Sun Peaks Mountain Resort Municipality

COMMUNITY WILDFIRE RESILIENCY PLAN (CWRP)

2025-03-31



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This CWRP has been prepared for the Sun Peaks Mountain Resort Municipality.

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Forsite Consultants Ltd.	

Acknowledgments

Forsite would like to acknowledge significant contributions from many individuals during the building of this CWRP, including:

- Alan Raine – Mayor of Sun Peaks Mountain Resort Municipality
- Fire Chief Dean Schiavon – Fire Chief, Sun Peaks Fire Rescue
- Captain James Griffiths - Prevention Officer, Sun Peaks Fire Rescue
- Travis Abbey – Wildfire Advisor, Amberlight Ventures Ltd.
- Sun Peaks Community FireSmart Resiliency Committee
- Erik Meertens – Senior Director - Mountain Operations, Sun Peaks Resort LLP
- Barney Mouat – Mountain Operations, Sun Peaks Resort LLP
- Residents & Guests who participated in community engagement events.



Photo of **Sun Peaks Village** taken on Oct 16, 2023.

Executive Summary

Community Wildfire Resiliency is a term used to describe the ability of a community to *withstand* and *quickly recover* from a wildfire, in both form and function. Based on the seven FireSmart disciplines, this Community Wildfire Resiliency Plan is a comprehensive assessment of wildfire risk mitigation and emergency planning for Sun Peaks Mountain Resort Municipality.

This CWRP will help guide Mayor & Council, municipal staff, Sun Peaks Resort LLP owners & investors, local residents, guest, tourists, First Nations and stakeholders in becoming more resilient in the face of an ever-increasing wildfire threat.

Recommendations for wildfire risk reduction initiatives that were made in the 2019 Sun Peaks CWPP were reviewed, and progress was assessed. Although there has been continual fuel-management, Sun Peaks continues to be exposed to a number of wildfire risks based on the natural environment and continued development into the wildland urban interface.

Fire resistance and resiliency, as well as human safety, should be prioritized in the current and future vision for Sun Peaks Mountain Resort Municipality and Sun Peaks Resort LLP. The dynamics of the Controlled Recreation Area, Sun Peaks Resort LLP, and municipality present many opportunities for collaborative initiatives addressed in this CWRP. There is opportunity for improved synergy between Sun Peaks Mountain Resort Municipality and Sun Peaks Resort LLP.

At the homeowner level, the community engagement and participation in FireSmart programs throughout the community is low, which has frequently resulted in construction and landscaping decisions that directly expose residents to fire hazards.

This CWRP provides recommended action plans that outline the most effective steps to proactively protect the community, infrastructure, and natural ecosystems that Sun Peaks residents know and enjoy. Recommendations have been made throughout this CWRP and key recommendations of highest priority have been outlined on the following page. The implementation of these recommendations will require a motivated and coordinated effort by multiple levels of government and stakeholders – which is a basic requirement for forming a strong and resilient community. As Sun Peaks' population is projected to steadily grow into the future, and the wildfire environment is continually evolving, this CWRP should be updated within five years of adoption to capture changes in regulation, development and threat.

The key information provided in this CWRP includes:

- Inventory of values at risk
- Wildfire fuel hazard assessments
- Wildfire risk and threat assessments
- Priority list of proposed fuel-management treatment units
- Linkages between this CWRP and existing plans, bylaws, and provincial legislation
- Recommendations for municipal plans, polices, and bylaws
- Recommendations on all seven FireSmart disciplines
- Maps and spatial data are attached separately

Key Recommendations

Priority	Recommendation	Responsible Agency	Timeframe
1	There is opportunity for improved synergy between Sun Peaks Mountain Resort Municipality and Sun Peaks Resort LLP. Collaborate on wildfire risk awareness, new development, fire risk mitigation, emergency plans, and the future vision of Sun Peaks. Engage with annual meetings on these topics.	Sun Peaks Mountain Resort Municipality & Sun Peaks Resort LLP.	Immediately and continually.
2	The Municipality and Sun Peaks Resort LLP should be actively reviewing all mitigation plans, such as this CWRP, assigning roles and responsibilities to act on recommendations, and following through on all action items.	Sun Peaks Mountain Resort Municipality & Sun Peaks Resort LLP.	Immediately and continuously.
3	Seek professional consultation with forest hydrologists to determine *Equivalent Clearcut Area* that is safe and sustainable on the slopes surrounding Sun Peaks for fuel-management, development, and ski runs, with consideration of climate change, riparian areas, and potential high-severity fire.	Sun Peaks Mountain Resort Municipality & Sun Peaks Resort LLP.	Immediately
4	Continue to commit to year-round fuel-management activities at all spatial scales. Follow the priority list of fuel-treatment units provided in CWRPs and WUI-WRR Plans.	Sun Peaks Mountain Resort Municipality & Sun Peaks Resort LLP.	Continuously
5	Increase community participation in FireSmart programs. Apply for FireSmart Canada Community Recognition. Satisfy all requirements of this recognition.	Sun Peaks Mountain Resort Municipality	Immediately and continuously.
6	Identify and invest in community FireSmart champions who will be available to assist with FireSmart activities as required. FireSmart training is available to support this.	Sun Peaks Resort LLP, Sun Peaks Mountain Resort Municipality,	Immediately and continuously.
7	Continue with FireSmart assessments of critical infrastructure, all public buildings and infrastructure, and plan for private properties where consent is given or where help is asked for.	Sun Peaks Resort LLP & Sun Peaks Mountain Resort Municipality	Immediately and continuously as needed.
8	Incorporate well-defined FireSmart and fuel-management principles into the process of new structural developments within the CRA. It is recommended to require and enforce FireSmart construction and landscaping. It is recommended to improve coordination between the Municipality and Sun Peaks Resort LLP regarding the development process, covenants, permits, and building inspections. Definitions of FireSmart	Sun Peaks Resort LLP & Sun Peaks Mountain Resort Municipality	Immediately and update.

Priority	Recommendation	Responsible Agency	Timeframe
	principles are recommended to align with current provincial guidelines and may require periodic updates.		
9	Include FireSmart standards & definitions in OCP for construction, landscaping, development, and community design.	Sun Peaks Resort LLP & Sun Peaks Mountain Resort Municipality	Immediately and update
10	Dedicate a single data storage location for all emergency management and fire mitigation related data, managed by delegated staff member.	Sun Peaks Resort LLP & Sun Peaks Mountain Resort Municipality	Immediately and update

Table of Contents

Executive Summary iii
Key Recommendations iv
Table of Contents vi
Table of Tables viii
Table of Figures x
Glossary of Terms xiii
1.0 Introduction 16
1.1 Overview 16
1.2 Plan Purpose and Goals 17
1.3 CWRP Development Summary 18
2.0 Relationship to Other Plans and Legislation 19
2.1 Previous CWPP/CWRP 19
2.2 Local Authority Emergency Plan 22
2.3 Official Community Plan (OCP) 23
2.4 Local Bylaws 28
2.5 Higher Level Plans 30
2.6 Provincial Legislation 31
3.0 Community Description 33
3.1 Area of Interest 33
3.2 Wildland Urban Interface 35
3.3 Community Information 35
3.4 Values at Risk 37
3.4.1 Critical Infrastructure 37
3.4.2 Communication 41
3.4.3 Electrical Power 43
3.4.4 Water and Sewage 44
3.4.5 Hazardous Values 45
3.4.6 Environmental Values 45
3.4.7 Cultural Values 49
3.4.8 Recreational Values 50
4.0 Wildfire Risk Assessment 51
4.1 Wildfire Environment 51
4.1.1 Weather 51
4.1.2 Topography 52
4.1.3 Ecosystems, Fuel, and Fire Regimes 55
4.1.4 Climate Change 57
4.2 Wildfire History 58
4.3 Provincial Strategic Threat Analysis (PSTA) 58

4.4 Hazard, Risk, and Vulnerability Assessment (HRVA) 60
4.5 Local Wildfire Threat Assessment 63
4.6 Wildfire Risk Assessment 66
4.6.1 Wildfire Fuel Hazard 67
5.0 FireSmart Disciplines 69
5.1 Education 69
5.2 Legislation and Planning 71
5.2.1 Existing Bylaws 71
5.3 Development Considerations 76
5.3.1 Wildfire Development Permits 79
5.3.2 Sustainable Urban Forest Strategy 79
5.4 Interagency Co-operation 80
5.4.1 Local Staff & Volunteers 82
5.4.2 Partner Agencies 82
5.5 Cross Training 82
5.6 Emergency Planning 84
5.6.1 Pre-Incident Planning 85
5.6.2 Data Storage and Organization of Spatial Data 87
5.6.3 Communication 87
5.6.4 Evacuation Planning 88
5.6.5 Action Planning 91
5.6.6 Firefighting Resources 92
5.7 Vegetation and Fuels Management 92
5.7.1 FireSmart 93
5.7.2 Fuel Management 94
5.7.3 Wildfire Threat Reduction Maintenance 97
5.7.4 Implications of Wildfire Threat Reduction Work 97
5.7.5 Effectiveness of Hand Fuel Management Treatments 98
5.7.6 Wildfire Threat Reduction Options 98
5.7.7 Anchor Points 99
5.7.8 Functional Fuel Breaks 99
5.7.9 Debris Management 100
5.7.10 Fuel Management Treatment Units 101
6.0 Action Plan & Implementation 109
Appendix A – ISI Roses 118
Appendix B – Maps 120
Appendix C – Threat Assessment Plots 124
Appendix D – All Treatment Units 136

Table of Tables

Table 1. Summary of CWPP Recommendations from the 2019 Sun Peaks CWPP and review of the Official Community Plan (OCP) and bylaws. 19

Table 2. Linkages between the 2021 Official Community Plan (OCP) and 2022 Draft OCP Visions and 2024 Community Wildfire Resiliency Plan (CWRP). 23

Table 3. Linkages between the 2021 Official Community Plan (OCP) and 2022 Draft OCP Policies and 2024 Community Wildfire Resiliency Plan (CWRP). 24

Table 4. Linkages between the 2021 Official Community Plan (OCP) and 2022 Draft OCP Objectives and 2024 Community Wildfire Resiliency Plan (CWRP) 26

Table 5. Linkages between Sun Peaks Mountain Resort Municipality Bylaws and 2024 Community Wildfire Resiliency Plan (CWRP). 28

Table 6. Linkages between the Higher-Level Plans and 2024 Community Wildfire Resiliency Plan (CWRP). ...30

Table 7. Sun Peaks demographics from 2021 Census. 36

Table 8: Forest Planning and Practices Regulation. Division 3 – (47) Stream riparian classes. McGillivray Creek is an S2 stream. 46

Table 9. Weather station information for AOI 51

Table 10. Influence of ground slope on fire behaviour. 53

Table 11. BEC variants, Natural Disturbance Type, and fuel-types within the Sun Peaks CWRP Area of Interest 55

Table 12. Fuel types observed within the Sun Peaks 1 km WUI. Descriptions matched to definitions in Fuel-types were determined by the Canadian Forest Fire Behavior Prediction (FBP) System: User's Guide. 55

Table 13. Provincial Strategic Threat Assessment – Wildfire Threat area and percent of area within 1km Wildland Urban Interface (WUI) Area of Interest around Sun Peaks Mountain Resort Municipality. 58

Table 14. Sun Peaks Mountain Resort – Risk Priorities. Extracted from Thompson-Nicola Regional District (TNRD) – Sun Peaks Mountain Resort Evacuation Plan (September 2010). 60

Table 15. Fuel hazard descriptions. 67

Table 16. Fire resistant species 75

Table 17. Recommended roles and responsibilities of partnering agencies. 81

Table 18. Pre-incident planning checklist 86

Table 19. Recommended Wildfire Response Preparedness Condition Guide 90

Table 20. Successful mechanical glading converted high fuel hazard to low fuel hazard. 99

Table 21. All proposed fuel management units within the Sun Peaks Wildland Urban Interface (WUI), which are currently eligible for FireSmart Community Funding Supports (FCFS). These FTU are in numerical order, and order does not reflect level of priority. 101

Table 22. All proposed fuel management units OUTSIDE of the Sun Peaks Wildland Urban Interface (WUI), which are NOT currently eligible for FireSmart Community Funding Supports (FCFS). However, these FTU are eligible for other funding services such as Mountain Resorts Branch (MRB) or Forest Enhancement Society BC (FESBC). These FTU are in numerical order, and order does not reflect level of priority. 108

Table 23. Community Wildfire Resilience Plan Action Table 109

Table of Figures

Figure 1. Sun Peaks Mountain Resort Municipality – Community Wildfire Resiliency Plan (CWRP) Area of Interest (AOI) 34

Figure 2. Permanent population projections at full build out, as per the Sun Peaks Draft OCP (August 2022)[13]. 36

Figure 3. Critical infrastructure and public services in Sun Peaks Mountain Resort Municipality. 38

Figure 4. Fuel management treatment unit (TU05-M), with approved prescription adjacent to the Sun Peaks Fire Hall. 39

Figure 5. High fuel hazard near the Fire Hall (Plot# 127) 39

Figure 6. Fire Hall (Sun Peaks OCP 2021). 39

Figure 7. Proposed fuel management treatment units TU38A-TU38D adjacent to the school. 40

Figure 8. High fuel hazard near the school (Plot# 89) 40

Figure 9. High fuel hazard near the school (Plot# 90). 40

Figure 10. Cellular communication tower near the top of Sundance chairlift at Sun Peaks. 42

Figure 11. Utility lines between Whitecroft and Sun Peaks are at risk of loss or damage in the event of a fire, due to proximity to vegetation, and the height of the vegetation. 43

Figure 12. Dead and leaning trees over the powerlines along Sun Peaks Rd. 43

Figure 13. Low fuel hazard near sewage facilities (Plot# 12) 44

Figure 14. Low fuel hazard near sewage facilities (Plot# 7). 44

Figure 15. Powerlines to sewage and water treatment facilities at Sun Peaks (Plot #16). 44

Figure 16. Powerlines to sewage and water treatment facilities at Sun Peaks (Plot #16). 44

Figure 17. Fortis propane tanks in a low-risk area and land clearing provides a fuel-break (Photo from the Sun Peaks OCP 2021). 45

Figure 18. High fuel hazard observed in the McGillvray Creek riparian management zone (Plot #82) 47

Figure 19. Old Growth Management Areas (OGMA), Old Growth Deferral Areas (OGDA), and riparian areas around Sun Peaks. ..... **Error! Bookmark not defined.**

Figure 20. Initial Spread Index (ISI) Rose for Cahilty weather station observations between 1996-2015. Monthly averages (left), and August hourly averages (right). Hourly averages are binned into periods of 6 hours (00:00-06:00, 06:00-12:00, 12:00-18:00, 18:00-24:00). 52

Figure 21. Rate of spread (m/min) and head fire intensity (kW/m) predicted for spruce/balsam forested stands (C-3) as a function of varying ground slope with zero windspeed assumed. The Fire Behaviour Prediction (FBP) component of the Canadian Forest Fire Danger Rating System (CFFDRS) was used via R package "cffdrs". From the nearest weather station, 90th percentile fire weather values were used in the FBP models (FFMC=91.5, BUI=100.6, 2014-2023). Fuel-types were determined by the Canadian Forest Fire Behavior Prediction (FBP) System: User's Guide 53

Figure 22. *Ground slope classification within the 1 km Wildland Urban Interface at Sun Peaks.* 54

Figure 23. Climate change projections of shifts in Biogeoclimatic Zones between 1961-2040. In order of increasing fire risk: Engelmann Spruce Subalpine Fir (ESSF), Montane Spruce (MS), Interior Cedar Hemlock (ICH), Interior Douglas-fir (IDF). 58

Figure 24. Provincial Strategic Threat Analysis (PSTA) – Wildfire Threat within Sun Peaks Mountain Resort Municipality's 1 km Wildland Urban Interface 59

Figure 25. Google Earth - View from Whitecroft to Sun Peaks. The McGillvray Creek drainage has wind-funneling topography that aligns with predominant wind direction combined with steep slopes and presents high wildfire risk for Sun Peaks. 64

Figure 26. Oblique aerial photo of McGillivray Creek drainage and Sun Peaks Rd., looking west from Whitecroft towards Sun Peaks. Continuous coniferous canopy cover, standing dead trees, and heavy fuel-loading and funneling terrain towards Sun Peaks (Photo taken: Sept. 11, 2024). 64

Figure 27. The fire triangle – interacting components that drive a wildfire. 66

Figure 28. Wildfire fuel hazard within 1 km WUI at Sun Peaks Mountain Resort Municipality. Hazard polygons were delineated via correlation with wildfire threat assessment plots and photo interpretation of aerial imagery. 68

Figure 29. Numerous private properties and strata have been observed with coniferous tree species being intentionally cultivated adjacent to buildings, which presents an unnecessary fire risk. 73

