creek wildfire perimeter. Human ignition associated with the trail elevates risk.	This PTU is located on Crown Provincial land within the AOI and Eligible WUI. It abuts private land to the east, south and west, and a drainage area to the Dryden Creek drainage to the north. Craig Connector and Brakentrail trails overlap the PTU.
ALICE-1	Moderate	8.4	Mature C-5 standalone the single access road to Alice Lake Provincial Park. Low crown base heights by trees impacted by the road edge effect create vertical fuel continuity. Ignition	This PTU is located on Crown Provincial Land within AOI but not within the Eligible WUI. The PTU

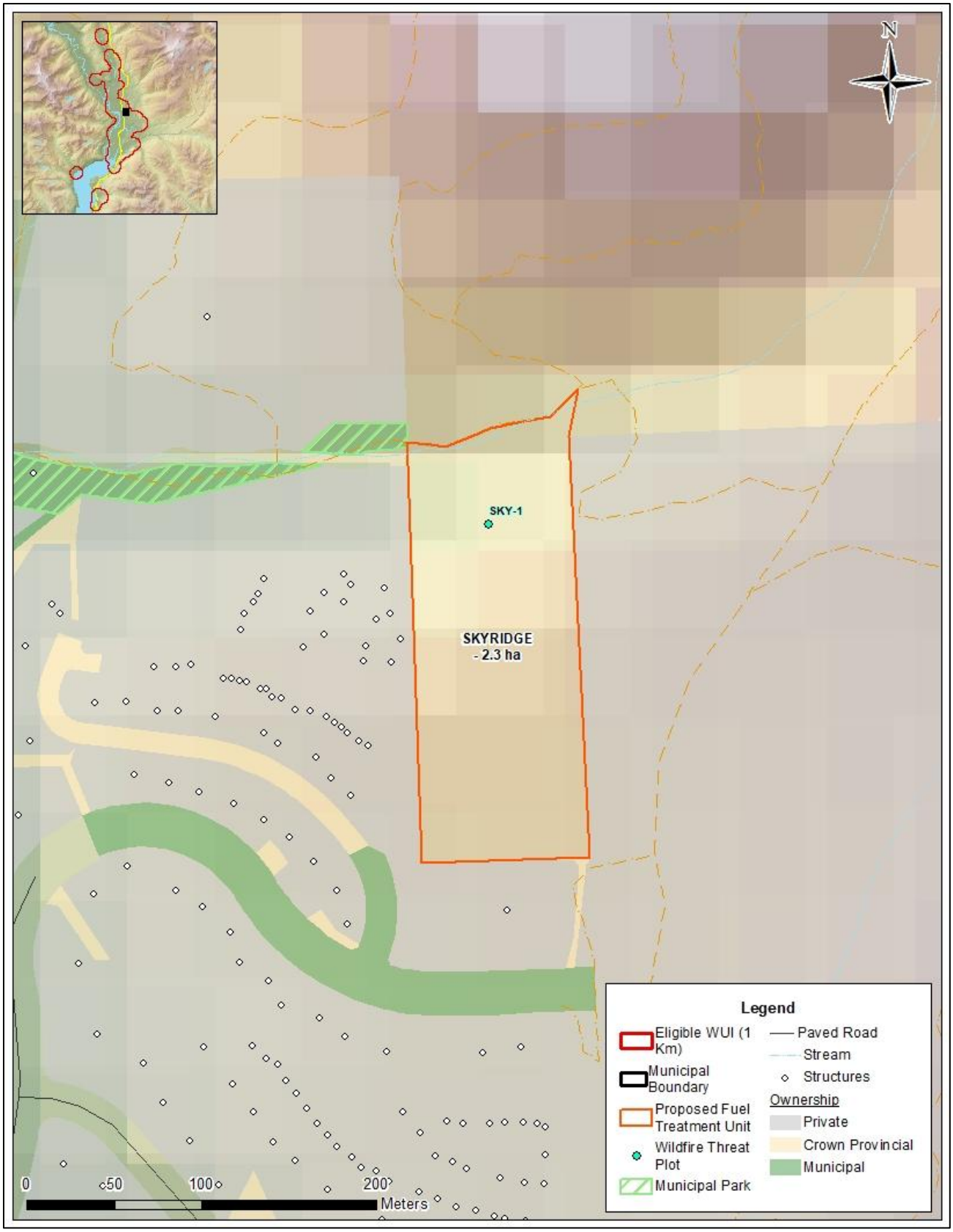
PTU Name	Priority	Area (Ha)	Treatment Rationale	Overlapping Values / Constraints
			potential due to adjacent road and electrical power lines. Encroachment of coniferous vegetation against electrical lines increase overall ignition potential. Suppressed ingress is present throughout the stand attributed to a high crown closure. Treatment should focus on thin from below and pruning roadside trees. Surface fuel is minimal and surface fuel removal will be targeted on scattered accumulations. BC Parks will lead planning, prioritization, funding and implementation.	overlaps with Alice Lake Provincial Park and BC Parks is the land manager. The unit is adjacent to overhead distribution lines managed by BC Hydro as well as the Alice Lake access road.