Figure 30. Infrastructure non-compliant with FireSmart. 73

Figure 31. Infrastructure non-compliant with FireSmart. 73

Figure 32. An example of a structure observed to be non-compliant with FireSmart guidelines. 74

Figure 33. Sun Peaks Resort LLP – Development Master Plan. Proposed development phases 2-4 are illustrated. Full map may be downloaded at the link in the footnotes. 78

Figure 34. Road washout at 37 km on McGillvray Lake FSR (Photo taken Sept 11, 2023) 88

Figure 36: Evacuation routes, distances, and time considerations as per the 2010 Sun Peaks Mountain Resort Evacuation Plan 89

Figure 36. FireSmart – Home Ignition Zone 94

Figure 37. Cumulative total fine particulate emissions (A: wildfires and understory prescribed burning, B: pile burning, C: combined) for each management scenario over a 100-year period for the Lake Tahoe West landscape (central line is the average, and ribbon is the standard deviation, calculated over three replicates for eight climate projections) (Long et al. 2022). 100

Glossary of Terms

AOI	Area of Interest
AOP	Annual Operating Plan
BCBC	British Columbia Building Code
BC	British Columbia
BCWS	British Columbia Wildfire Service
BEC	Biogeoclimatic Ecosystem Classification
CFFDRS	Canadian Forest Fire Danger Rating System
CFRC	Community FireSmart Resiliency Committee
CFS	Community Funding and Support
CI	Critical infrastructure
CLWRR	Crown Land Wildfire Risk Reduction
CIFFC	Canadian Interagency Forest Fire Centre
CRI	Community Resiliency Investment
CWRP	Community Wildfire Resiliency Plans
DP	Development Permit
DPA	Development Permit Area
EMCR	Emergency Management and Climate Readiness
EMP	Emergency Management Plan
EPA	Emergency Program Act
FBP	Fire Behaviour Prediction System
FCI	Forest Carbon Initiative
FCFS	FireSmart Community Funding and Supports
FESBC	Forest Enhancement Society of British Columbia
FESIMS	Forest Enhancement Society Information Management System
FMP	Fire Management Plan

FNESS	First Nations Emergency Services Society
FRPA	Forest & Range Practices Act
GIS	Geographic Information Systems
FSCCRP	FireSmart Canada Community Recognition Program
HIZ	Home Ignition Zone
HVRA	Hazard, Risk, and Vulnerability Analysis
HVRA	High Value Resources and Assets
LRMP	Land and Resource Management Plan
MOF	Ministry of Forests
MOTI	Ministry of Transportation and Infrastructure
PSOE	Provincial State of Emergency
PSTA	Provincial Strategic Threat Assessment
OCP	Official Community Plan
OFC	Office of the Fire Commissioner
RSWAP	Resource Sharing Wildfire Allocation Protocol
SARA	Species at Risk Act
SOLE	State of Local Emergency
SPU	Structure Protection Units
UBCM	Union of British Columbia Municipalities
VAR	Values at Risk
WRR	Wildfire Risk Reduction
WUI	Wildland-Urban Interface

Preface & Purpose

Community Wildfire Resiliency Plans (CWRPs) are the next generation of Community Wildfire Protection Plans (CWPPs). CWPPs were introduced in 2004 as part of the Strategic Wildfire Prevention Initiative and served as the primary wildfire risk reduction planning mechanism for British Columbia communities.

To better ensure that CWPPs consistently take a comprehensive approach toward wildfire, including risk reduction and resiliency measures, the BC Wildfire Service (BCWS) partnered with the BC FireSmart Committee to develop a new framework for Community Wildfire Resiliency Planning.

This CWRP provides recommendations for all seven (7) FireSmart Disciplines[1]:

- Education
    - Increase communities' capacity and understanding of wildfire risk
    - Develop achievable and accountable action items
- Legislation and Planning
    - Review municipal bylaws & plans and provide recommendations for improvement
- Development Considerations
    - Enhance communication and information sharing regarding new building developments
    - Incorporate new developments into fire mitigation and emergency response planning
- Interagency Cooperation
    - Foster greater collaboration across administrative boundaries
    - Establish relationships and human connections with counterparts in other agencies
    - Collaborate with neighbouring jurisdictions and agencies in emergency training
- Cross-Training
    - Prepare municipal staff for emergency response
    - Acquire necessary equipment to respond to disasters in both urban and forest settings
- Emergency Planning
    - Prepare for rapid implementation of emergency procedures
    - Maintain, rehearse, and advertise emergency evacuation routes
- Vegetation Management
    - FireSmart municipal and private properties
    - Recommended priority fuel-management treatment units

[1] Community Wildfire Resiliency Plan Instruction Guide (2020). Retrieved on Sep 22, 2023, from https://www.ubcm.ca/sites/default/files/2021-05/2021%20CWRP%20Supplemental%20Instruction%20Guide.pdf

1.0 Introduction

1.1 OVERVIEW

This Community Wildfire Resiliency Plan (CWRP) focuses on priorities within the 1 km Wildland Urban Interface (WUI) surrounding Sun Peaks Mountain Resort Municipality. This zone is where human development meets forested ecosystems, presenting fuel hazard and wildfire risk to the community. The proximity and severity of fires within the last decade demonstrate the urgent need for wildfire planning and mitigation. This CWRP focuses on the area of interest within 1 km radius of private property within the Municipality. A separate Wildland Urban Interface Wildfire Risk Reduction (WUI-WRR) Plan captures landscape-level objectives beyond the 1 km radius scope of this plan.

In 2021, the Embleton Mountain wildfire threatened nearby communities and burned with high intensity to within 4 km of Sun Peaks. This fire drew attention to the fuel-loading and extreme fire hazard within the drainage of McGillivray Creek. This drainage has been previously reserved as riparian area, but lack of disturbance in this drainage has created a continuous wick of fuel that presents an opportunity for fire to travel upslope into the community of Sun Peaks. This problem highlights the importance of collaboration on fuel-mitigation and planning with nearby jurisdictions at a landscape-level, as well as the importance of completion of a WUI-WRR plan.

Additionally, on August 17, 2023, the West Adams Lake and East Adams Lake fires merged, spread at unprecedented rates, destroyed homes in multiple communities, and burned with extreme intensity to within 8 km of Sun Peaks. During a cold front wind event, these fires exhibited rates of spread of approximately 1.7 km/h. During challenging fire seasons, BC Wildfire Service (BCWS) triages the priority of fires while resources can become scarce, and appropriate actions to protect communities are not guaranteed to happen. This extreme fire behaviour and losses from such fires seen across the province have emphasized the importance of wildfire mitigation at all scales.

It is essential to FireSmart values at risk, then manage the fuels outwards through and beyond the WUI, to landscape-level mitigation. However, wildfire resiliency also depends on strong local policies, emergency response planning, communication, training, and engagement in all seven (7) FireSmart disciplines.

History and sequence of wildfire planning & fuel-management at Sun Peaks

- 1990s – Sun Peaks Resort Corporation removed dead beetle-killed pine west of Sun Peaks
- 2008 – Initial overview assessment
- 2009 – Fuel-management above Whitecroft and along Sun Peaks Road
- 2010 – Sun Peaks Mountain Resort Municipality incorporated
- 2010s – Sun Peaks Resort Corporation removed beetle-killed Spruce east and NE of Sun Peaks.
- 2011 – First fuel-management begins within Sun Peaks wildland-urban-interface (WUI)
- 2014 – 1st Community Wildfire Protection Plan (CWPP) for Sun Peaks
- 2019 – 2nd CWPP for Sun Peaks
- 2024 – 1st Community Wildfire Resiliency Plan (CWRP) (to replace CWPP)

1.2 PLAN PURPOSE AND GOALS

This CWRP provides clear priorities and actionable recommendations intended to guide wildfire risk mitigation and FireSmart initiatives around Sun Peaks Mountain Resort Municipality (SPMRM). The purpose of this plan is to enhance the community's resiliency to wildfire by increasing public awareness, developing collaborative programs, improving relationships between public and partnering agencies, identifying priorities of risk, while improving fuel-reduction prescriptions and emergency response plans.

Goals of this CWRP include:

1. Identify and prioritize all values at risk of potential wildfires.
2. Identify wildfire hazards and threats within 1 km of municipal private property, including threats to buildings, transportation corridors, infrastructure, and utilities such as gas and electricity.
3. Identify areas for fuel-management treatments and provide prescription and treatment recommendations to reduce overall wildfire threats.
4. Adjusting vegetation management strategies to address the species composition, stand structure, and projected climate change that are inherent in subalpine ecosystems.
5. Identify opportunities to improve wildfire suppression access to the crown land surrounding the community.
6. Strengthening interagency and inter-departmental cooperation to better coordinate risk-reduction efforts between multiple stakeholders within Sun Peaks and with nearby communities.
7. Recommending continual wildfire suppression and emergency management cross-training exercises with agencies such as BC Wildfire Service (BCWS), Royal Canadian Mounted Police (RCMP), Emergency Management BC (EMBC), and Thompson Nicola Regional District (TNRD).
8. Establish a more robust program of FireSmart education amongst Municipality representatives, staff, residents, and tourists, and developing a municipality-led program to assist residents in performing mitigation activities.
9. Assessing current legislation, regulations, and community development plans as they relate to wildfire preparedness around Sun Peaks.
10. Assessing the current framework of emergency preparedness around Sun Peaks, and the robustness of pre-planning for small- and large-scale evacuations.

Managing for wildfire resilience is essential as Sun Peaks continues to grow in permanent population and tourism, land-use continues to change, and policy decisions continue to shape the community. Tied to the seven FireSmart Canada disciplines, this CWRP will focus on the following strategies to provide for the future resiliency of Sun Peaks.

1.3 CWRP DEVELOPMENT SUMMARY

Community Engagement

Representatives from Sun Peaks Mountain Resort Municipality, partnering agencies and members of the public within the community collectively form Sun Peak's Community FireSmart Resiliency Committee (CFRC). Sun Peaks CFRC includes the key planners and responders involved in Sun Peaks' local FireSmart initiatives, wildfire resiliency planning, and wildfire and emergency response management. Committee meetings and a public open-house event were essential in gathering input to this CWRP. Additionally, individuals in key roles were interviewed for specific information.

The CFRC was integral in the CWRP review process and approval. Information sharing took place with First Nations identified through the consultation area database regarding the locations of potential fuel treatments and to identify any potential cultural values at risk requiring protection.

Review of Existing Plans and Legislation

All municipal, regional, and provincial bylaws, policies, plans, and guidelines reviewed for relevancy to the CWRP are identified in *Section 2: Relationship to Other Plans and Legislation*. The *Official Community Plan* (OCP) was thoroughly reviewed.

Values at Risk & Wildfire Risk Assessment

Values at risk were identified through various sources, including: orthophotography interpretation, GIS analysis, community engagement, personal interviews, and information sharing with local First Nations.

Wildfire risk was determined through the provincial Wildfire Threat Assessment standard as per the Wildfire Threat Assessment Guide and Worksheets (2020)[2]. This method involved 119 field survey plots around the community. Fuel-types and forest structure were interpolated between sampling locations through a multilayered approach including physical observations, correlations in orthophotography and remotely sensed data, GIS analysis of past disturbances including previously fuel-treated areas and the year that they were treated, and GIS analysis of provincial spatial layers including fuel-type, Provincial Strategic Threat Analysis, and ecological and topographical layers. More details are explained in Section 4: Wildfire Risk Assessment. All plot data and calculations are listed in Appendix C – Threat Assessment Plots.

Action Plan

An effective action plan was developed for each section of this CWRP, while recommendations of the highest priority were included in the **Executive Summary**. Action items were recommended for a full range of activities relating to the seven FireSmart disciplines.

Mayor, council, municipal staff, the CFRC, and representatives from Sun Peaks Resort LLP should continue to meet multiple times per year, as needed, to coordinate the fulfillment of recommendations within this report. Discussion of these topics should not be limited to a select few. All circles should be discussing wildfire resiliency and sharing information to assist with decision-making, long-term planning, and emergency response.

[2] BC Wildfire Service (2020) Wildfire Threat Assessment Guide and Worksheets

2.0 Relationship to Other Plans and Legislation

2.1 PREVIOUS CWPP/CWRP

The 2019 *Community Wildfire Protection Plan* (CWPP) was reviewed as a baseline of information and progress. Municipal staff were interviewed regarding achievements or progress on past recommendations.

***Table 1**. Summary of CWPP Recommendations from the 2019 Sun Peaks CWPP3 and review of the Official Community Plan (OCP) and bylaws.*

2019 CWPP Objective	2019 CWPP Recommendation (Responsible Agency)	Actions Taken / Observations Between 2019-2024	Relevance to 2024 CWRP
Review values at risk in the community	Focus wildfire threat reduction work on communication and ski hill infrastructure in isolated locations. (All partners)	Urban development and growing population continually add to the values at risk.	Values at risk required professional identification and evaluation, as described in Section 3.3.
Review the CWPP document with the main involved agencies, Municipal Council, Sun Peaks Fire Rescue, SPMRM and SPRC.	Stakeholder Meeting (Municipality & Sun Peaks Resort LLP)	Annual meetings, establishment of Community Wildfire Resiliency Committee.	Improved collaboration and long-term planning between the Municipality and Sun Peaks Resort LLP is a key recommendation. The requirement of stakeholders to be actively reviewing and acting on these plans is echoed in this CWRP.
Continue to monitor the impacts of climate change and forest health to identify new challenges.	Ongoing professional forestry support for the Sun Peaks community. Constant monitoring of forest health challenges in the local ecosystems. (Municipality)	Municipality relies on professional consultation on a project-by-project basis, as well as reliance on Sun Peaks Resort LLP, and Mountain Resorts Branch.	Forest health issues add to fuel-hazard, which are addressed in Section 4 & Section 5.6.

[3] 2019 Sun Peaks Mountain Resort Municipality CWPP https://sunpeaks.civicweb.net/filepro/documents/34409/

2019 CWPP Objective	2019 CWPP Recommendation (Responsible Agency)	Actions Taken / Observations Between 2019-2024	Relevance to 2024 CWRP
Commit to annual fuel management activities in the Sun Peaks area and access road.	Implement CWPP. Annual grant applications from applicable programs. (Municipality)	Sun Peaks Fire Rescue continues to utilize Community Resiliency Investment - UBCM funded programs.	This CWRP includes new recommendations on locations and objectives of proposed treatment units in Section 5.6.
Continue commitment to address wildfire concerns with the community.	Support and follow through with the treatment recommendations in the CWPP. (Municipality)	Treatment Unit locations and recommended priorities have been followed.	This CWRP includes new recommendations on locations and objectives of proposed treatment units in Section 5.6.
FireSmart assessments of critical infrastructure.	Sun Peaks Fire Rescue to continue with Fire Smart education and assessments. (Sun Peaks Fire Rescue)	Sun Peaks Fire Rescue members have been trained as Local FireSmart representative(s). A consultant was contracted as s Wildfire Adviser and to lead the Community Fire Resiliency Committee (CFRC).	This CWRP addresses the need for increased assessment intensity and community FireSmart leadership in Section 5.
Continued fuel management work on crown land.	Address FireSmart issues in future Official Community Plan (OCP) updates. (Municipality)	As of Feb 2024, the OCP provides minimal FireSmart guidance, definitions, objectives, or action plans.	The 2021 OCP was reviewed, and recommendations were provided in this CWRP, Section 2.3.
FireSmart Construction and Landscaping	Sun Peaks Fire Rescue to continue with FireSmart education and assessments. (Sun Peaks Fire Rescue)	As of Feb 2024, newly constructed homes have been observed to have wooden siding and constructed with non-FireSmart materials. Coniferous trees are continually planted adjacent to buildings.	This CWRP includes recommendations for bylaws, municipal policy, and the OCP. This is not the sole responsibility of SPFR, but more for the Municipality and Sun Peaks Resort LLP. Section 2.3 & Section 2.4.
Include basic FireSmart standards in OCP.	Address FireSmart issues in future OCP updates. (Municipality)	As of Feb 2024, the OCP provides minimal FireSmart guidance, definitions, objectives, or action plans. A consultant was contracted as s Wildfire Adviser and to lead the Community Fire Resiliency Committee (CFRC).	The 2021 OCP was reviewed, and recommendations were provided in this CWRP, Section 2.3.