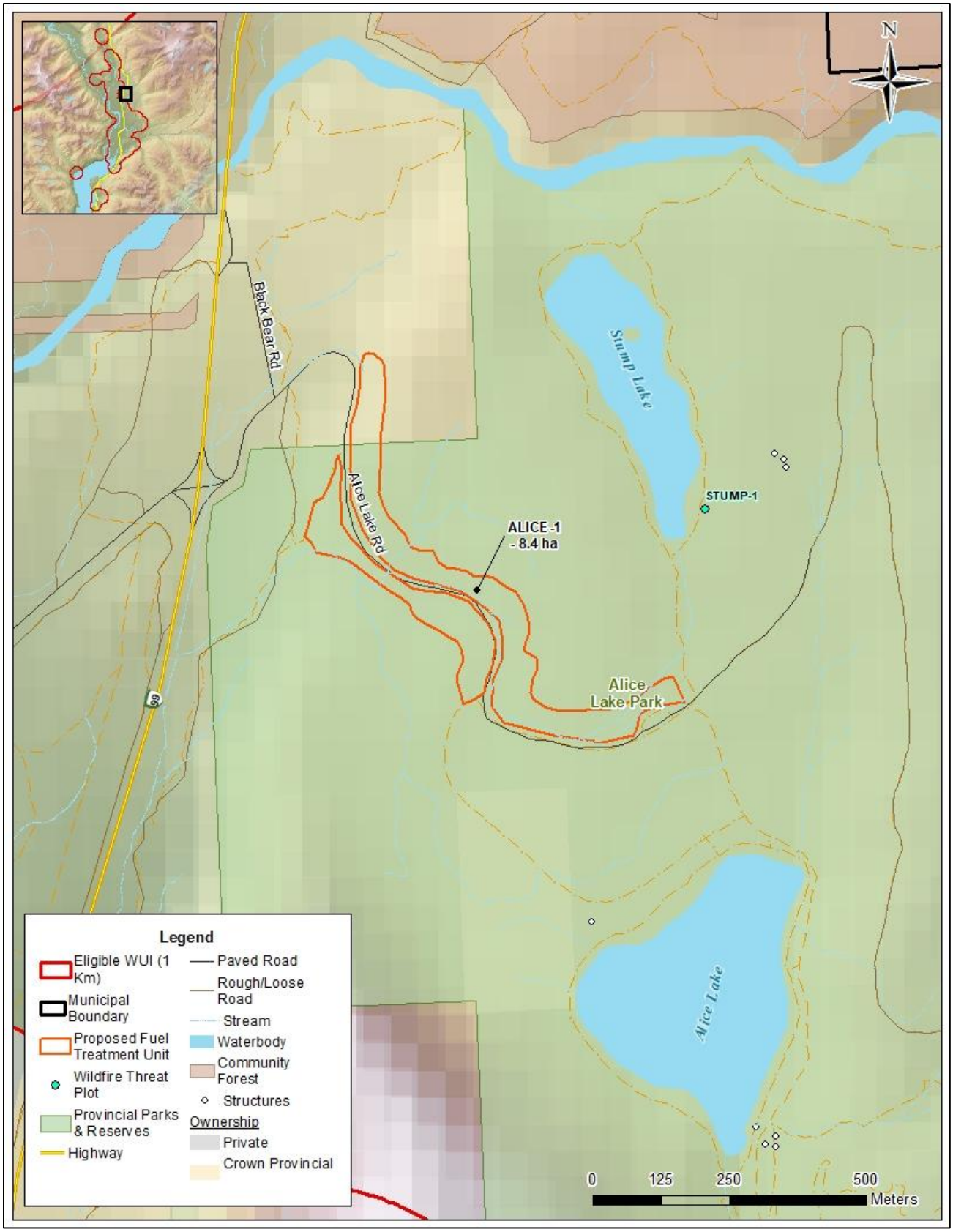
Map 10. Overview of proposed and completed fuel treatment units in Squamish.



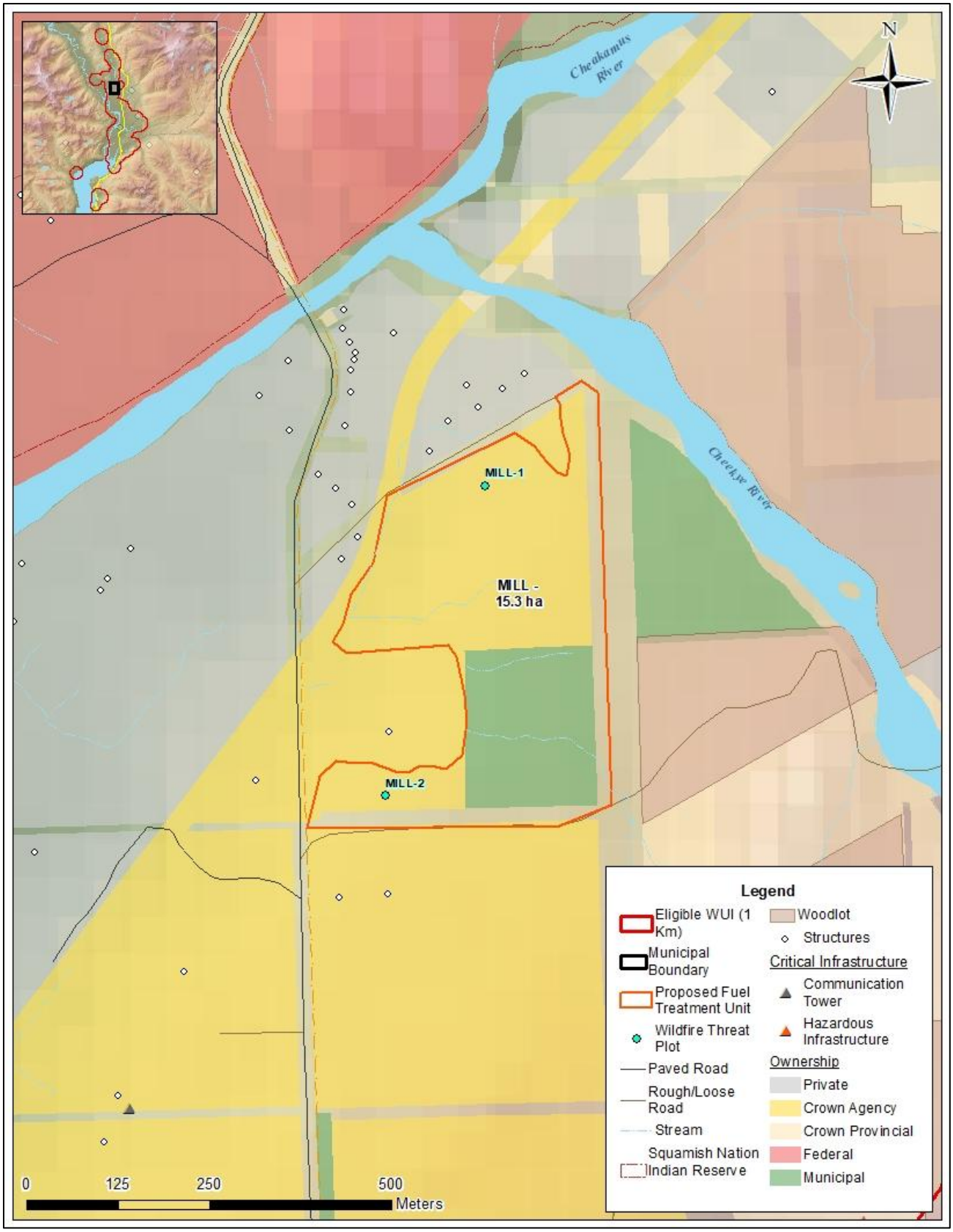
Map 11. Proposed fuel treatment units in Smoke Bluff Park