2019 CWPP Objective	2019 CWPP Recommendation (Responsible Agency)	Actions Taken / Observations Between 2019-2024	Relevance to 2024 CWRP
Coordinate wildfire threat reduction projects with the SPRC.	Continue working relationship between the SPMRM and SPRC. (Municipality & Sun Peaks Resort LLP)	There is room for improvement in the collaboration between Municipality and Sun Peaks Resort LLP. For example, new cul-de-sacs are too narrow for fire engines to turn around.	The dynamics of the Controlled Recreation Area, Sun Peaks Resort LLP, and municipality present many opportunities for collaborative projects addressed in this CWRP.
Wildfire suppression equipment and training	Continue with wildfire suppression training for the Sun Peaks Fire Rescue. Request training opportunities with BCWS higher level fire courses. (Sun Peaks Fire Rescue)	Equipment has been purchased with CRI grant funding, including structure protection units, pumps, and hose. Sun Peaks Resort LLP crews have been certified in: • S-100 Basic Fire Suppression and Safety • S-185 Fire Entrapment Avoidance & Safety Sun Peaks Fire Rescue crews have been certified to WSPP-WFF1	This CWRP includes recommendations for more frequent and purposeful inter-agency cross-training exercises, with agencies such as Sun Peaks Resort LLP, BCWS, TNRD, neighbouring fire departments, and local First Nations communities. Section 5.4.
Enhance local wildfire suppression capacity.	Annual cross-training with SPRC and BCWS Kamloops Fire Zone staff. (Sun Peaks Fire Rescue)	Inter-agency cross-training opportunities, with mock-fire or emergency rehearsals are infrequent to rare.	This CWRP includes recommendations for improved inter-agency communication. As well as for more frequent and purposeful inter-agency cross-training exercises, with agencies such as Sun Peaks Resort LLP, BCWS, TNRD, neighbouring fire departments, and local First Nations communities. Section 5.4.

2.2 LOCAL AUTHORITY EMERGENCY PLAN

Sun Peaks Mountain Resort Municipality has updated a webpage on their municipal website for *Emergency Preparedness*[4]. The most recent Evacuation Plan (March 2024) can be found on this webpage.

A previous publicly available version of Sun Peaks Mountain Resort Evacuation Plan (2010)[5] was also reviewed and relevant information was included in this CWRP. More details in Section 5.

Community Engagement for Emergency Planning

On January 12, 2024, the Municipality received a letter from the Assistant Deputy Minister of the Ministry of Emergency Management and Climate Readiness, offering funding in the form of a contribution agreement through the *Indigenous Engagement Requirements Funding Program*, for engagement with Indigenous communities regarding the newly implemented Emergency and Disaster Management Act[6].

Members of local Indigenous communities attended the Open House hosted in conjunction with development of this CWRP. Collaboration and partnerships with local Indigenous communities are essential to successful emergency planning and disaster mitigation for all communities. Continued community engagement is recommended throughout this CWRP.

[4] Sun Peaks Mountain Resort Municipality – Emergency Preparedness https://sunpeaksmunicipality.ca/public-safety/emergency-preparedness

[5] Sun Peaks Evacuation Plan (2010) https://tnrd.civicweb.net/document/4986/

[6] Letter from Deputy Minister (pg 94) https://sunpeaks.civicweb.net/filepro/document/41217/Regular%20Council%20-%2023%20Jan%202024%20-%20Agenda%20-%20Pdf.pdf

2.3 OFFICIAL COMMUNITY PLAN (OCP)

The 2021 Official Community Plan (OCP) was reviewed for linkages to this 2024 CWRP. The Municipality is currently drafting an OCP update that will shape urban growth, land-use, and policies within the community.

Table 2. *Linkages between the 2021 Official Community Plan (OCP) and 2022 Draft OCP Visions and 2024 Community Wildfire Resiliency Plan (CWRP).*

OCP Visions	Relationship to CWRP
2.2.2 Environment Be stewards of the natural environment by conserving and managing sensitive ecosystems, riparian areas, natural flora and fauna and protecting the quality of the water and air within the community.	Fuel-management not only reduces wildfire risk to health and safety of the public, property, and infrastructure, but fuel-treatments are being designed to improve or maintain ecological functions. Fuel-treatments should be prescribed to improve the resistance and resilience of forests to natural disturbances, such as wildfire and insects. More details in Section 5.
2.2.5 Housing Support the development of diverse housing types that meet the needs of residents, visitors, and employees of local businesses.	Area Structure Plans are long-range planning documents that provide direction for development. Area Structure Plans are tools SPMRM and SPRLLP can use to influence the course of development in the wildland urban interface. Knowledge of future developments can improve efficacy and efficiency of fuel-management prescriptions and landscape-level plans. More details in Section 5.
2.2.7 Connectivity and Walkability Where possible ensure all accommodations are within comfortable walking distance of key attractions and services such as commercial amenities, chairlifts, and resort facilities.	Road networks in suburban and forested areas should be designed to allow for multiple points of access/egress to facilitate safe emergency response, fire suppression, medical assistance, and to support emergency evacuations. Emergency response and evacuation planning are two key components of effective community wildfire resilience planning. More details in Section 5.
2.2.8 First Nations Enhance existing relationships with our First Nations neighbours to identify and facilitate opportunities to work together, including celebrations of First Nations culture.	In 2019, the Province of B.C. adopted the Declaration on the Rights of Indigenous Peoples Act. This OCP Vision supports collaboration with neighbouring First Nations Bands, while recognizing documents such as Calls to Action from the Truth and Reconciliation Commission and the United Nations Declaration of the Rights of Indigenous Peoples (UNDRIP). Information sharing, collaboration, and cooperation with First Nations is supported by FireSmart interagency cooperation. Interagency Cooperation is one of the seven FireSmart disciplines. More details in Section 5.

Table 3. *Linkages between the 2021 Official Community Plan (OCP) and 2022 Draft OCP Policies and 2024 Community Wildfire Resiliency Plan (CWRP).*

OCP Policies	Relationship to CWRP
4.1.7 - Encourage all development at Sun Peaks to be constructed to a high standard of quality and craftsmanship. Building architecture, including signage, lighting, sidewalks and landscaping, shall be respectful of and complement the mountain setting; **4.1.8** - Ensure that building densities and design respect and complement the natural mountain environment, social values and infrastructure capacity; **4.1.9** - Acknowledge SPRLLP's use of statutory building schemes to apply design guidelines to future development parcels to ensure that new development continues to reflect the high standards of quality and craftsmanship that have been established throughout the Municipality;	Continuous urban development is the leading source of values at risk. This CWRP makes multiple recommendations for improved cooperation and collaboration between the Municipality and Sun Peaks Resort LLP. The dynamics of the Controlled Recreation Area, Sun Peaks Resort LLP, and municipality present many opportunities for collaborative initiatives addressed in this CWRP. Community design requires thoughtful understanding of wildfire behaviour. For example, perimeter interface developments are more fire resistant than intermixed developments. Fire resistance and resiliency, as well as human safety, should be prioritized in building and landscape designs and materials over aesthetics. More details in Section 5. It is highly recommended that municipal staff incorporate FireSmart guidelines and definitions into municipal policies and bylaws. More details in Sections 5.2 - 5.3
4.1.11 - Recognize the need for wildfire risk reduction measures within and adjacent to developed areas that may require tree removal, tree thinning and landscape alterations;	This CWRP includes new recommendations on locations and objectives of proposed treatment units in Section 5.6. It is recommended that the Municipality not only recognize the need for fuel-management, but actively collaborate with Sun Peaks Resort LLP on timing of new developments and required fuel-management. Stakeholders should also be coordinating any timber harvesting/thinning with fuel-management activities, such as ski run development, glading, or housing development. The Municipality and Sun Peaks Resort LLP should be actively reviewing all mitigation plans, such as this CWRP, assigning roles and responsibilities to act on recommendations, and following through on all action items.
6.1-6.2 – Environmental Management and Hazardous Lands	Wildfire Development Permit areas may be considered. More details in Section 5.
5.4.1 - Review and maintain the SPMRM All Hazards Emergency Management Plan to identify high-risk	It is highly recommended to designate a municipal role and responsibility to the storage and organization of spatial data. More details in Section 5.5.2.

OCP Policies	Relationship to CWRP
facilities or situations in the community and to plan for a coordinated emergency response;	
5.4.2 - Recognize the need for wildfire risk reduction measures within and adjacent to developed areas that may require tree removal, tree thinning, and landscape alterations. **6.1.7 -** Continue to minimize the threat of forest fires to the greatest extent possible.	It is recommended that the Municipality, not only recognize the need for fuel-management, but actively collaborate with Sun Peaks Resort LLP on timing of new developments and required fuel-management. Stakeholders should also be coordinating any timber harvesting/thinning with fuel-management activities, such as ski run development, glading, or housing development.
5.4.3 - Support the continued use of statutory building schemes prohibiting the use of highly flammable building materials; **5.4.4 -** Support the preparation of a Resort Fire Prevention Plan, which addresses several scenarios regarding prevention, control, emergency egress, and fuel management; **5.4.5 -** Support the development of a FireSmart educational program for resort guests, owners, and staff, supported by interpretive signage and integrated with the trail network; **5.4.6 -** Support the implementation of the recommendations in the FireSmart manual by all property owners and developers;	This CWRP makes multiple recommendations for improved cooperation and collaboration between the Municipality and Sun Peaks Resort LLP. The dynamics of the Controlled Recreation Area, Sun Peaks Resort LLP, and municipality present many opportunities for collaborative initiatives addressed in this CWRP. This CWRP addresses the need for increased assessment intensity and community FireSmart leadership in Section 5. Fire resistance and resiliency, as well as human safety, should be prioritized in building and landscape designs and materials over aesthetics. More details in Section 5. This CWRP includes recommendations for bylaws, municipal policy, and the OCP. This is not the sole responsibility of SPFR, but more for the Municipality and Sun Peaks Resort LLP. Section 2.3 & Section 2.4.
6.1.8 - Encourage the adoption and implementation of Fire Smart principles and wildfire mitigation measures by property owners, resort guests, and building contractors;	This CWRP includes recommendations for bylaws, municipal policy, and the OCP. This is not the sole responsibility of SPFR, but more for the Municipality and Sun Peaks Resort LLP. Section 2.3 & Section 2.4.
6.1.9 - Implement the SPMRM Community Wildfire Protection Plan, including forest fuel management and	It is recommended that the Municipality, not only recognize the need for fuel-management, but actively collaborate with Sun Peaks Resort LLP on timing of new developments and required fuel-management.

OCP Policies	Relationship to CWRP
interface risk reduction to manage risks associated with potential fire threats from outside the municipal boundary;	Stakeholders should also be coordinating any timber harvesting/thinning with fuel-management activities, such as ski run development, glading, or housing development.
6.1.11 - Respect ranchers' grazing licenses and historic rights by maintaining access corridors for livestock grazing;	Grazing is a form of vegetation management that reduces fine fuels, such as grass and herbs. Targeted grazing in areas of high grass fuel-loading could be beneficial.
6.2.8 - Discourage the clearing of land or extensive removal of vegetation on the open space lands within the Municipality as the forested land provides a natural carbon sink;	It is recommended that the Municipality, not only recognize the need for fuel-management, but actively collaborate with Sun Peaks Resort LLP on timing of new developments and required fuel-management. Stakeholders should also be coordinating any timber harvesting/thinning with fuel-management activities, such as ski run development, glading, or housing development.

***Table 4**. Linkages between the 2021 Official Community Plan (OCP) and 2022 Draft OCP Objectives and 2024 Community Wildfire Resiliency Plan (CWRP)*

OCP Objectives	Relationship to CWRP
4.4.2 - Support the continued expansion and development of community parks, recreational facilities and programs	Functional fuel-breaks are low fuel-hazard spaces that have social or economic function within the community, such as sports fields, golf courses, parking lots, ski runs, roads, etc. It is recommended to design functional fuel-breaks on the outer perimeter of the community to protect from approaching wildfires. More details in Section 5.
4.4.5 - Ensure that an open space network flows throughout the Municipality	The coniferous tree species around Sun Peaks are highly flammable, with low hanging branches. It is recommended to not plant coniferous species within the municipality. Any forested areas should be thinned and pruned, and surface fuels cleaned up. This CWRP includes recommendations for bylaws, municipal policy, and the OCP. This is not the sole responsibility of SPFR, but more for the Municipality and Sun Peaks Resort LLP. Section 2.3 & Section 2.4.
4.4.6 - Support the expansion and development of the multi-use trail network throughout the Municipality. **4.5.1 -** Recognize the importance of open space to promote	Road networks in suburban and forested areas should be designed to allow for multiple points of access/egress to facilitate safe emergency response, fire suppression, medical assistance, and to

biodiversity and enhance the alpine experience; **4.5.5** - Provide non-motorized, environmentally friendly access to many of the open space areas. **5.2.2** - Provide integrated, multi-modal transportation options that provide linkages throughout the community including multi-use pathways, trails, sidewalks, and roads;	support emergency evacuations. Emergency response and evacuation planning are two key components of effective community wildfire resilience planning. More details are in Section 5.3.
4.5.3 - Preserve and protect sensitive wildlife habitat and environmentally sensitive and unique natural areas;	Ecological and environmental values are outlined in Section 3.
6.2.2 - Minimize greenhouse gas emissions where possible; **6.2.3** - Minimize smoke and other air pollutants within Sun Peaks.	Smoke from pile-burning activities associated with fuel-management has been found to be significantly less than smoke from potential wildfires. Pile-burning is the most cost-effective method for debris disposal following fuel-management. More details in Section 5.
7.1-7.2 – Development Permits	It is recommended to consider Wildfire Development Permit Areas. Additionally, there has been substantial urban development adjacent to riparian areas. Although this development has aligned with provincial legislation and guidelines regarding adequate buffers and riparian reserves, these riparian areas now pose a high wildfire risk to adjacent structures, and it is challenging to conduct fuel-management in riparian reserves. It is recommended to extend riparian buffers for new development, to account for wildfire risk and fuel-management. More details in Section 5.

2.4 LOCAL BYLAWS

Local bylaws were reviewed, and their relevancy or recommendations are in (**Table 5**).

Table 5. *Linkages between Sun Peaks Mountain Resort Municipality Bylaws and 2024 Community Wildfire Resiliency Plan (CWRP).*

Local Bylaw	Relationship to CWRP
Bylaw 0007 – Fire Life Safety Part 5 – 5.2 Part 10 – 10.3f	There is language in this bylaw around "removal of fire hazards" which provides an avenue for enforcement of some FireSmart guidelines. It is recommended to add or amend bylaws to allow for efficient enforcement of FireSmart Principles, while citing clear definitions and guidelines that align with FireSmart principles. Part 10.3f may be amended to reflect current BC Open Burning and Smoke Control Regulations (OBSCR). More FireSmart details in Section 5.
Bylaw 0034 – Official Community Plan **Bylaw 0035** – Development Procedures	Visions, Policies, and Objectives of the OCP were reviewed in the previous section. Fire resistance and resiliency, as well as human safety, should be prioritized in building and landscape designs and materials over aesthetics. Deciduous species should be preferred over coniferous, particularly within 3m of buildings. Fire resistant species should be preferred over highly flammable species. More details in Section 5. It is recommended that municipal staff continue to incorporate FireSmart guidelines and definitions into municipal policies and bylaws, particularly in regard to new developments, building construction, and renovations. More details in Sections 5.2 - 5.3 This CWRP makes multiple recommendations for improved cooperation and collaboration between the Municipality and Sun Peaks Resort LLP. The dynamics of the Controlled Recreation Area, Sun Peaks Resort LLP, and municipality present many opportunities for collaborative initiatives addressed in this CWRP.
Landscape Design Guidelines	*Landscape Design Guidelines* were implemented in 2021, developed with the 2019 CRI funding. More details in Section 5.
Bylaw 0043 – Unsightly Premises	This bylaw includes language of "fire hazard" which provides an avenue for enforcement of some FireSmart guidelines. Bylaw 0007 may be sufficient. It is recommended to add or amend bylaws to allow for efficient enforcement of FireSmart Principles, which are explained in Section 5.

Local Bylaw	Relationship to CWRP
Bylaw 0121 – Smoking and Vaping	Burning materials always present a risk of unwanted fire. Smoking prohibitions align with fire mitigation strategies.
Bylaw 0209 – Building Regulations	Bylaw No. 0209, 2023 was implemented in 2023, which replaced Bylaw 2066 from TNRD. This is a bylaw to regulate the construction, alteration, repair, moving and demolition of buildings and structures. This bylaw includes clauses to reduce severity of structural fires, while improving conditions for structural fire suppression. Additionally, this bylaw requires permitting for construction of new structures and prohibits wood-fuelled appliances. This bylaw does not include any wording consistent with FireSmart guidelines for prevention of wildfire damage or spread to the property or structures (i.e. siding or roofing materials, eavestrough design, fuel storage, etc). More details in Section 5. It is recommended to incorporate well-defined FireSmart and fuel-management principles into the process of new developments within the CRA. It is recommended to require and enforce FireSmart construction and landscaping. It is recommended to improve coordination between the Municipality and Sun Peaks Resort LLP regarding the development process, covenants, permits, and building inspections. Definitions of FireSmart principles are recommended to align with current provincial guidelines and may require periodic updates. Fire resistance and resiliency, as well as human safety, should be prioritized in building and landscape designs and materials over aesthetics. More details in Section 5.