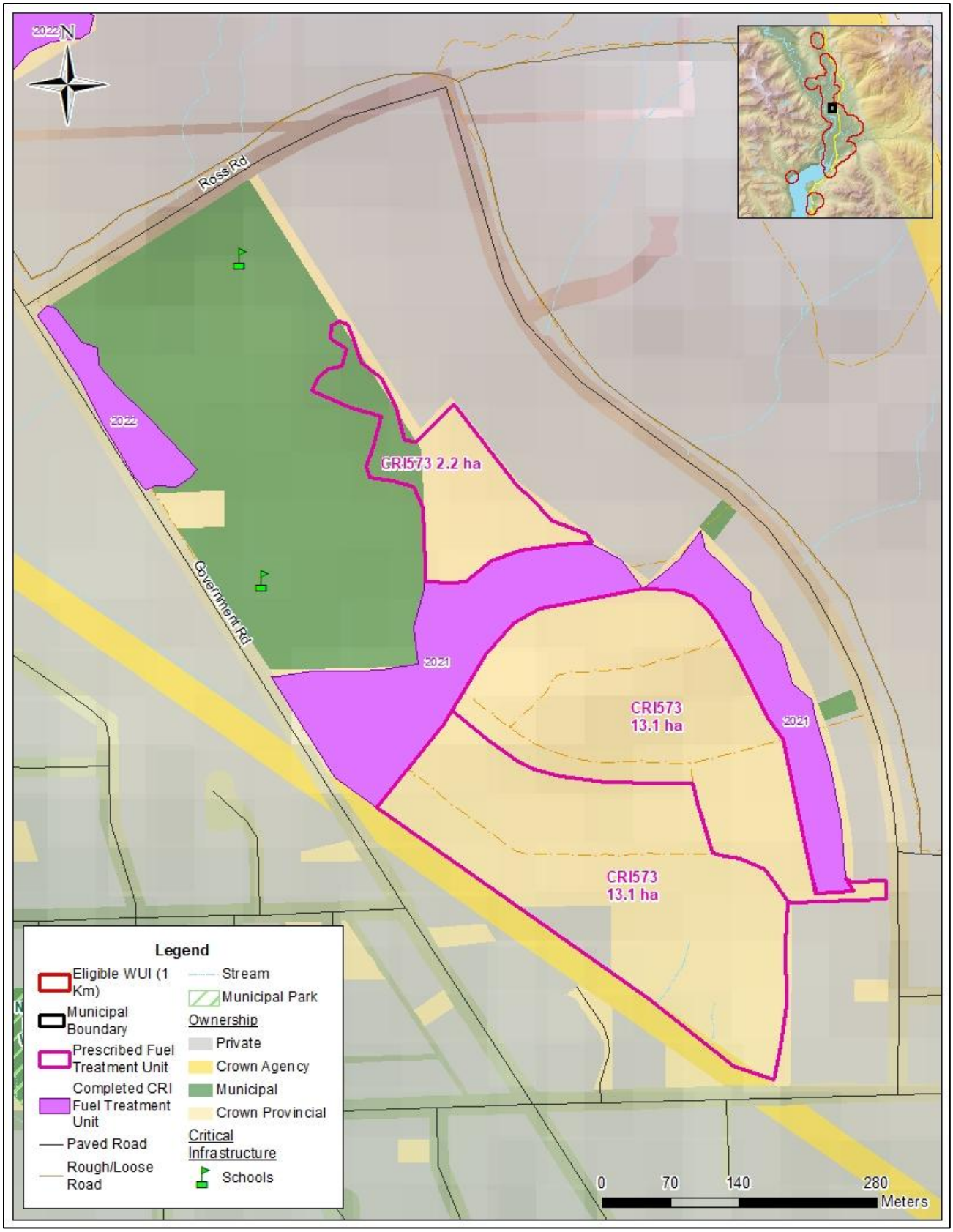
Map 12. Proposed fuel treatment unit in the Skyridge community



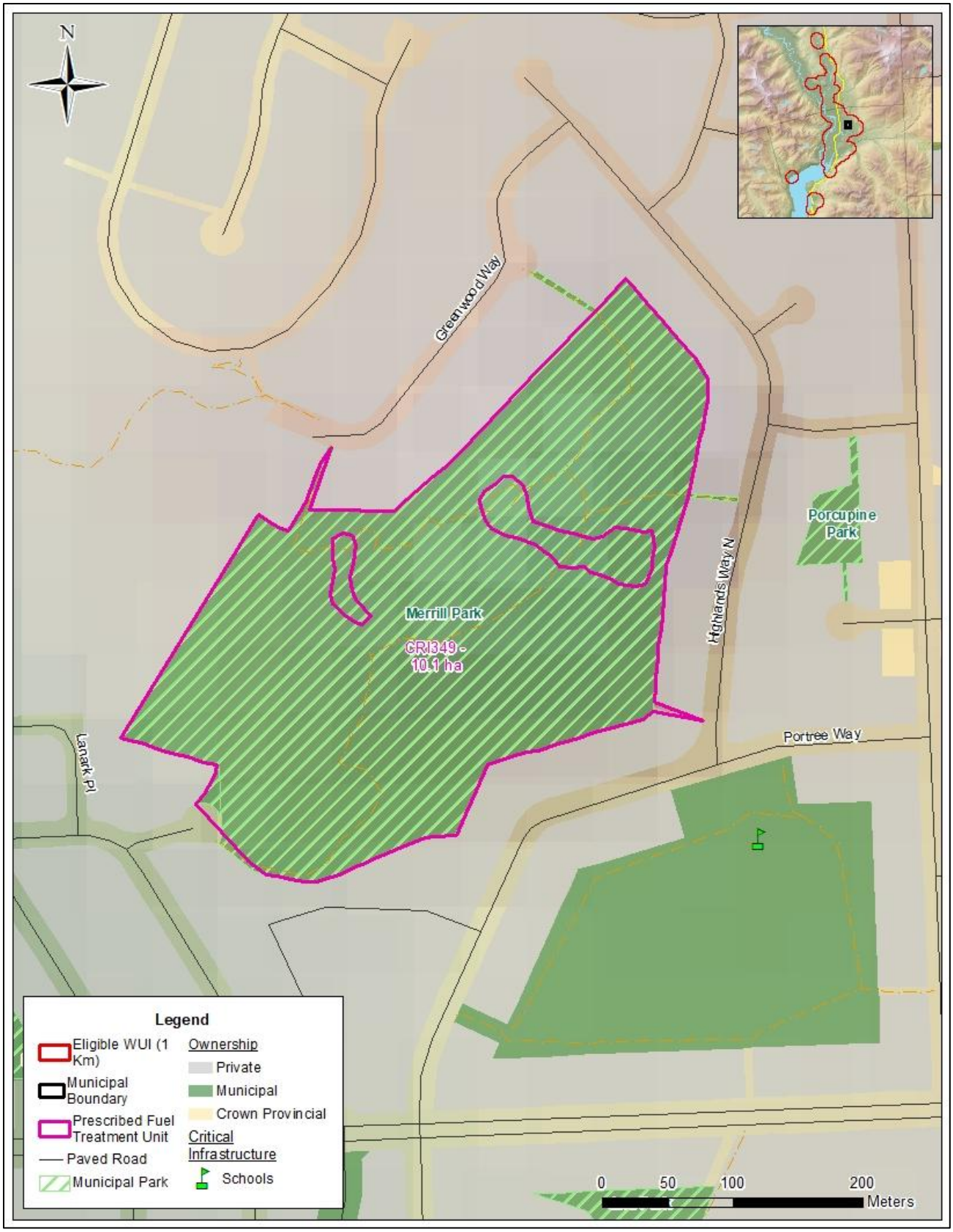
Map 13. Proposed fuel treatment unit in Alice Lake Provincial Park



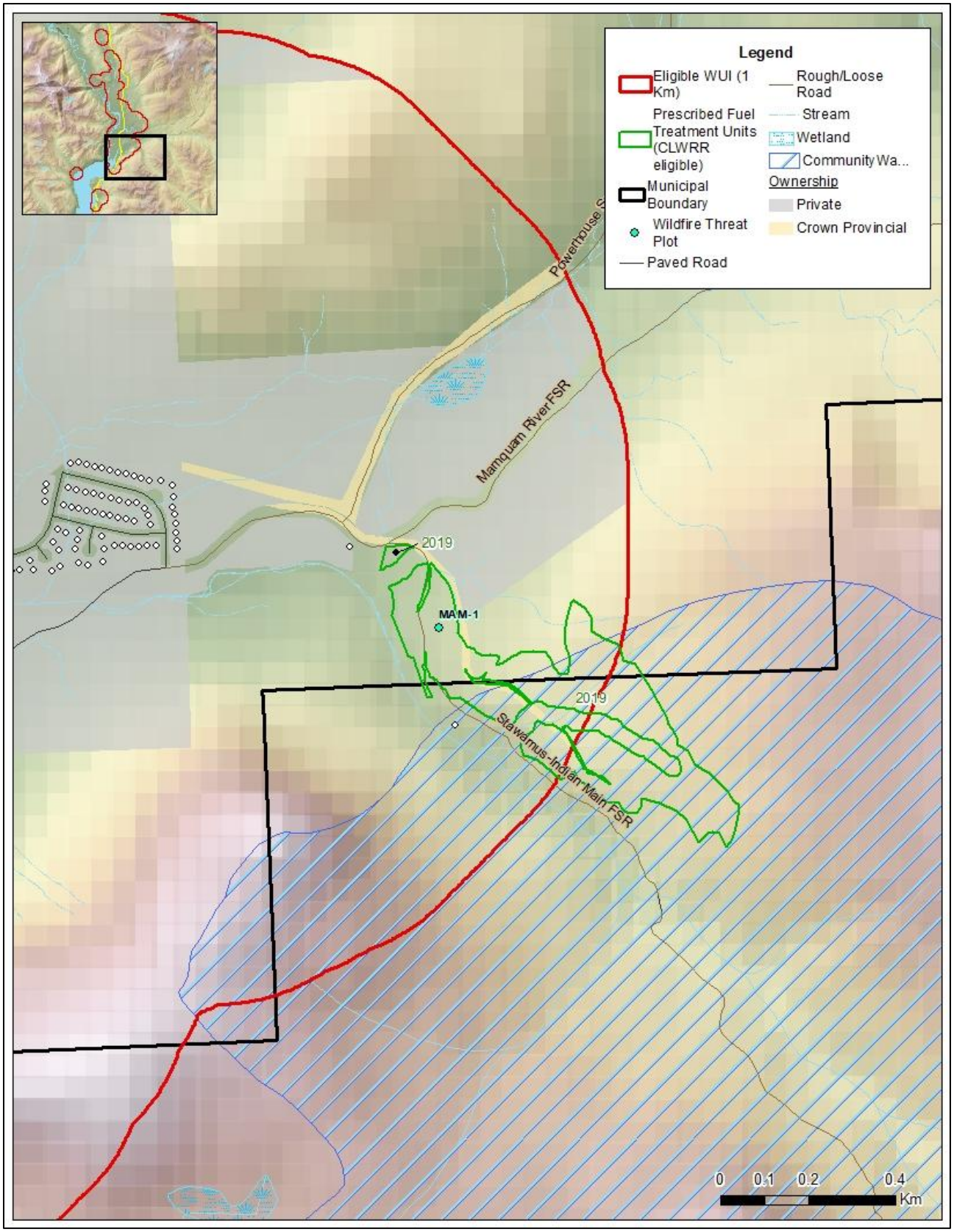
Map 14. Proposed fuel treatment unit on Squamish Valley Road