2.5 HIGHER LEVEL PLANS

The Sun Peaks Mountain Resort Municipality boundary exactly matches the Controlled Recreation Area (CRA). The Ministry of Tourism, Arts, Culture and Sport – Mountain Resorts Branch – is the current land manager of Crown land in the surrounding CRA. Other than key municipal buildings, there is virtually no "municipal" land at Sun Peaks. All open-space, roads, and land that is not privately owned by residents is Crown land managed by Mountain Resorts Branch.

The crown land is managed under the Forest and Range Practices Act (FRPA), Forest Planning and Practices Regulation (FPPR) and numerous other relevant provincial Acts and Regulations. These acts and regulations are adhered to by forest professionals during the prescription phase of fuel-management. During the delineation of treatment units, FRPA and FPPR were referenced for guidance on ecological objectives, such as old growth deferral areas and riparian features.

Sun Peaks Resort Master Plan Update (2020)[7] was reviewed and there was zero mention of "wildfire", "FireSmart", "fuel-management", "risk", "mitigation", or "safety".

Additional web searching and communications provided zero results for any strategic or business plans from Sun Peaks Resort LLP. The dynamics of the Controlled Recreation Area, Sun Peaks Resort LLP, and Municipality present many opportunities for collaborative projects addressed in this CWRP.

Not only homes and human life are at risk of wildfire, but the forested landscape on which the resort depends is also at risk of loss or damage. It is recommended that Sun Peaks Resort LLP and their investors incorporate wildfire risk awareness and mitigation into strategic corporate and business plans, for long-term investment security.

Table 6. *Linkages between the Higher-Level Plans and 2024 Community Wildfire Resiliency Plan (CWRP).*

Plan/Legislation	Relationship to CWRP
Kamloops Land Resource Management Plan (LRMP)	The Kamloops LRMP echoes objectives of the Forest and Ranges Practices Act, with additional objectives defined for biodiversity, wildlife, and other ecological values. The delineation of Old Growth Management Areas outside of the CRA was done through this land-use planning.
Open Burning Smoke Control Regulation (OBSCR)	OBSCR has been updated in recent years to provide special conditions for open burning under a plan for community wildfire risk reduction. When burning under an approved WRR framework, the setbacks for open burning have been relaxed. The Municipality may wish to update Bylaw 0007-10.3f to align with OBSCR, and allow for potential changes OBCSR may make.
Sun Peaks Master Plan	There was zero mention of "wildfire", "risk", "mitigation", or "prevention" in the Master Plan. It is recommended to incorporate awareness of wildfire risk, as well as FireSmart and fuel-management principles into the Master Plan.

[7] Sun Peaks Resort – Master Plan 2020 Update
https://www.sunpeaksresort.com/sites/default/files/sun_peaks_master_plan_update_2020-_text.pdf

2.6 PROVINCIAL LEGISLATION

Legislation and Regulation can be a very effective tool for reducing wildfire risk on provincial crown lands and within the administrative boundaries of a local government. Provincial acts and regulations provide the means for local governments to implement wildfire risk reduction actions through bylaws.

Wildfire prevention is a community effort. It starts with proven FireSmart practices for land-planning and building legislation that focuses on fire safety. This includes the development of policy and legislation related to forestry management practices; integrated land use planning; compliance and enforcement programs; and legal orders.

While not exhaustive, the following is a summary of key provincial and federal acts and regulations that have been considered in the CWRP planning process and should be reviewed through implementation measures undertaken as a result of this CWRP.

1. **Emergency and Disaster Management Act 2023**

Bill 31 – Emergency and Disaster Management Act – replaced the BC Emergency Program Act on November 8, 2023.

Purposes of this act include:

- Accounting for all four phases of emergency management: mitigation, preparation, response, and recovery.
- Streamlining duties and responsibilities of provincial government, ministries, public sector agencies, and local authorities.
- To facilitate consultation and agreements with Indigenous peoples
- To clarify the roles and responsibilities of critical infrastructure owners

2. **BC Open Burning and Smoke Control Regulations (OBSCR)**

The OBSCR governs the burning of vegetative material associated with a range of activities, such as land clearing, forestry operations and agriculture. It sets out the conditions under which open burning of vegetative debris can be authorized. The regulation aims to ensure that open burning is conducted with minimal risk to air quality.

3. **BC Wildfire Act and Wildfire Regulations**

The Wildfire Act and Wildfire Regulation define the legal responsibilities and obligations to which everyone in British Columbia is subject. When the BC Wildfire Service places bans or restrictions in an area, the Wildfire Act and Regulation makes them enforceable. Its key goal is to specify responsibilities and obligations on fire use, wildfire prevention, wildfire control, and rehabilitation.

4. **BC Forest & Range Practices Act (FRPA)**

The FRPA outlines how all forest and range practices and resource-based activities are to be conducted on Crown land in B.C., while ensuring protection of everything in and on them, such as plants, animals and ecosystems. FRPA standards and requirements ensure high levels of protection for resource values while streamlining planning processes for both government and industry.

5. **Professional Governance Act**

The Professional Governance Act is intended to provide a consistent framework for governance of self-regulated professions, and to ensure those professions are regulated to protect the public interest. The act sets out parameters for a number of regulators, including forest professionals, agrologists and biologists. The FCFS program requires that all activities that fall under the practice of forestry (including WRR activities), be developed, and where applicable signed/sealed by a forest professional who is accredited by the Association of BC Forest Professionals and operating within their scope of practice.

6. **Canada Federal Fisheries Act**

The Federal Fisheries Act applies to fish and fish habitat associated with freshwater rivers, streams, creeks and ditches as well as seasonally wet habitat, such as flood plains and intermittent streams. The Act prohibits any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat. The removal of vegetation, including shrubs and trees in areas that can affect fish habitat fall within the legal reach of the Federal Fisheries Act. By-law, DPA requirements and vegetation management are the primary WRR activities that could be under the legal requirements of the Federal Fisheries Act.

7. **Canada Federal Species at Risk Act**

The purpose of the Species at Risk Act (SARA) is to prevent wildlife species in Canada from disappearing and to provide for the recovery of wildlife species that are impacted as a result of human activity and prevent other species from becoming endangered or threatened. Bylaw implementation, development permit areas requirements and vegetation management planning must consider the requirements and prohibitions of the SARA.

8. **Canada Migratory Bird Convention Act**

The Migratory Bird Act implements a convention for the protection of migratory birds in Canada and the United States. The Act protects and conserves migratory bird populations and their nests.

Additional information about specific legislation is available at the following links:

- Emergency and Disaster Management Act
- BC Local Government Act
- BC Open Burning and Smoke Control Regulations
- BC Wildfire Act and Regulations
- Forest and Range Practices Act
- Professional Governance Act
- Fisheries Act
- Species at Risk Act
- Migratory Birds Convention Act

3.0 Community Description

3.1 AREA OF INTEREST

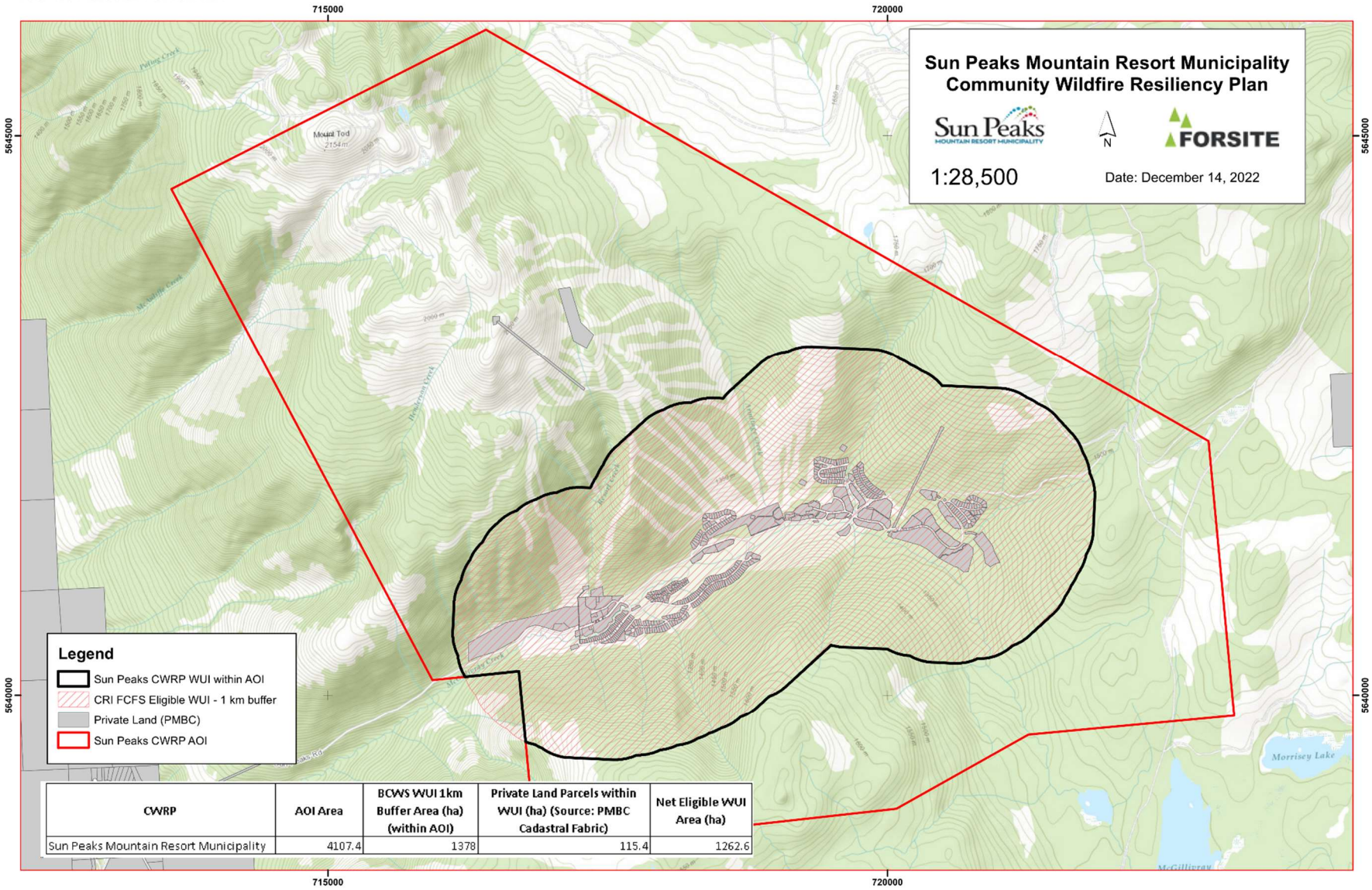
Sun Peaks Mountain Resort Municipality is the village at the heart of the well-known ski destination, Sun Peaks Resort. The terrain is diverse and spread across three mountains - Mt. Tod, Sundance and Mt. Morrisey - totaling 1730 hectares. The resort has developed into a year-round community, at the center of which is a ski-through village including hotels, condos, restaurants and shops. Over 135 alpine ski runs and over 34 km of Nordic skiing trails flow into the village from all directions.

The Area of Interest (AOI) describes the study area where most of the human population and other values at risk are located (**Figure 1**). The CRI program provides guidance for defining the AOI, which varies depending on the type of local government (e.g., municipality versus a regional district) and structure density. For purposes of this Community Wildfire Resiliency Plan (CWRP), the AOI was established as the municipal lands located within the boundary of Sun Peaks Controlled Recreation Area (CRA).

During the time this CWRP was developed, Sun Peaks Mountain Resort needed a plan of much wider scope to address the high wildfire risk surrounding their community. Foresters, wildfire experts, municipal council and residents believed the 1 km Wildland Urban Interface (WUI) boundary did not capture all critical infrastructure, communication structures, and utilities on which the community depends on. This 1 km WUI also did not capture areas presenting high wildfire risk to the community, considering terrain, predominant wind direction, spotting potential, and evacuation routes. Therefore, it was decided to recommend several fuel-management treatment units immediately outside of the 1 km WUI, following extensive review of:

- All existing community and emergency plans
- Previous Community Wildfire Protection Plans
- Values at risk, including critical infrastructure, communication structures, and utilities
- Historical wildfire behaviour and severity within 10 km radius
- Concerns, comments, and input gathered during open-house sessions

It is well understood that proposed prescriptions and treatments outside of the 1 km WUI are currently not eligible for funding under the Community Resiliency Investment (CRI) FireSmart Community Funding and Supports (FCFS). However, these units address areas of high wildfire risk and priority. Treatment areas outside of the 1 km WUI are eligible for Wildfire Risk Reduction (WRR) funding under other provincial agencies, including: Ministry of Forests – Wildfire Risk Reduction (MoF-WRR), Mountain Resorts Branch (MRB), and Forest Enhancement Society B.C (FESBC). Although not supported by FCFS, it is recommended that these areas receive further assessment and fuel-management planning.



CWRP	AOI Area	BCWS WUI 1km Buffer Area (ha) (within AOI)	Private Land Parcels within WUI (ha) (Source: PMBC Cadastral Fabric)	Net Eligible WUI Area (ha)
Sun Peaks Mountain Resort Municipality	4107.4	1378	115.4	1262.6

Figure 1. Sun Peaks Mountain Resort Municipality – Community Wildfire Resiliency Plan (CWRP) Area of Interest (AOI)

3.2 WILDLAND URBAN INTERFACE

The BC Wildfire Service defines the Wildland Urban Interface (WUI) as "any area where combustible forest fuel is found adjacent to homes, farm structures or other outbuildings. This may occur at the interface, where development and forest fuel (vegetation) meet at a well-defined boundary, or in the intermix, where development and forest fuel intermingle with no clearly defined boundary"[8]. The Provincial Strategic Threat Analysis (PSTA), Wildland Urban Interface (WUI), and WUI risk class maps and data have been obtained from the BCWS through the BC Data Catalogue[9]. The WUI polygons are different from the AOI, as they were created by buffering the structure density class greater than six by a two-kilometer buffer, which represents a reasonable distance that embers can travel from a wildfire to ignite a structure.

The FireSmart Community Funding & Supports program (FCFS) defines the 'eligible WUI' is as a **maximum of one kilometer from the structure density class greater than 6**. For the purposes of receiving funding under the FCFS for action items within this CWRP, the WUI areas within the Sun Peaks Mountain Resort Municipality were delineated based on the eligible WUI definition[10].

3.3 COMMUNITY INFORMATION

Indigenous History

Sun Peaks is located in a larger historical region whose original Indigenous inhabitants were the Secwepémc. The Secwépemc peoples have been venturing to Swelkwek'welt, known today as Sun Peaks, to hunt and gather, develop traditional medicines, and for spiritual training and ceremonies for over 8,000 years.

Three neighbouring communities are actively engaged in stewardship of the area: Sexqeltqín (Adams Lake), Sk'atsin (Neskonlith) and Qw7ewt (Little Shuswap) bands. Sk'atsin and Sexqeltqín Indian Bands have documented and mapped traditional-use sites for fishing, harvesting, hunting and cultural uses in the Skwelkwek'welt area[11]. Many other Secwépemc peoples also have history in the area.

Demographics

Sun Peaks Mountain Resort Municipality is quickly expanding in resident population and tourism. There are now over 1400 permanent residents. Of the over 1500 private dwellings, only 622 were reported to be permanently occupied by residents. The majority of dwellings are owned by absentee landowners, or occupied by tenants or short-term guests.

The average property value was assessed at $1.6 million in 2023, while the average condo price was estimated at $758,000 (**Table 7**). There is estimated to be approximately $1.5 billion in residential property assets alone.

The permanent resident population is expected to expand beyond 2,100 individuals by 2035, with potential to expand to 4,500 by 2051[12]. The expanding number of lives and properties at risk emphasize the need for full engagement in wildfire mitigation initiatives within and around the community.