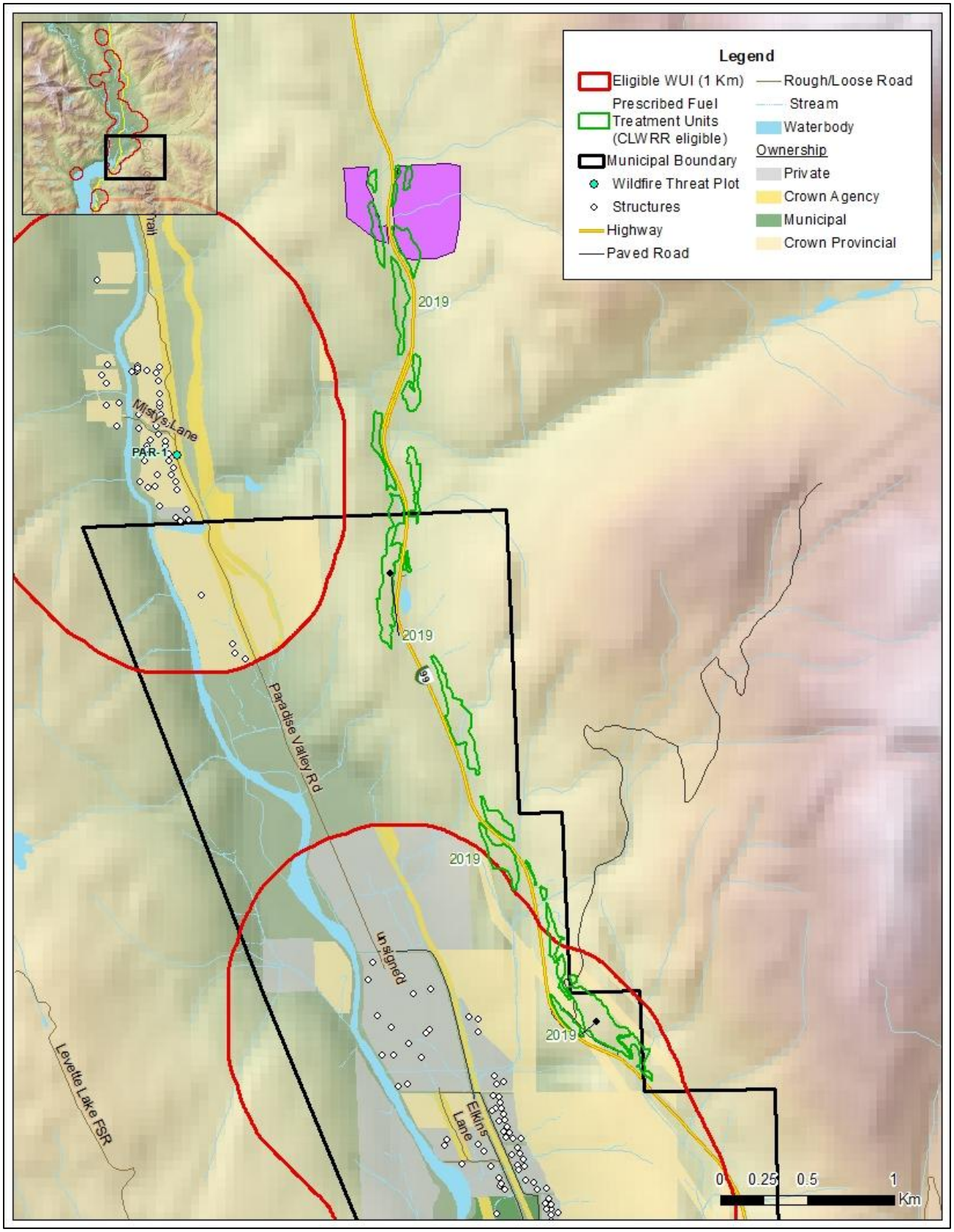
Map 15. Prescribed Airport Road Fuel Treatment Unit



Map 16. Prescribed Merrill Municipal Park Fuel Treatment Unit



Map 17. Prescribed Indian River Road Fuel Treatment Unit eligible for CLWRR Program



Map 18. Prescribed Highway 99 Fuel Treatment Unit eligible for CLWRR Program

SECTION 6: FIRESMART ROADMAP AND CWRP ACTION PLAN

6.1 FIRESMART ROADMAP

The FireSmart Roadmap is a concept that demonstrates how no two communities will follow the same path towards increased community wildfire resiliency, but that actions progress along four sequential phases. Some activities, including education, may appear in multiple phases but should reflect progression in terms of the community's understanding and adoption of FireSmart principles.[51]

Figure 8. Illustration of the FireSmart Roadmap concept

Prior to the first phase, FireSmart BC recommends that three foundational elements are in place:

- A FireSmart Coordinator
- A Community Wildfire Resiliency Plan (CWRP)
- A Community FireSmart Resiliency Committee (CFRC)

Squamish has two of the three foundational elements in place and continues to progress along the Roadmap, with demonstrated growth in public education, neighbourhood engagement and interagency collaboration since the 2017 CWPP. A new FireSmart Coordinator is being hired at the time of this plan's development. Table 21 summarizes Squamish's progress along the FireSmart Roadmap.

[51] Community Resiliency Investment. (2023). *FireSmart Community Funding and Supports Supplemental Instruction Guide.* Retrieved from: https://www.ubcm.ca/funding-programs/local-government-program-services/community-resiliency-investment/firesmart-0

Table 1 in the Executive Summary details the Action Plan for Squamish. Each action item is a prioritized recommendation supported with a rationale, suggested lead agency, expected timeframe, resources required (funding, staff capacity) and metric for success.

Table 21. Summary of Squamish's progress along the FireSmart Roadmap

FireSmart Roadmap Stage	Current Status	Community Response	Recommended Next Steps
1. Engagement	FireSmart education has expanded through chipping programs, FireSmart HIZ assessments, FireSmart-dedicated web content and the chipping programFireSmart programming has historically been delivered through a contract or temporary in-house role, with efforts underway to re-establish a full-time FireSmart Coordinator to provide consistent, year-round leadership and coordination..	Strong response following the Dryden Creek Fire; high participation in the chipper program; sustained but uneven engagement across neighbourhoods, with rural areas, visitors and renters harder to reach.	Reinstate a full-time FireSmart Coordinator; increase outreach to underserved areas; strengthen interagency consistency in fire-danger messaging; expand visitor-focused education at trailheads and recreation areas.
2. Initiative	Approximately 100 HIZ assessments completed since 2021; chipper program now one of the most effective engagement tools; critical infrastructure assessments completed; four neighbourhood assessments completed and workshops delivered.	Positive feedback on chipping, assessments, and in-person engagement; demand increases sharply following wildfire events. Challenge identifying neighbourhood champions and engaging neighbourhoods.	Build a roster of neighbourhood champions; expand assessment availability in high-priority neighbourhoods; integrate FireSmart messaging into chipping days and community events; begin implementing recommendations of the critical infrastructure assessments.
3. Integration	Wildfire Hazard DPA adopted; Wildfire Landscaping Management Bylaw regulates vegetation near homes; emergency plans and bylaws being updated under the EDMA; cross-department coordination improving. Education and guidance are the primary mechanisms supporting implementation of wildfire-related regulatory tools.	Limited public feedback to date; awareness of DPA and landscaping requirements remains low, particularly in existing single-family neighbourhoods.	Expand education and guidance related to the Wildfire DPA and Landscaping Bylaw; improve clarity and consistency at the development permit stage; support compliance through education-led approaches, with enforcement applied through existing processes where required.
4. Expansion	Fuel-management completed for multiple areas; ongoing coordination between partner agencies; CFRC functioning as an interagency platform.	Public support for treatments increasing; concern for air quality increasing.	Establish an interagency fuel-management forum under the CFRC; support BC Parks and MOF in implementing recommended treatments; improve public communication through dedicated fuel-treatment mapping and updates; retender existing prescriptions using updated chipping criteria.

6.2 TRACKING, REPORTING, AND UPDATES

Recommendations from the 2017 CWPP were reviewed in detail and used to inform the 2025 CWRP Action Plan. Previously completed fuel treatments were reviewed as part of the 2025 CWRP process to assess current fuel conditions and treatment effectiveness, and to inform future prioritization and maintenance planning. As the District implements this updated plan, establishing a structured process for tracking progress will be important for accountability, coordination, and future grant applications. An annual review completed by the FireSmart Coordinator in collaboration with the CFRC should summarize progress on each action item, identify challenges and highlight opportunities for refinement.

In addition to annual reporting, the District should plan for a full five-year update of the CWRP. Maintaining a current plan is required for eligibility under the CRI FCFS program and ensures that local risk assessments, fuel conditions, emergency planning assumptions and development patterns remain up to date. The next comprehensive update should reassess wildfire risk, vegetation changes, fuel-treatment implementation, growth into interface areas and any new infrastructure or operational constraints. The update should also include a clear status review of all completed fuel-management prescriptions and treatments, along with recommended maintenance timelines to retain their effectiveness over time.

APPENDIX A: HOME IGNITION ZONE

Home and Critical Infrastructure Ignition Zones

Multiple studies have shown that the principal factors that contribute to structure loss by wildfire are the structure's characteristics and immediate surroundings. The area that determines the ignition potential of a structure is referred to (for residences) as the Home Ignition Zone or (for critical infrastructure) the Critical Infrastructure Ignition Zone.[52,53] Both the Home Ignition Zone and Critical Infrastructure Ignition Zone include the structure itself and four concentric, progressively wider zones out to 30 m from the structure. More details on can be found in the FireSmart Manual.[54]

During extreme wildfire events, most home destruction results from low-intensity surface fires, usually ignited by embers. Embers can be transported long distances ahead of the wildfire, across fire guards and fuel breaks, and accumulate within the Home Ignition Zone or Critical Infrastructure Ignition Zone in densities that can exceed 600 embers per square meter. Combustible materials found within the Home Ignition Zones or Critical Infrastructure Ignition Zones to create fire 'pathways', allowing surface fires ignited by embers to spread and carry flames into contact with structures.

Because ignitability of the Home Ignition Zone or Critical Infrastructure Ignition Zone is the main factor driving structure loss, the intensity and rate of spread of wildfires beyond the community does not always correspond to a high potential of loss or damage. For example, FireSmart homes with low ignitability may survive high-intensity fires, whereas highly ignitable homes may be destroyed during lower intensity surface fire events.[53] Extreme wildfire conditions do not necessarily result in WUI fire disasters.[55] It is for this reason that the key to reducing WUI fire structure loss is to reduce structure ignitability. Mitigation responsibility must be centered on structure owners. Risk communication, education on the range of available activities, and prioritization of activities should help homeowners to feel empowered to complete simple risk reduction activities on their property.

Community Zone

The Community Zone encompasses all non-Provincial Crown public land within the municipal boundary, that is beyond 30 meters from private structures.[56] Vegetation management planning and implementation on most Community Zone lands should be directed through a formal fuel management prescription developed by a forest professional with wildfire vegetation management within their scope of practice[56]. Depending on the results of Wildfire Mitigation Program assessments (formerly known as

[52] Reinhardt, E., R. Keane, D. Calkin, J. Cohen. (2008). *Objectives and considerations for wildland fuel treatment in forested ecosystems of the interior western United States*. Forest Ecology and Management 256:1997 - 2006.
[53] Cohen, J. *Preventing Disaster Home Ignitability in the Wildland-urban Interface*. Journal of Forestry. p 15 - 21.
[54] https://firesmartcanada.ca/ and https://www2.gov.bc.ca/gov/content/safety/wildfire-status/prevention/firesmart
[55] Calkin, D., J. Cohen, M. Finney, M. Thompson. 2014. *How risk management can prevent future wildfire disasters in the wildland-urban interface*. Proc Natl Acad Sci U.S.A. Jan 14; 111(2): 746-751. Accessed online 1 June, 2016 at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3896199/.
[56] Community Resiliency Investment. (2023). *FireSmart Community Funding and Supports Supplemental Instruction Guide.* Retrieved from: https://www.ubcm.ca/funding-programs/local-government-program-services/community-resiliency-investment/firesmart-0

Home Partners Program assessments) on individual structures, vegetation management may be required beyond 30 meters and up to 100 meters (FireSmart Priority Zone 3) on larger private parcels. Municipal parks, trails, and outdoor event spaces are all part of the Community Zone. Often Community Zone lands see high use by the public, which increases accidental ignition potential and risk to properties surrounding them.

Landscape Zone

The Landscape Zone encompasses provincial Crown lands that are located outside the municipal boundary. Vegetation (fuel) management planning and implementation is primarily the responsibility of the provincial government, working collaboratively to align landscape objectives with the CWRP objectives.[56] Vegetation management planning and implementation in the Landscape Zone and on all forested provincial Crown lands must be directed through a formal fuel management prescription developed by a forest professional with wildfire vegetation management within their scope of practice.[56]

Fire hazard in the WUI is partly dictated by the proximity of fuel to developed areas. Fuels closest to the community pose a higher hazard, compared to fuels that are further from values at risk. It is recommended that fuels closest to structures or developed areas are prioritized for treatment first, in order to reduce the risk closest to the community. Continuity of fuel treatment is an important consideration, which can be ensured by reducing fuels from the edge of the community outward. Table 22 describes the classes associated with proximity of fuels to the interface.

Table 22. Proximity to the interface

Proximity to the Interface	Descriptor*	Explanation
WUI 100 *Home Ignition Zone, Critical Infrastructure Ignition Zone, and Community Zones*	(0-100 m)	This Zone is always located adjacent to the value at risk. Treatment would modify the wildfire behaviour near or adjacent to the value. Treatment effectiveness would be increased when the value is FireSmart.
WUI 500 *Community and Landscape Zones*	(100-500m)	Treatment would affect wildfire behaviour approaching a value, as well as the wildfire's ability to impact the value with short- to medium- range spotting; should also provide suppression opportunities near a value.
WUI 1000 *Landscape Zone*	(500-1000 m)	Treatment would be effective in limiting long – range spotting but short-range spotting may fall short of the value and cause a new ignition that could affect a value.
Landscape Zone	>1000 m	This should form part of a landscape assessment and is generally not part of the zoning process. Treatment is relatively ineffective for threat mitigation to a value, unless used to form a part of a larger fuel break / treatment.