[8] Wildland Urban Interface Risk Class Maps. BC Wildfire Service
[9] Fire and Fuel Management. BC Wildfire Service.
[10] FireSmart Community Funding and Supports.
[11] Skelkwek'welt http://www.firstnations.de/development/secwepemc-skwelkwekwelt.htm
[12] BC Assessment 2023. Retrieved from https://www.bcassessment.ca/

Table 7. *Sun Peaks demographics from 2021 Census[13].*

	2021 Census
Total Land Area (sq. km)	40.85
Total Permanent Population	1404
Population 0-14 years	235 (16.7 %)
Population 15-64 years	1005 (71.5 %)
Population 65+ years	170 (12.1 %)
Population Density (people per sq. km)	34.4
Median Age (years)	40
Total Private Dwellings	1506
Dwellings Occupied by Usual Residents	622
Dwellings Rented	884
Occupied - Single-detached houses	105 (16.9 %)
Occupied - Semi-detached houses	30 (2.0 %)
Occupied - Row houses / Townhouses	110 (7.3 %)
Occupied - Apartments	290 (19.3 %)
Occupied - Duplexes	85 (5.6 %)
Average Property Value[13]	$1.6 million
Average Townhouse/Condo Value	$758,000
Median total household income	$84,000

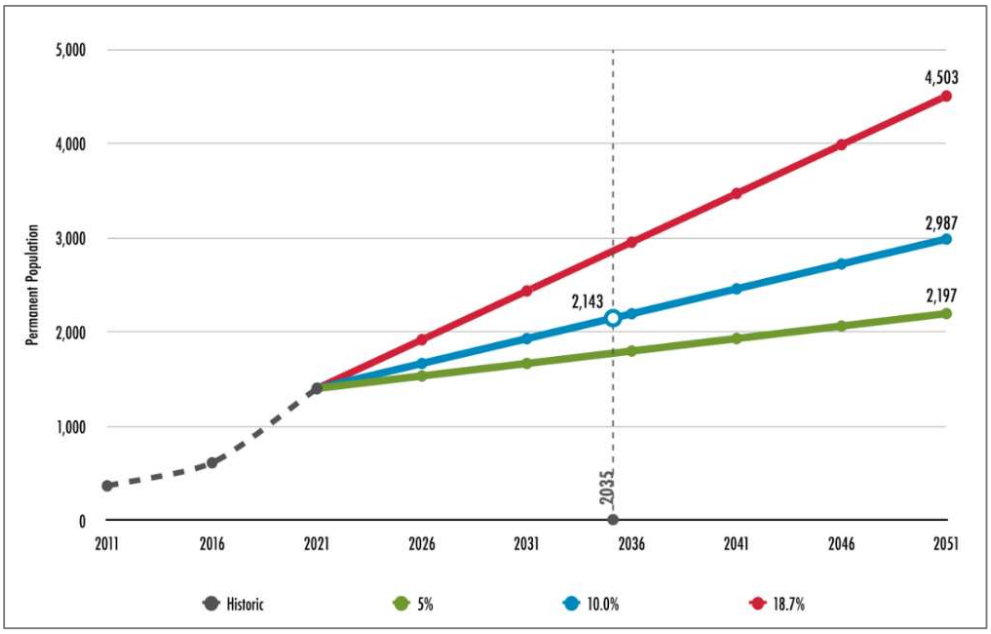


Figure 2. *Permanent population projections at full build out, as per the Sun Peaks Draft OCP (August 2022)[13].*

[13] BC Assessment 2023. Retrieved from https://www.bcassessment.ca/

3.4 VALUES AT RISK

Community wildfire resilience involves the ability to both withstand an active wildfire and quickly recover in the event a wildfire comes into the community. Improvement of community wildfire resiliency begins with the safety and well-being of residents, tourists, staff, and guests with FireSmart homes, buildings, and public spaces. This focus can then expand outwards to focus on neighbourhoods and the community as a whole. Numerous efforts are required at varying levels of scale in order to build this resilience.

3.4.1 Critical Infrastructure

Critical infrastructure is defined as assets essential for the functioning of government and society, primarily, water, food, transportation, health, energy and utilities, safety, telecommunications and information technology, government, finance, education, and manufacturing. Within municipal boundaries, critical infrastructure provides essential services to the community on a day-to-day basis and during emergency situations. Some of these assets become essential during emergencies, such as communications towers and fire halls. Protection of critical infrastructure and values at risk during a wildfire event is an important consideration for emergency response effectiveness, ensuring that coordinated evacuation can occur if necessary and that essential services can be maintained or restored quickly in an emergency.

Critical infrastructure inventoried at Sun Peaks includes:

- Fire Hall
- Health Centre
- Powerlines (inside and outside of 1 km WUI)
- Cellular communication tower (outside of 1 km WUI)
- Water treatment
- Two schools: Sun Peaks Academy & School District No.73 K-9.
- Daycare
- Lookout Pump Station
- Municipal maintenance building
- Municipality Office
- Fortis Propane Tanks
- Water Reservoirs (outside of 1 km WUI)
- Creekside pump station
- Lookout pump station
- Sun Peaks Centre
- Skating rink
- The Annex

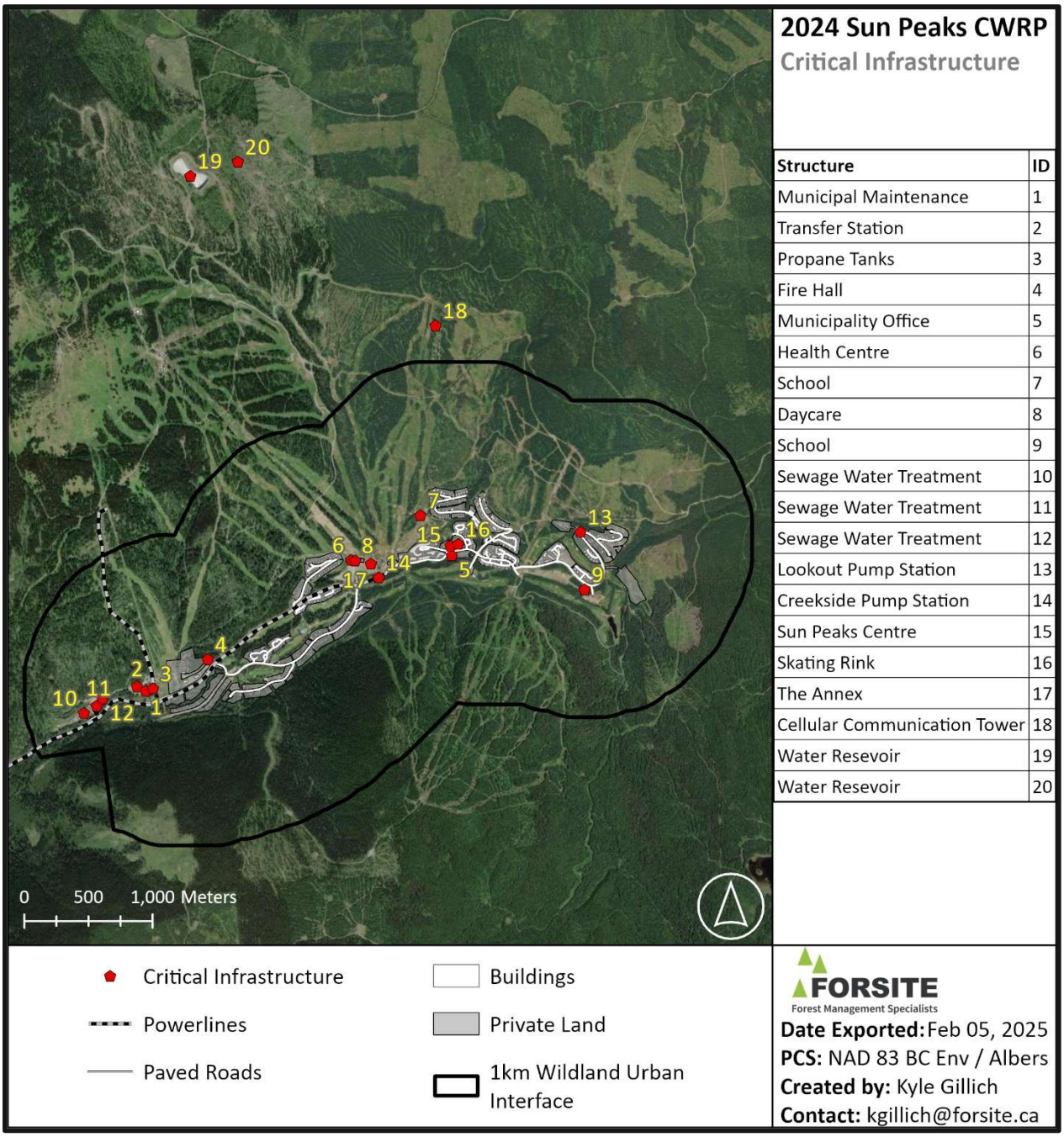


Figure 3. *Critical infrastructure and public services in Sun Peaks Mountain Resort Municipality.*

Fire Hall

The forested area immediately adjacent to the Fire Hall currently presents a high fuel hazard. The Fire Hall, equipment, personnel, and infrastructure would be essential in the event of a potential emergency at Sun Peaks. It is recommended to prioritize the protection of these high-value assets.

It is recommended to prioritize FireSmart assessments of Sun Peaks Fire Rescue Fire Hall, including all out-buildings, vehicles, parking lots, and equipment. Additionally, fuel-management treatment unit 05-M (TU05-M) is of highest priority, for which a prescription is already approved (CRI 342/576 - 2022).
More details in Section 5.8.

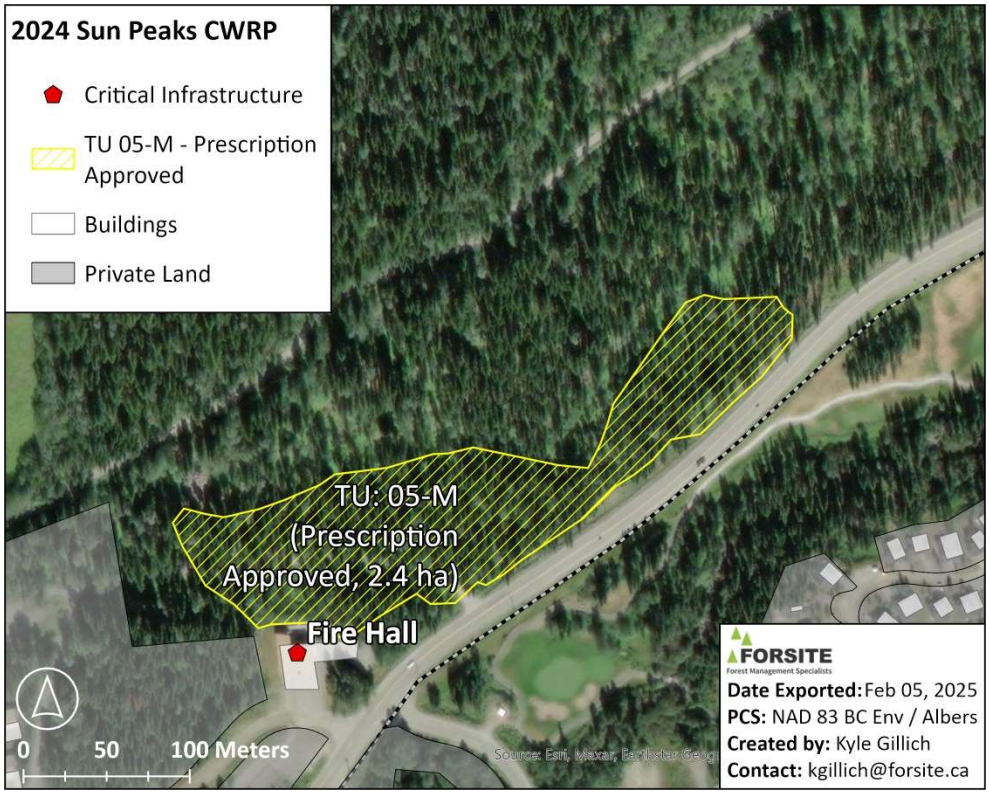


Figure 4. *Fuel management treatment unit (TU05-M), with approved prescription adjacent to the Sun Peaks Fire Hall.*



Figure 5. *High fuel hazard near the Fire Hall (Plot# 127)*



Figure 6. *Fire Hall (Sun Peaks OCP 2021).*

Public Services

Sun Peaks Centre, The Annex, Health Centre, Sun Peaks Academy (daycare), Sun Peaks Elementary School (School District No.73 K-9), Sun Peaks School – Intermediate Campus, and pool/ice rink facility are the most significant public services with associated buildings. School areas have been prioritized for fuel management treatments in previous CWPPs. The K-9 school has recently been moved to the eastern end of the community and requires FireSmart assessments and fuel-management of the surrounding vegetation. Proposed Treatment Units 38A-38D (TU38A-TU38D) are of high priority (**Figure 7**)(**Figure 8**)(**Figure 9**). The riparian area will require assessment and further planning. More details are in Section 5.8.

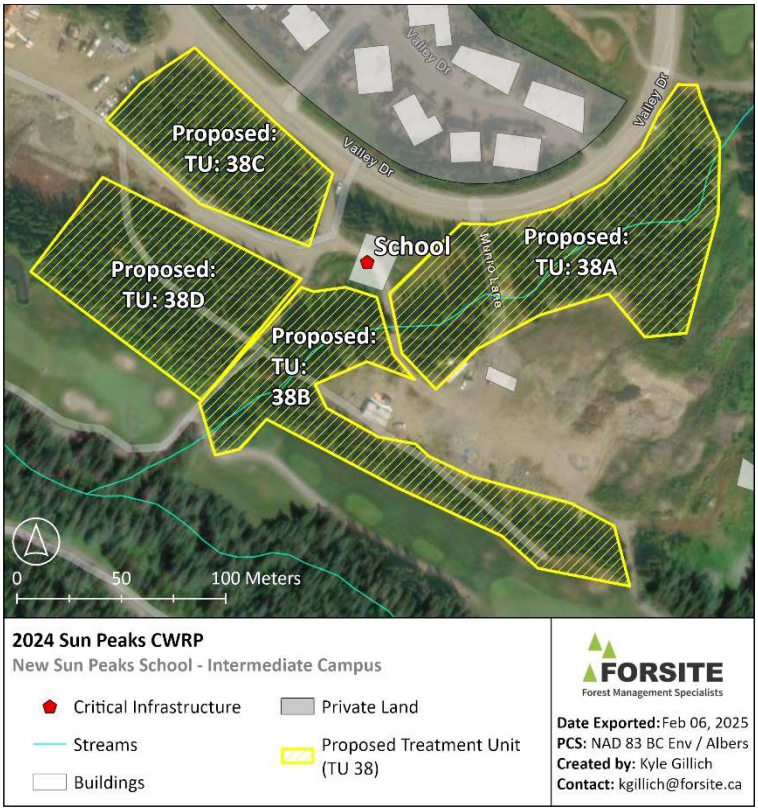


Figure 7. *Proposed fuel management treatment units TU38A-TU38D adjacent to the school.*



Figure 8. *High fuel hazard near the school (Plot# 89)*



Figure 9. *High fuel hazard near the school (Plot# 90).*

3.4.2 Communication

Communication lines run parallel with utility lines up Sun Peaks Road from the west. Additionally, one tower supports cellular service in the Sun Peaks area. The location of this cellular tower is 200 m outside of the area currently eligible for CRI support (**Figure 10**)**.** Due to the importance of this critical infrastructure, fuel-management treatment has been recommended in the immediate vicinity of this cellular tower and adjacent buildings (TU55), which may be supported by other provincial funding sources. Fuel-type, as well as height, density, and proximity of vegetation to the structures was determined by analysis of orthophotography. It has been determined that by species composition, height, and proximity to structures, this proposed TU55 is of high priority.

It is recommended that the consultant with the successful bid on the *2025/26 Sun Peaks - Heffley Creek WUI WRR Plan* conduct threat assessments of all communications and utility infrastructure outside the 1 km WUI of Sun Peaks, including this cellular tower.

Additionally, all communication infrastructure and adjacent buildings should be assessed under the Sun Peaks FireSmart program. It is recommended that the designated Prevention Officer conduct critical infrastructure assessments on all communication and utilities infrastructure.