**Distances are based on spotting distances of high and moderate fuel type spotting potential and threshold to break crown fire potential (100m). These distances can be varied with appropriate rationale, to address areas with low or extreme fuel hazards.*

APPENDIX B: WTA PLOTS AND PHOTOS

Table 23 summarizes the Wildfire Threat Assessment (WTA) plots completed during CWRP field work. The WTA plot forms and photos are attached as a separate PDF package.

Table 23. Summary of WUI Threat Assessment Worksheets (2020).

Name	Location	Score
AIR-1	Airport Road	Moderate
BLUFF-1	Smoke Bluffs Municipal Park	Moderate
CHEIF-1	Stawamus Chief Provincial Park	Moderate
EVANS-1	Evans Lake forest service road	Moderate
GARI-1	Garibaldi Park Road	Low
MAM-1	Mamquam Forest Service Road	Moderate
MAM-2	Mamquam Forest Service Road	Low
MILL-1	Squamish Valley Road	Low
MILL-2	Squamish Valley Road	Moderate
PAR-1	Paradise Valley	Moderate
SHAN-1	Shannon Falls Provincial Park	Moderate
SKY-1	Skyridge Neighbourhood	Moderate
STUMP-1	Alice Lake Provincial Park	Moderate
ZIP-1	Smoke Bluffs Municipal Park	Moderate

APPENDIX C: MAPS

The three submission maps below as required by the CRI FCFS program are provided separately as a PDF package (Appendix C).

- Map 1: Area of Interest (AOI) and Values at Risk (VAR)
- Map 2: Local Fire Risk
- Map 3: Proposed Fuel Treatment Units

APPENDIX D: LOCAL WILDFIRE RISK ASSESSMENT PROCESS

The Wildfire Threat Assessment results that are described in Section 4.4 were obtained through a process consisting of the following steps:

- Updating fuel typing through in-situ verification (field work) and orthophotography.
- Updating structural data using in-situ verification, spatial data, and orthophotography.
- In-situ observations of wildland fuels and completion of Wildfire Threat Assessment worksheets.
- Wildfire threat spatial analysis to produce mapping and statistics described in Section 4.3, using updated fuel typing, updated structural data, and Wildfire Threat Assessment worksheet results.

This appendix provides methodological information for each of the above steps to produce the Wildfire Threat Assessment, as follows:

- Further details on fuel typing update methodology are provided in Appendix D-1: Fuel Typing Methodology and Limitations
- Wildfire Risk Assessment plot worksheets are provided in Appendix B.
- Wildfire threat spatial analysis methodology to produce results reported in Section 4.4 is detailed in Appendix D-2: Wildfire Fire Threat Spatial Analysis Methodology and Appendix D-3: WUI Risk Spatial Analysis Methodology

APPENDIX D-1: FUEL TYPING METHODOLOGY AND LIMITATIONS

The Canadian Forest Fire Behaviour Prediction (FBP) System outlines five major fuel groups and sixteen fuel types based on characteristic fire behaviour under defined conditions.[57] Fuel typing is recognized as a blend of art and science. Although a subjective process, the most appropriate fuel type was assigned based on research, experience, and practical knowledge; this system has been used within BC, with continual improvement and refinement, for 20 years.[58]

There are significant limitations with the fuel typing system which should be recognized:

- The fuel typing system is designed to describe fuels which sometimes do not occur within the area of interest
- Fuel types cannot fully, and accurately capture the natural variability within a polygon
- The data used to create initial fuel types, also has limitations.

[57] Forestry Canada Fire Danger Group. (1992). *Development and Structure of the Canadian Forest Fire Behavior Prediction System: Information Report ST-X-3.*
[58] Perrakis, D.B., Eade G., and Hicks, D. (2018). Natural Resources Canada. Canadian Forest Service. *British Columbia Wildfire Fuel Typing and Fuel Type Layer Description* 2018 Version.

Given these limitations, the following should be considered when using fuel type maps and information, to plan community wildfire resiliency projects:

- Fuel typing further from the developed areas of the study generally has a lower confidence.
- Fuel typing should be used as a starting point for more detailed assessments and as an indicator of overall wildfire risk, not as an operational, or site-level, assessment.
- Forested ecosystems are dynamic and change over time: fuels accumulate, stands fill in with regeneration, and forest health outbreaks occur.
- Regular monitoring of fuel types and wildfire risk assessment should occur every 5-10 years to determine the need for updated assessments.

Fuel types found within the WUI were listed and discussed in in Section 4.1.1.

Fuel Type Refinement and Provincial Dataset Updates

An area-based comparison of provincial fuel typing and refined fuel typing confirmed that most fuel types remained unchanged following field verification. Where updates were made, refinements primarily reflected improved representation of local stand structure and fuel continuity rather than broad changes in wildfire hazard. C-5 was the most frequently refined fuel type due to its large spatial extent, with updates most commonly to C-7 in areas with more open canopy conditions than represented in the provincial dataset. Smaller localized pockets of C-5 with denser conifer structure were updated to C-3. Similarly, some C-3 polygons were updated to C-7 in areas with greater crown separation. Deciduous fuel types (D-1/2) were commonly refined to non-fuel or mixedwood (M-1/2) classes where deciduous dominance, site management, or limited surface fuel continuity reduced fire behaviour potential.