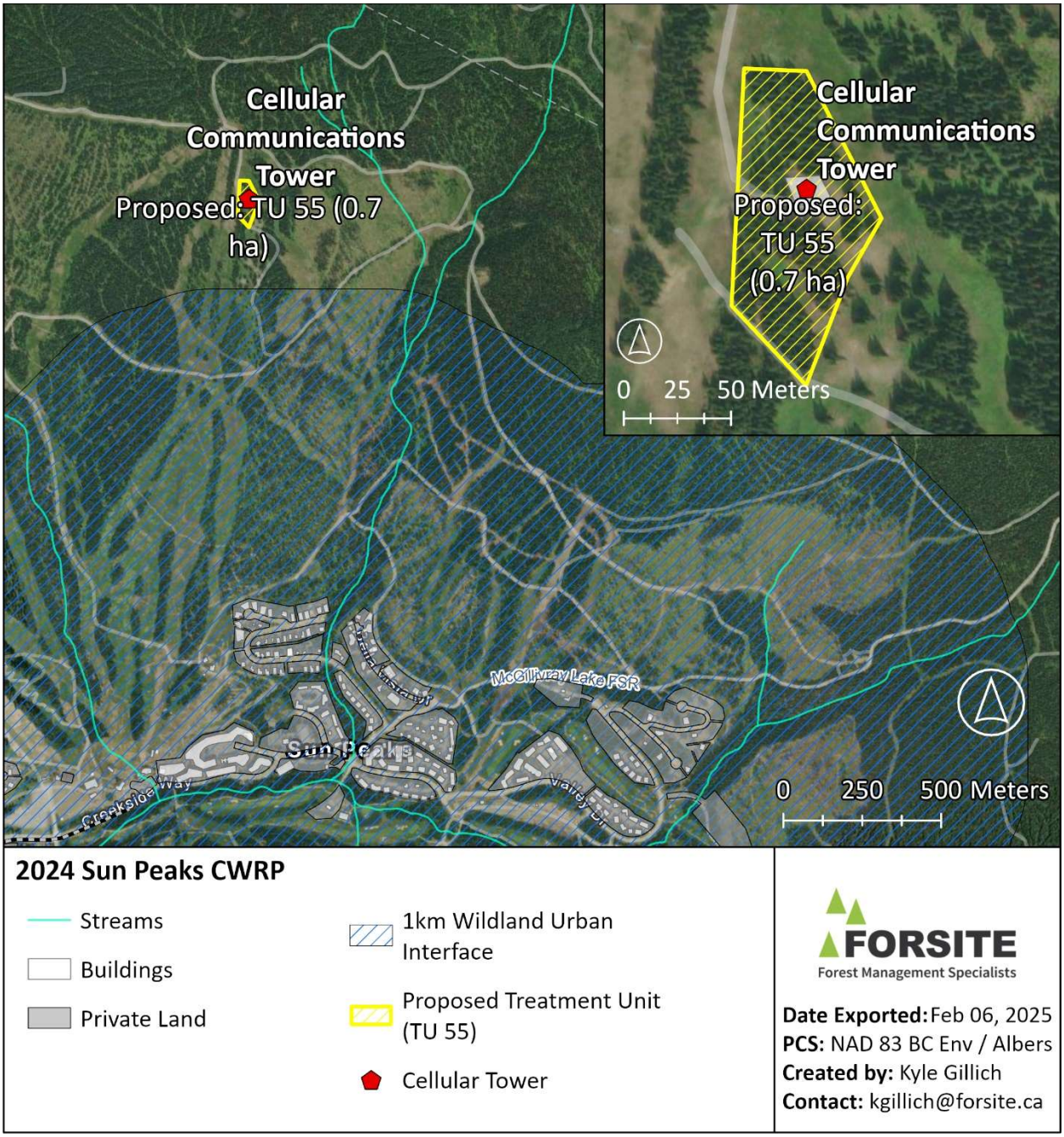


Figure 10. *Cellular communication tower near the top of Sundance chairlift at Sun Peaks.*

3.4.3 Electrical Power

No substantial changes have occurred to electrical service for the Municipality since the previous CWPP. Power is distributed through a network of wooden pole transmission infrastructure supplied by BC Hydro. The hydro transmission lines that supply Sun Peaks follow the Heffley-Louis Creek Road from Highway #5, then from Whitecroft through a forested right-of-way to Sun Peaks Rd (**Figure 11**), then to the community of Sun Peaks. The transmission lines traverse some of the high local wildfire threat areas, mainly the southern aspect above the Sun Peaks Road. The lines are supported by wooden poles which are highly susceptible to wildfire impacts. Additionally, there are dozens of dead or dangerous trees adjacent to utility lines along Sun Peaks Road. Loss or damage to these lines would disrupt power and communications at Sun Peaks during an emergency or potential evacuations.

It is recommended that the consultant with the successful bid on the *2025/26 Sun Peaks - Heffley Creek WUI WRR Plan* conduct threat assessments of all communications and utility infrastructure outside the 1km WUI of Sun Peaks, including all power and utility lines that service Sun Peaks. Direct engagement with the utility companies is also recommended.

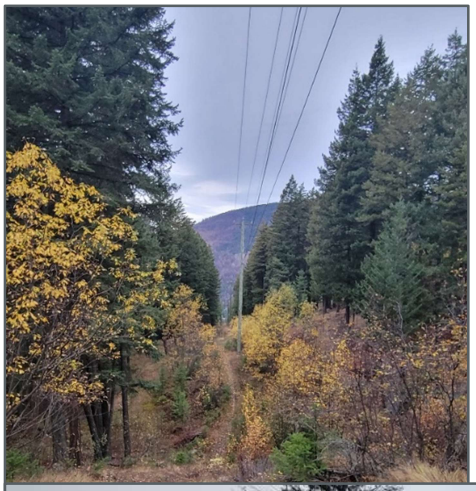


Figure 11. *Utility lines between Whitecroft and Sun Peaks are at risk of loss or damage in the event of a fire, due to proximity to vegetation, and the height of the vegetation.*



Figure 12. *Dead and leaning trees over the powerlines along Sun Peaks Rd.*

3.4.4 Water and Sewage

The sewage treatment facility is located at the west end of the community. This industrial site is shared with the local garbage forwarding station and ski hill maintenance buildings. Land clearing in development of this site provides a fuel break to which fuel-management treatments are recommended to anchor into to protect the community perimeter. The surrounding forested land on the north side of these facilities has been hand treated for wildfire threat reduction in the past and was scheduled for a maintenance treatment in the 2019 CWPP.

As fuel-management projects continue to surround the community, it is recommended to prioritize fuel-management treatments in this western section of the WUI. To prepare for a potential fire advancing from the west, up the road and drainage, it is recommended to anchor treatments into the clearings at the water treatment facility and base of the Burfield chairlift. More details explained in Section 5.7.8

The water reservoirs are outside of the 1 km WUI and scope of this CWRP (See Figure 3. Critical infrastructure and public services in Sun Peaks Mountain Resort Municipality). It is recommended that the consultant with the successful bid on the *2025/26 Sun Peaks - Heffley Creek WUI WRR Plan* conduct threat assessments of all water reservoirs for Sun Peaks Mountain Resort Community and Sun Peaks Resort LLP.



Figure 13. *Low fuel hazard near sewage facilities (Plot# 12)*



Figure 14. *Low fuel hazard near sewage facilities (Plot# 7).*

The powerline connecting the sewage and water treatment facility is near dense tall timber and at risk of damage or loss to fire. It is recommended to manage fuels between these facilities and Sun Peaks Road, removing trees within scorching distance of the powerlines (Proposed fuel-management TU40). It is acknowledged that vegetation is desired for screening the sewage facility; however, lower fire risk deciduous species or FireSmart materials are recommended.



Figure 15. *Powerlines to sewage and water treatment facilities at Sun Peaks (Plot #16).*



Figure 16. *Powerlines to sewage and water treatment facilities at Sun Peaks (Plot #16).*

3.4.5 Hazardous Values

There are no natural gas services in the Sun Peaks area. Propane tanks located just west of the Burfield Administration Building provide most of the fuel for heating and other uses in the community. The site is well placed and not in a high wildfire threat area with only deciduous trees and managed land in the vicinity.



Figure 17. *Fortis propane tanks in a low-risk area and land clearing provides a fuel-break (Photo from the Sun Peaks OCP 2021).*

3.4.6 Environmental Values

The forest and riparian ecosystems in the Sun Peaks area are the most significant environmental values. The resort and community rely on the functionality of the ecosystems that surround it. The forests throughout B.C. are threatened by climate change in the form of moisture deficits, summer droughts, and extreme weather patterns. Forest health challenges, such as bark beetles and spruce budworm, are becoming more rampant as climates shift biological communities to suitable conditions.

Sun Peaks is truly rich in biodiversity. There are numerous reserves and special management zones, including riparian reserve zones, old growth management areas, and old growth deferral areas around Sun Peaks. Foresters must balance the ecological functions of these ecosystems, with human safety and wildfire mitigation, while considering external forces such as climate change and population growth.

Riparian Areas

Forest Planning and Practices Regulation (FPPR) includes the *"objective set by government for water, fish, wildlife and biodiversity within riparian areas is to conserve, at the landscape level, the water quality, fish habitat, wildlife habitat and biodiversity associated with those riparian areas".*

Table 8: *Forest Planning and Practices Regulation. Division 3 – (47) Stream riparian classes. McGillivray Creek is an S2 stream.*

Riparian Class	Riparian Management Area (metres)	Riparian Reserve Zone (metres)	Riparian Management Zone (metres)
S1-A	100	0	100
S1-B	70	50	20
S2	50	30	20
S3	40	20	20
S4	30	0	30
S5	30	0	30
S6	20	0	20

McGillivray Creek is a prime example of a classified S2 fish-bearing stream, with a riparian reserve zone (RRZ) that poses a high fire risk through the middle of Sun Peaks village. Lack of disturbance in this drainage has allowed stands to grow dense and multi-layered, with a considerable amount of deadfall presenting a high fuel hazard throughout the middle of the village. *Forest Planning and Practices Regulation (FPPR) Section 51* puts various restrictions on activities within RRZ, which must be navigated in order to reduce wildfire risk.

Timber harvesting around the creek for development, road building, and ski runs has exposed the edges of standing timber to winds, causing excessive blowdown. This riparian corridor is prime wildlife habitat, and the volume of downed debris makes it challenging for bears and ungulates to commute through the riparian corridor.

Fuel management can enhance biodiversity within these riparian reserve zones and improve fish and wildlife habitat. Fuel-management makes these ecosystems more resilient to fire and protects the habitats for a longer duration from various disturbances. Fuel-management and ecosystem restoration often go hand in hand.

As human life and safety are at risk of wildfire, these ecological values and their functions are also at risk of loss or damage from wildfire. A severe fire can cause sedimentation, erosion, higher stream temperatures and chemical effects that are detrimental to fish. Stewardship of these values involves managing for fire resistant and resilient ecosystems, that prevent high severity burns. Fire resilient ecosystems recover more quickly in the event of a fire. It is important to balance the controlled disturbance of low-intensity fuel-management treatments versus the potential devastating loss of a high-intensity or high-severity wildfire.

It is recommended to consult with Indigenous communities, biologists, hydrologists, foresters, and the public on how to best manage the McGillivray Creek riparian area, while navigating FPPR with help from Mountain Resorts Branch (MRB), the land manager.



Figure 18. *High fuel hazard observed in the McGillvray Creek riparian management zone (Plot #82)*

Old Forest

Sun Peaks is surrounded by management areas designated for old forest ecosystems Outside of the Municipality, there are Old Growth Management Areas (OGMA) and inside the Controlled Recreation Area there are Old Growth Deferral Areas (OGDA). The regulations around old growth and riparian areas bring challenges for fuel-management, both within the community and on a landscape-scale. For example, the Province of BC delineated OGDA units immediately adjacent to homes along Mountain View Road posing high risk (**Figure 19**).

Old growth forest attributes can be retained and enhanced while conducting properly planned and conducted forest fuel management activities. Work in these OGMA and OGDA will be necessary to reduce the wildfire threats on a landscape scale. Unmanaged preservation of these areas will only provide more fuel-loading and greater fire risk.



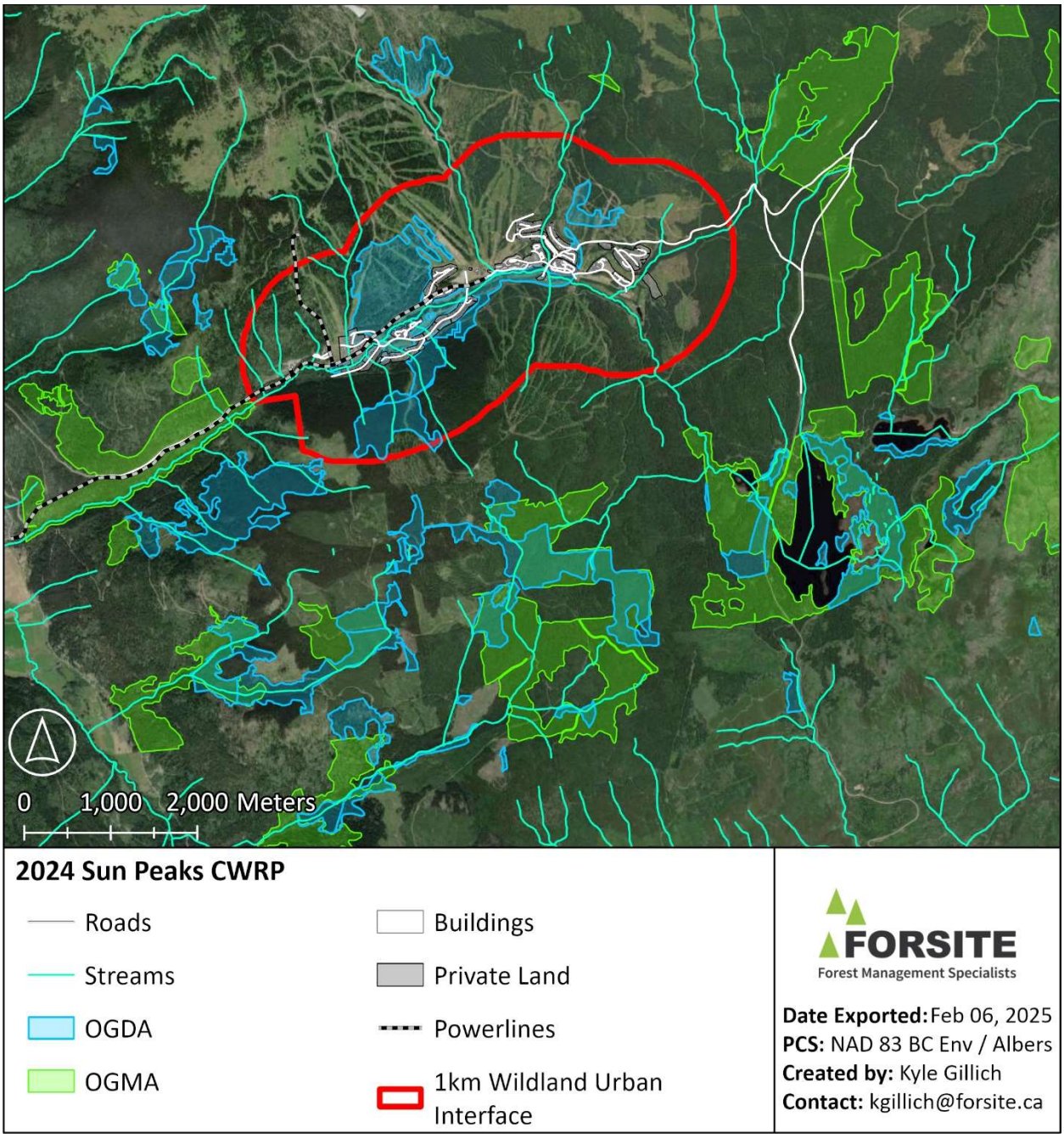


***Figure 19**. Old Growth Management Areas (OGMA), Old Growth Deferral Areas (OGDA), and riparian areas around Sun Peaks*

Hydrology
Sun Peaks is surrounded by steep slopes and mountainous terrain. There has been substantial land clearing for residential and recreational purposes, such as for homes, ski runs and chairlifts. Ideal fuel-management treatments are hampered by hydrological concerns. Removing too many trees on steep slopes may cause unwanted subsurface or overland water flows. The hydrological consequences of a high-severity wildfire are also of great concern; thus, watersheds must be managed for fire resiliency.

It is recommended that the Municipality and Sun Peaks Resort LLP seek professional consultation with forest hydrologists to determine *Equivalent Clearcut Area* that is safe and sustainable on the slopes surrounding Sun Peaks, that will guide future fuel-management and development decisions. The area of highest priority is south of Burfield Dr on the steep north aspect slopes. Additionally, consultation with hydrologists is essential to designing effective sustainable fuel-management within riparian reserve zones, while also considering the potential impacts of climate change.

Wildlife
As mentioned in the riparian section above, fuel-management can mimic natural fire regimes that enhance wildlife habitats and forage. Trafficability for wildlife throughout riparian corridors is important.

A landscape-level objective from the Kamloops LRMP designates Ungulate Winter Ranges (UWR) that require adequate tree cover and forage for ungulate species. Partial cut activities and long-term controlled access, strategically placed, within a designated UWR area can have significant wildfire threat reduction benefits while potentially enhancing the wildlife habitat.

The Path Forward
First Nations, the Municipality, Sun Peaks LLP, Community FireSmart Resiliency Committee, and members of the public are encouraged to engage in discussions and consultations required to mitigate fuel hazards in these sensitive areas. The objective is to balance strategic fuel-management with ecological function, while fostering fire resiliency in both urban and ecological communities. The ecological values require protection from severe fire as well.

3.4.7 Cultural Values

For all communities at Sun Peaks, most cultural values are rooted in the outdoor and landscape setting. For many, the most significant cultural values align with the above-mentioned environmental values. Local Indigenous communities have a strong tie to the area[14]. Their usage was primarily seasonal, involving activities such as hunting, gathering berries, and collecting medicinal plants.

Indigenous communities who participated in the Open House for this CWRP voiced the need for consideration of wildlife habitat during development and fuel-management planning.

[14] Skwelkwekwelt http://www.firstnations.de/development/secwepemc-skwelkwekwelt.htm

3.4.8 Recreational Values

The recreational development in the area supplies year-round employment for local residents and a variety of seasonal activities for tourists and seasonal residents. Locally important resource values include outdoor recreational activities such as skiing, biking, and hiking.

Visual Quality Objectives
The visual impacts of forest fuel management activities can be minimized through partial cut activities and hand treatments when sensitive sites are being treated.

Recreational Opportunities
Forest fuel management activities can enhance recreational opportunities by creating controlled access into presently inaccessible areas and providing roads and trails for multiple uses to form the backbone of a trail or recreational area. They also create wildfire suppression opportunities.

Fuel management activities provide wildfire suppression opportunities through faster, more efficient access and egress, tie points for wildfire suppression activities, fuel breaks and burn off locations. This access often requires tight controls, seasonal closures and extensive public education to minimize impacts on other forest values.

4.0 Wildfire Risk Assessment

This section summarizes the factors that contribute to local wildfire risk within the 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.

Risk has been defined as the "measure of the probability and consequence of uncertain future events"[15].

Wildfire Risk = Consequence × Probability

Wildfire risk includes the potential losses or damages caused by wildfire and the probability of a wildfire occurring.

Consequences include all potential losses, damages, or harm caused by a wildfire. This may include but is not limited to human life & health, public property, private property, critical infrastructure, pets/animals, livestock, natural resources, and environmental values.

Probability is the likelihood of fire igniting, spreading, and being of considerable intensity to damage or harm values at risk.

Wildfire threat is a term that summarizes the ability of a wildfire to ignite and spread with considerable intensity that is likely to have negative consequences. Wildfire threat is dependent on three major components of the wildfire environment:

- **Fuel:** Quantity/volume, size, shape, arrangement, continuity (horizontal and vertical), compactness, chemical properties, and fuel moisture.
- **Weather:** Temperature, relative humidity, wind speed, wind direction and precipitation.
- **Topography:** slope (increases / decreases rate of spread), and aspect (fuel dryness & temperatures for combustion)

4.1 WILDFIRE ENVIRONMENT

4.1.1 Weather

Climatic variables, such as precipitation, temperature, relative humidity, windspeed, and wind direction are key drivers affecting fuel-moisture and fire behaviour. Local differences in aspect, topography and vegetation will influence fuel-moisture at the site level. All fire weather forecasting for AOI is dependent on observations from the Cahilty weather station (**Table 9).**

***Table 9**. Weather station information for AOI*

Weather Station	Cahilty
Network	BCWS
Coordinates	119.838 W, 50.888 N
Elevation	1615 m

[15] Yoe, Charles. 2011. Primer on risk analysis: Decision making under uncertainty. Boca Raton, FL: CRC Press. 251 p

Focusing on May to September, for the duration of a typical fire season, the predominant wind direction is south to southwest; however, it is critical to acknowledge the diurnal wind-shifts driven by local topographical features. Daytime winds (06:00-18:00) are predominantly out of the south/southwest, while nighttime winds (18:00-06:00) are predominantly out of the north/northwest. Evening winds are typically not as strong as morning or daytime winds.

Wind speed and direction are two variables with the greatest variability within any given fire season. Observations of fire behaviour and fire severity on incidents within the past decade demonstrate the need to prepare for high winds from any direction. Although historical wind data can help prioritize treatment locations, communities should be prepared for wind-driven fires from all directions, and expect fires to move uphill, downhill, or cross-slope. All Initial Spread Index (ISI) roses can be found in Appendix A – Figures A.1-A.5.

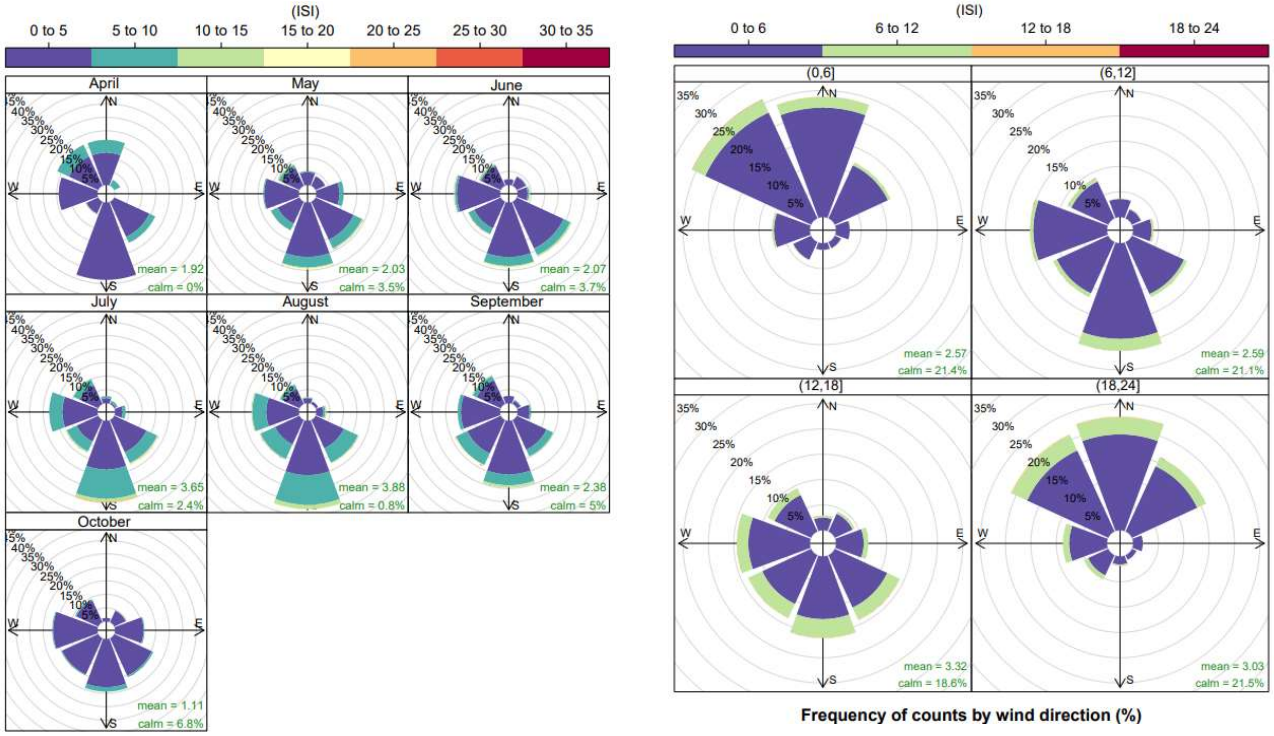


Figure 20. *Initial Spread Index (ISI) Rose for Cahilty weather station observations between 1996-2015. Monthly averages (left), and August hourly averages (right). Hourly averages are binned into periods of 6 hours (00:00-06:00, 06:00-12:00, 12:00-18:00, 18:00-24:00).*

4.1.2 Topography

Most of the Municipality is in subalpine forested ecosystems in a high wildfire threat area, at the top of a west facing drainage. The 1 km Wildland Urban Interface (WUI) spans an elevation range between 1150 - 1700 m with varying topographical aspects. Nestled between Morrisey and Tod Mountains, the Municipality is surrounded by steep slopes to the north and south (65 % max.) There is substantial contrast in forest structure, species composition, and fuel-moisture in comparison of northern and southern aspects within the WUI.

Extreme slopes are of concern for potential fire behaviour, as well as operability for fuel-mitigation treatments, including limitations on machinery, hand-falling, and debris management strategies (**Table 10**)(**Figure 22).**

Ground slope influences fire behaviour, particularly rate of spread (ROS) and head fire intensity (HFI), by increasing vertical and horizontal ladder fuel continuity. As slope increases, there is increased preheating of uphill fuels that leads to faster combustion and increased rate of spread. Other factors that influence fire behaviour include aspect, elevation, and topographical features that can either act as natural fuel-breaks (i.e. water bodies and continuous rock) or terrain that increases wind influence (i.e. gullies, valleys, and ridges).

Approximately half of the 1 km WUI area has ground slope greater than 30 % which, when mixed with the fuel-type and proximity to values, presents a high wildfire risk.

Table 10. *Influence of ground slope on fire behaviour.*

Slope	Area of 1 km WUI (%)	Fire Behaviour Implications
<20%	26 %	Approximately every 20% increase in slope doubles the rate of spread.[16]
20-30%	26 %	Increased ladder fuel continuity, flame tilt preheats uphill fuel, increased rate of spread.
30-45%	7 %	Further increase in ladder fuel continuity, flame tilt preheats uphill fuel, high rate of spread.
45-60%	28 %	Further increase in ladder fuel continuity, flame tilt preheats uphill fuel, very high rate of spread.
>60%	13 %	Further increase in ladder fuel continuity, flame tilt preheats uphill fuel, extreme rate of spread.

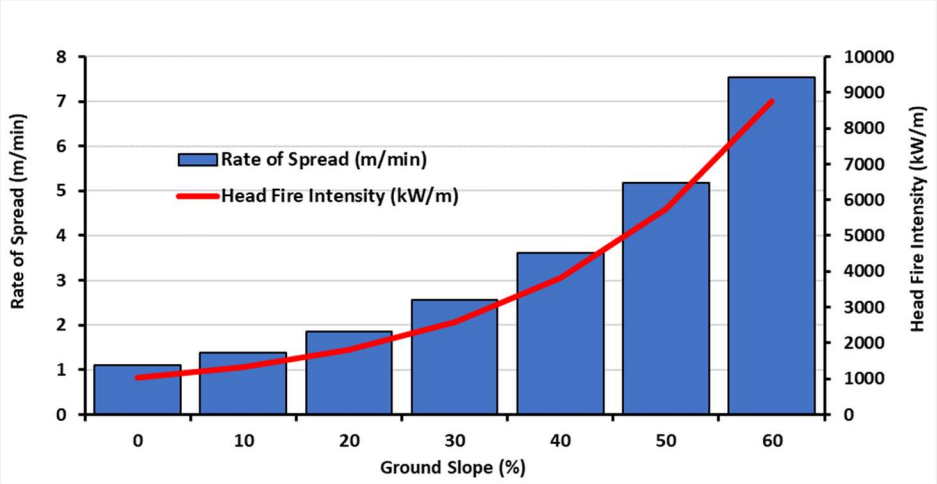


Figure 21. *Rate of spread (m/min) and head fire intensity (kW/m) predicted for spruce/balsam forested stands (C-3) as a function of varying ground slope with zero windspeed assumed. The Fire Behaviour Prediction (FBP) component of the Canadian Forest Fire Danger Rating System (CFFDRS) was used via R package "cffdrs". From the nearest weather station, 90th percentile fire weather values were used in the FBP models (FFMC=91.5, BUI=100.6, 2014-2023). Fuel-types were determined by the Canadian Forest Fire Behavior Prediction (FBP) System: User's Guide*

[16] https://www.environment.sa.gov.au/topics/fire-management/fire-science-and-planning/fire-behaviour

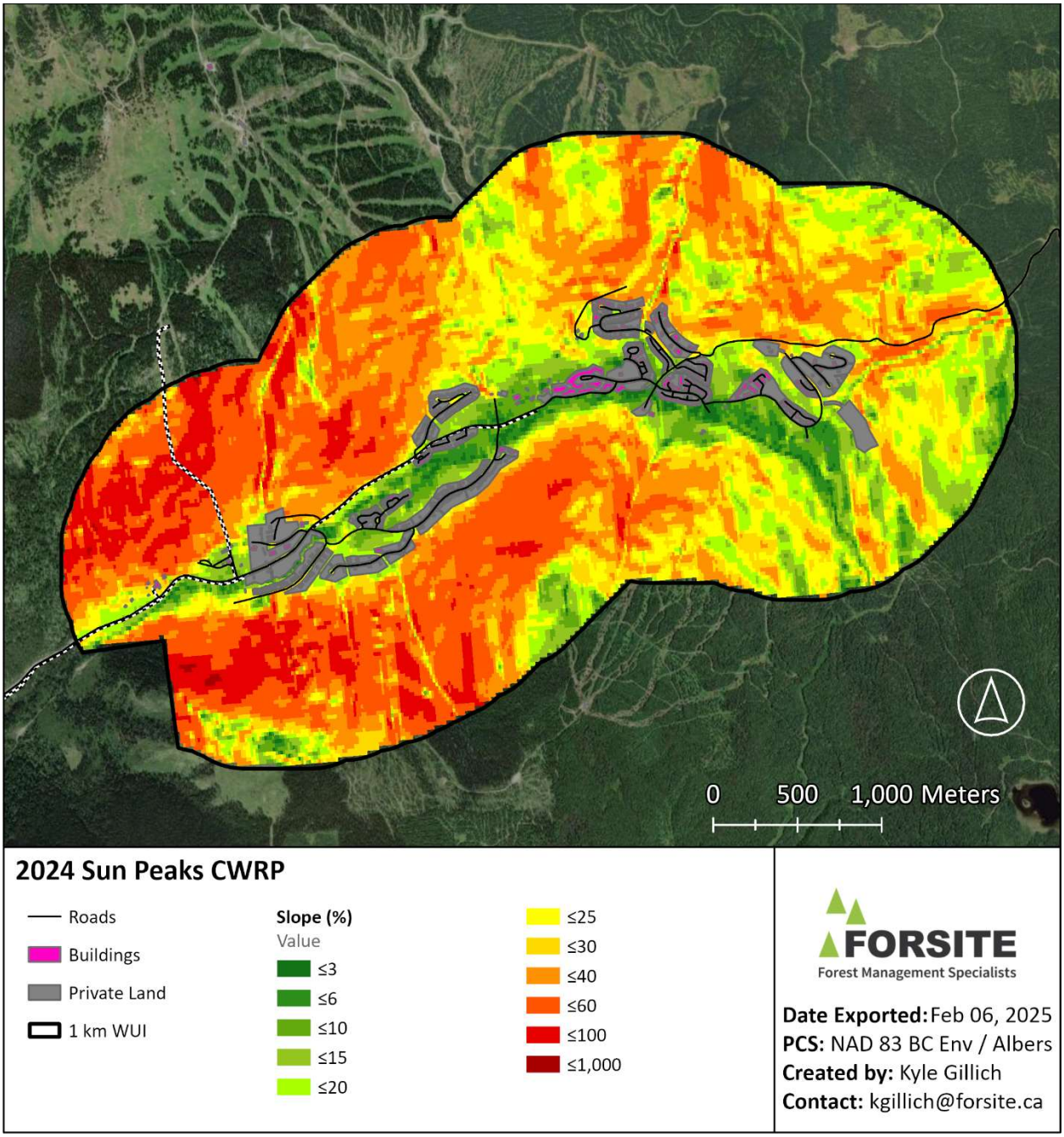


Figure 22. *Ground slope classification within the 1 km Wildland Urban Interface at Sun Peaks.*

4.1.3 Ecosystems, Fuel, and Fire Regimes

The 1 km WUI is in an ecologically diverse area and spans across four Biogeoclimatic Ecosystem Classification (BEC) variants (**Table 11**). The biodiversity of the four BEC variants hosts a variety of fuel-types. The Fire Behaviour Prediction (FBP) System of the Canadian Forest Fire Danger Rating System (CFFDRS) defines 17 standard fuel-types[17]; of which five occur within the 1 km WUI (**Table 12**).

***Table 11**. BEC variants, Natural Disturbance Type, and fuel-types within the Sun Peaks CWRP Area of Interest*

BEC Variant	Regime	Fuel-Types	Relevance
ESSFdc3	NDT3	C2, C3	Higher elevations on the ski hills and mountains.
ICHmk2	NDT3	C2, C3, C5	Low to mid elevations, including eastern village to McGillivray Lake.
MSdm3	NDT3	C2, C3, C5, M1, M2	Elevations central to the village and lower ski runs.
IDFdk2	NDT4	C3, C5, C7	Lower elevations. This ecosystem connects Whitecroft and Sun Peaks.
Any BEC	NDT 4	O-1b, D-1	Disturbed areas without coniferous trees, such as ski runs, facilitate the growth of grass, herbs, and shrubs. These fuel-types capture the structure of standing grass (O-1b) or shrubs and deciduous trees (D-1).

** NDT3 - Ecosystems with frequent stand-initiating events*
** NDT4 – Ecosystems with frequent stand-maintaining fires*

***Table 12.** Fuel types observed within the Sun Peaks 1 km WUI. Descriptions matched to definitions in Fuel-types were determined by the Canadian Forest Fire Behavior Prediction (FBP) System: User's Guide[17].*

Fuel Type	Description
C-2	Moderately dense spruce/balsam stands. Deep duff layer. Continuous shrubs. Moderate dead and downed fuels. Tree crowns extending to the ground. Tree bark is flaky, and lichens may be present on branches.
C-3	Densely stocked spruce/balsam/lodgepole pine stands. Compact and moderately deep duff (10cm). Continuous shrub layer. Sparse understory conifers. Light dead and down fuels. Live crown base is well above surface fuels.
C-5	Moderately dense stands of spruce/balsam/Douglas-fir/cedar. Substantial needle layer. 5-10cm duff layer. Moderate to continuous shrub layer. Moderately dense conifer understory. Light to moderate dead and downed fuels. Well established understory of shrubs and suppressed trees.
C-7	Open stands of mature conifer species. Forest floor of herbs & sparse shrubs. Shallow duff (<5cm). Clumpy thickets of multi-age conifers provide sparse ladder fuels. Light dead and downed fuels.
M-1 / M-2	Well stocked stands of spruce/balsam with deciduous aspen or birch. M-1 refers to leafless deciduous seasons. M-2 refers to greened-up deciduous seasons. These fuel types are further described by the percentage of coniferous to deciduous. Continuous herbs, shrubs, needle or broadleaf litter. 0-10 cm

[17] Hirsch KG. 1996. Canadian forest fire behavior prediction (FBP) system: user's guide. Vancouver (BC): UBC Press.