APPENDIX D-2: WILDFIRE FIRE THREAT SPATIAL ANALYSIS METHODOLOGY

Source Data

As part of the CWRP process, spatial data submissions are required to meet the defined standards in the Program and Application Guide. Proponents completing a CWRP can obtain open-source BC Wildfire datasets, including Provincial Strategic Threat Analysis (PSTA) datasets from the British Columbia Data Catalogue. Wildfire spatial datasets obtained through the BC Open Data Catalogue used in the development of the CWRP include, but are not limited to:

- PSTA Spotting Impact
- PSTA Fire Density
- PSTA Fire Threat Rating
- PSTA Lighting Fire Density

- PSTA Human Fire Density
- Head Fire Intensity
- WUI Human Interface Buffer (2Km buffer from structure point data)
- Wildland Urban Interface Risk Class
- Current Fire Polygons
- Current Fire Locations
- Historical Fire Perimeters
- Historical Fire Incident Locations
- Historical Fire Burn Severity
- Fuel Type

As part of the program, proponents completing a CWRP are provided with a supplementary Structure point dataset from BC Wildfire Service. The provided PSTA data does not transfer directly into the geodatabase for submission, and several PSTA feature classes require extensive updating or correction. In addition, the Fire Threat determined in the PSTA is fundamentally different than the localized Fire Threat feature class that is included in the Local Fire Risk map required for project submission. The Fire Threat in the PSTA is based on provincial scale inputs - fire density, spotting impact; and head fire intensity; while the spatial submission Fire Threat is based on the components of the Wildland Urban Interface Threat Assessment Worksheet.

Spatial Analysis

Not all attributes on the WUI Threat Assessment form can be determined using a GIS analysis on a landscape/polygon level. To emulate as closely as possible the threat categorization that would be determined using the Threat Assessment form, the variables in Table 24 were used as the basis for building the analytical model. The features chosen are those that are spatially explicit, available from existing and reliable spatial data or field data, and able to be confidently extrapolated to large polygons.

Table 24. Description of variables used in spatial analysis for WUI wildfire risk assessment

WUI Threat Sheet Attribute	Used in Analysis?	Comment
Fuel Subcomponent		
Duff depth and Moisture Regime	No	Many of these attributes assumed by using 'fuel type' as a component of the Fire Threat analysis. Most of these components are not easily extrapolated to a landscape or polygon scale, or the data
Surface Fuel continuity	No	
Vegetation Fuel Composition	No	
Fine Woody Debris Continuity	No	
	No	
Live and Dead Coniferous Crown Closure	No	
Live and Dead Conifer Crown Base height	No	

WUI Threat Sheet Attribute	Used in Analysis?	Comment
Live and Dead suppressed and Understory Conifers	No	available to estimate over large areas (VRI) is unreliable.
Forest health	No	
Continuous forest/slash cover within 2 km	No	
Weather Subcomponent		
BEC zone	Yes	Although included, these are broad classifications, meaning most polygons in the Study Area will have the same value
Historical weather fire occurrence	Yes	
Topography Subcomponent		
Aspect	Yes	
Slope	Yes	Elevation model was used to determine slope.
Terrain	No	
Landscape/ topographic limitations to wildfire spread	No	
Structural Subcomponent		
Position of structure/ community on slope	No	Too difficult to quantify – this is a relative value.
Type of development	No	Too difficult to analyze spatially.
Position of assessment area relative to values	Yes	Only distance to structures is used in this analysis, being above, below or sidehill too difficult to analyze spatially.

The other components are developed using spatial data (BEC zone, fire history zone) or spatial analysis (aspect, slope). A scoring system was developed to categorize resultant polygons as having relatively low, moderate, high or extreme Fire Threat, or Low, Moderate, High or Extreme wildfire threat class. Table 25 below summarizes the components and scores to determine the Fire Threat.

Table 25. Fire Threat Class scoring components

Attribute	Indicator	Score
Fuel Type	C-1	35
	C-2	
	C-3	
	C-4	
	M-3/4,>50% dead fir	
	C-6	25
	M-1/2, >75% conifer	20
	C-7	
	M-3/4, <50% dead fir	
	M-1/2, 50-75% conifer	15
	M-1/2, 25-50% conifer	10
	C-5	
	O-1a/b	

Attribute	Indicator	Score
	S-1	
	S-2	
	S-3	
	M-1/2, <25% conifer	5
	D-1/2	0
	W	0
	N	0
Weather - BEC Zone	AT, irrigated	1
	CWH, CDF, MH	3
	ICH, SBS, ESSF	7
	IDF, MS, SBPS, CWHsds1 & ds2, BWBS, SWB	10
	PP, BG	15
Historical Fire Occurrence Zone	G5, R1, R2, G6, V5, R9, V9, V3, R5, R8, V7	1
	G3, G8, R3, R4, V6, G1, G9, V8	5
	G7, C5, G4, C4, V1, C1, N6	8
	K1, K5, K3, C2, C3, N5, K6, N4, K7, N2	10
	N7, K4	15
Slope	<16	1
	16-29 (max N slopes)	5
	30-44	10
	45-54	12
	>55	15
Aspect (>15% slope)	North	0
	East	5
	<16% slope, all aspect	10
	West	12
	South	15

Limitations

There are obvious limitations in this method, most notably that not all components of the threat assessment worksheet are scalable to a GIS model, generalizing the Fire Behaviour Threat score. The Wildfire Threat Score is greatly simplified, as determining the position of structures on a slope, the type of development and the relative position are difficult in an automated GIS process. Structures are considered, but there is no consideration for structure type (also not included on threat assessment worksheet). This method uses the best available information to produce accurate and useable threat assessment across the study area in a format which is required by the CRI program.

Differences between provincial and local wildfire threat classifications also reflect limitations related to scale and purpose. The Provincial Strategic Threat Analysis is designed as a landscape-scale tool based on modeled head fire intensity, spotting potential and historic fire density. It does not incorporate field-

verified fuel conditions, fine-scale stand structure or localized exposure of values. The Local Wildfire Threat Class Analysis refines provincial outputs using site-specific information. However, the analysis may understate wildfire hazard in localized areas.

This limitation is particularly relevant for this CWRP, where C-5 and C-7 are dominant fuel types and carry comparatively lower weightings in the threat scoring system, potentially underrepresenting elevated hazard where surface fuel accumulation, ladder fuels or suppressed understory stems persist.

APPENDIX D-3: WUI RISK SPATIAL ANALYSIS METHODOLOGY

To determine the WUI Risk score, only the distance to structures is used. Buffer distance classes are determined (<200m, 200m-500m and >500m) but only for polygons that had a 'high' or 'extreme' Fire Threat score from the previous, assessment. To determine WUI Risk, polygons within 200 m of structures are rated as 'extreme', within 500 m are rated as 'high', and within 2 km are 'moderate'. Distances over that are rated 'low.' WUI Risk Classes and associated assumed scores are summer below in Table 26.

Table 26. WUI Risk Classes and their associated summed scores

WUI Risk Class	Score
Very Low	0
Low	0-35
Moderate	35-55
High[59]	55-65
Extreme	>65

[59] WUI risk is only assessed for polygons with wildfire threat ratings of high or extreme.