Fuel Type	Description
	duff. Moderate understory conifers. Moderate dead and down fuel-loading. Conifer crowns may extend to the ground, providing continuous ladder fuels.
0-1b	Continuous standing grass (fine fuels) with dead grass litter. Occasional trees or shrub clumps. Moderately deep duff (0-5 cm). Dead and down fuels are sparse or scattered.

Natural Fire Regime

The Sun Peaks community overlaps two very distinct natural disturbance types. The lower elevations spanning from Whitecroft to the Sun Peaks Fire Hall, are classified as Natural Disturbance Type 4 - Ecosystems with frequent stand-maintaining fires. Frequent fire is a necessary and essential ecological process in these vegetation communities.

The tree species found in NDT4 are more resistant and resilient to fire, including Ponderosa Pine and Douglas-fir. The relatively high crown base height and thick bark protect these species from frequent surface fires that maintain the understory; however, fire exclusion on the landscape has led to an ingrowth of trees and increased fuel-loading. Without regular fire, these forest stands grow dense and can pose high fuel hazard.

At the elevation of the village and higher, sites are classified as NDT3 - Ecosystems with frequent stand-initiating events. The higher elevation is suitable to specific species, such as subalpine fir and spruce. These species have adapted to harsh winter conditions with low hanging branches, which are extremely volatile in fire. Fire seasons are shorter at these elevations; however, they can still exhibit extreme fire danger. The density of these forest stands, combined with the structure of the trees and their low resistance to fire damage, puts these stands at risk of being completely destroyed by wildfire. Fires in these ecosystems are referred to as “stand-initiating” because they burn over large areas, causing forest regeneration. Fires are less frequent in these elevations but are catastrophic when they occur.

Impact of Ski Runs

Ski runs provide breaks in the forested canopy and ultimately reduce the total fuel-load on the landscape. Grass and shrubs that grow on ski runs burn at reduced intensity and have reduced spotting impact relative to adjacent forest stands. Grass fuel-types are dependent on curing.

Fuel hazard associated with grass is determined by the foliar moisture content. Grass naturally cures as it goes to seed; foliar moisture content decreases, as degree of curing increases[18]. Due to the process of grass curing, the hazard posed by these fuel types varies not only seasonally but also from year to year, influenced by changes in moisture availability and temperatures. Years with greater moisture availability result in greener grass and curing is delayed. Years with less available moisture result in grass curing sooner and increasing fuel hazard earlier in the year.

4.1.4 Climate Change

Within the last century, British Columbia's worst wildfire seasons in terms of area burned across the province have occurred within the last seven years[19]. The most recent 2023 wildfire season was the worst on record with a total of 2.85 million hectares burned, and the largest wildfire recorded in B.C. (Donnie Creek Fire, 0.62 million hectares). The next most severe wildfire seasons were: 2017 (1.26 million hectares), 2018 (1.35 million hectares), and 2021 (0.87 million hectares). For comparison, between 1919 and 2016, only three years were recorded as having burned more than 0.5 million hectares.

Each of the four most severe wildfire seasons coincided with weather extremes. Furthermore, while climate change modelling has predicted increased wildfire activity to occur in B.C., the increase in wildfire activity that began occurring in the early 2000's is decades earlier than initially predicted[19]. Current research shows that B.C. has switched to an overall drying effect with regards to moisture deficit around the year 2000, and that both the average length of the wildfire season and the average start date of the fire season has increased by more than 25 days since then[20]. The estimated level of precipitation increase required to compensate for increased flammability is not being met. These trends show that climate change has increased the fire season length and provided conditions conducive to earlier yearly start dates across the province.

Climate change is altering the suitable range of certain vegetation and wildlife species. The Sun Peaks area is forecast to have short winters, with more annual precipitation falling as rain and less snow. The combination of increased temperatures and rainfall have been forecast to expand drier ecosystems at lower elevations and expand wetter more productive ecosystems at higher elevations[21].

[18] De Groot WJ. 1998. Interpreting the Canadian forest fire weather index (FWI) system. InProc. of the Fourth Central Region Fire Weather Committee Scientific and Technical Seminar.
[19] Parisien MA, Barber QE, Bourbonnais ML, Daniels LD, Flannigan MD, Gray RW, Hoffman KM, Jain P, Stephens SL, Taylor SW, Whitman E. Abrupt, climate-induced increase in wildfires in British Columbia since the mid-2000s. Communications Earth & Environment. 2023 Sep 5;4(1):309.
[20] Parisien MA, Barber QE, Bourbonnais ML, Daniels LD, Flannigan MD, Gray RW, Hoffman KM, Jain P, Stephens SL, Taylor SW, Whitman E. Abrupt, climate-induced increase in wildfires in British Columbia since the mid-2000s. Communications Earth & Environment. 2023 Sep 5;4(1):309.
[21] Climate BC Forecasts https://pubmed.ncbi.nlm.nih.gov/27275583/

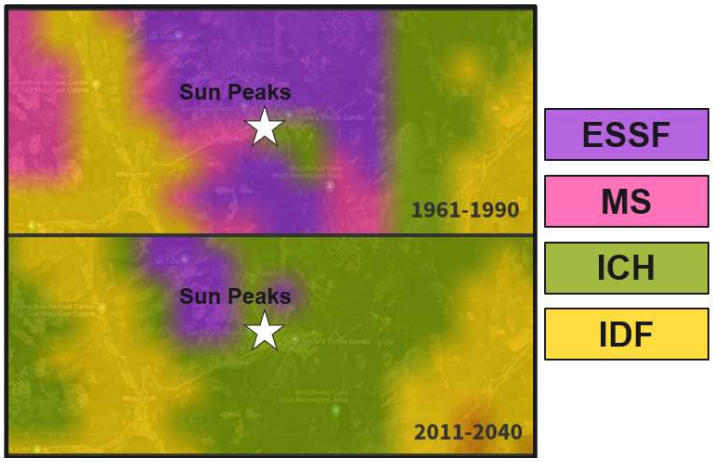


Figure 23. *Climate change projections of shifts in Biogeoclimatic Zones between 1961-2040[22]. In order of increasing fire risk: Engelmann Spruce Subalpine Fir (ESSF), Montane Spruce (MS), Interior Cedar Hemlock (ICH), Interior Douglas-fir (IDF).*

4.2 WILDFIRE HISTORY

Sun Peaks has been directly threatened by wildfires since the McGillivray Fire in 2003 (25,000 ha). Another wildfire in 2009 threatened the resort. 2021 saw another wildfire, Embelton Mountain (991 ha), spread to within 4 km to the southwest of the municipal boundary. More recently, in 2023 the Bush Creek East wildfire (45,613 ha) spread to within 8 km of the municipal boundary. In addition to these fires of note, Sun Peaks consistently sees spot fires in the surrounding valley.

4.3 PROVINCIAL STRATEGIC THREAT ANALYSIS (PSTA)

The Provincial Strategic Threat Analysis (PSTA) and Risk Class framework are provincial spatial datasets developed by the BC Wildfire Service to assess and predict potential wildfire threat. The PSTA utilizes and interprets provincial fuel type mapping, historical fire occurrence data, topography, and historical weather station data to produce a wildfire threat score. Outputs of the PSTA include information and maps describing fuel types, historical fire density, potential for embers to land in an area (spotting impact), head fire intensity, and the final wildfire threat[23] [24]. Most of the area around Sun Peaks Resort is of extreme threat (**Table 13**, **Figure 24**). All maps can be found in Appendix B – Maps.

Table 13. *Provincial Strategic Threat Assessment – Wildfire Threat area and percent of area within 1km Wildland Urban Interface (WUI) Area of Interest around Sun Peaks Mountain Resort Municipality.*

Wildfire Threat Level	Area (ha)	Percent of Area of Interest Area (%)
Extreme	891	64.7
High	200	14.5
Moderate	197	14.3
No Data / Private Land	89	6.5

[22] Climate BC Forecasts https://pubmed.ncbi.nlm.nih.gov/27275583/
[23] Fire and Fuel Management. Province of BC.
[24] BC Data Catalogue. Province of BC.

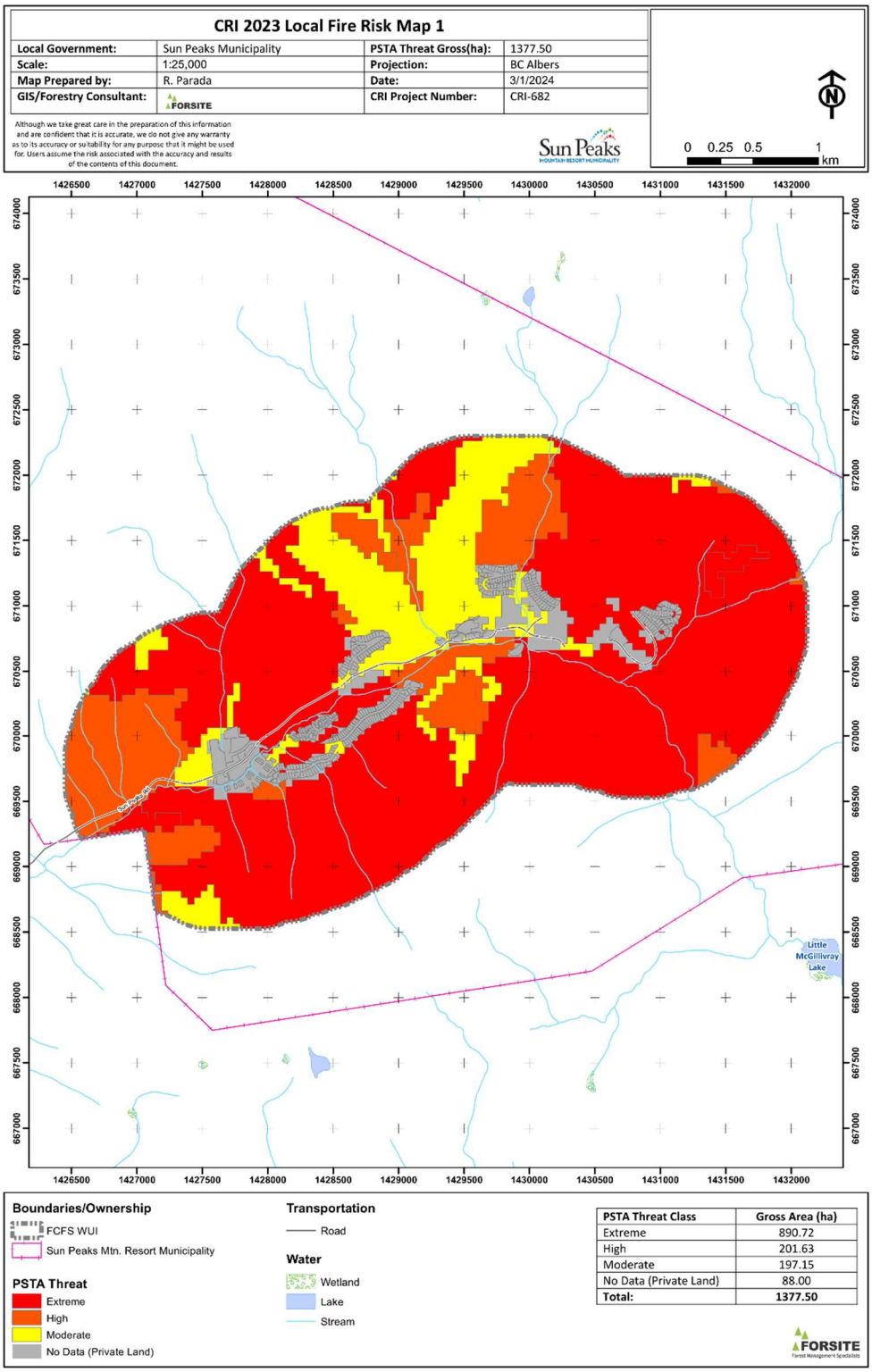


Figure 24. *Provincial Strategic Threat Analysis (PSTA) – Wildfire Threat within Sun Peaks Mountain Resort Municipality's 1 km Wildland Urban Interface*

4.4 HAZARD, RISK, AND VULNERABILITY ASSESSMENT (HRVA)

A Hazard, Risk, and Vulnerability Assessment (HRVA) is available in the Thompson-Nicola Regional District (TNRD) – Sun Peaks Mountain Resort Evacuation Plan (September 2010)[25]. Risk priorities have been extracted in (**Table 14**).

Table 14. *Sun Peaks Mountain Resort – Risk Priorities. Extracted from Thompson-Nicola Regional District (TNRD) – Sun Peaks Mountain Resort Evacuation Plan (September 2010).*

RISK	FREQUENCY OF OCCURRENCE	SEVERITY OF IMPACT	DETAILS
Fire – Interface and Wildfire	**Moderate or likely**	**High**	• Resort Area completely surrounded by mature timber subject to recreational and natural caused fires. • Access roads subject to closure due to wildfires. • Moderate interface fire risk. • Cleared ski runs and local building codes offer some protection.
Severe weather	**Moderate or likely**	**High**	• Winter storms could lead to road closures and possibly power failure if the only power line to the site is damaged. • Summer electrical storms could cause forest fires. • Severe rainstorms or sudden snowmelt could result in storm surge in Resort Creek.
Avalanche	**Low**	**High**	• Layout of ski runs takes risk of avalanche into account as much as possible. • Observation and control measures are in place to minimize risk. • No history of avalanches on access road or power failures due to avalanche.
Fire – Industrial or Commercial	**Moderate or likely**	**High**	• Village design guidelines such as sprinklers, stucco finish and tile roofs would limit the rapid spread of any commercial fire. • Fire protection on site consists of 3 fire trucks and one highway rescue truck with one additional truck available in 45 minutes from Kamloops.
Civil uprising	**Occasional or slight chance**	**Low**	• • Resort area has been the site of occasional roadblocks, encampments and protests.
Transport accident-road	**Moderate or likely**	**High**	• Main access road in from Heffley Creek is used for all resort supply trucks, fuel,

[25] Sun Peaks Evac Plan (2010) https://tnrd.civicweb.net/document/4986/

RISK	FREQUENCY OF OCCURRENCE	SEVERITY OF IMPACT	DETAILS
			propane, building supplies, visitors and tour buses. • Also used by logging tracks • School buses access village twice daily and turn around in P3. • First Aid Post not equipped to handle multiple casualty incidents on a first response basis.
Infrastructure failure	**Low**	**High**	• Entire site is fed by one power line coming in from Heffley Creek. • Severity of impact rated high as skiers could be stranded on lifts and the Village's propane distribution system could be impacted if the tank vaporizers go down. • Any short or long term hydro grid failure will not impact the propane storage facility or its vapourizers as the plant has an automatic back up power provided by propane powered generator. However, any major break in the propane distribution grid in the main village area may result in a core evacuation due to leaking gas. • Domestic and firefighting water reservoirs (3) are all concrete, in ground, gravity feed • (1-682 m3, 1-1,400 m3, 1- 700 m3).
Dam failure	**Occasional or slight chance**	**High**	• Snowmaking reservoir of 36,000,000 US Gallon capacity (132,000m3). • Any leakage or large flows due to a failure would drain into the Cahilty Creek watershed and flow away from populated areas. • Contingency plan for reservoir is addressed in the Sun Peaks Resort Corporation Emergency Plan.
Dangerous goods spill	**Occasional or slight**	**High**	• • All supplies, fuel and propane for the site comes in on the same road. Potential exists for a serious incident.
Epidemic – human	**Occasional or slight**	**High**	• • Confined area, closeness of human contact and tourist traffic are all contributing factors.
Explosion or emissions	**Occasional or slight**	**High**	• There are four – 30,000 US Gallon Liquid Propane Storage Tanks located near the entrance to the resort that are connected to a resort wide underground distribution facility. The tanks are filled from 3 times a week

RISK	FREQUENCY OF OCCURRENCE	SEVERITY OF IMPACT	DETAILS
			during the winter to once every two weeks during fall and spring. (approximately) • Sun Peaks Utilities has prepared an Emergency Response Plan to address propane issues.
Flood or storm surge	**Occasional or slight**	**High**	• Potential exists for extreme runoff events in McGillivray Creeks due to rapid snowmelt or summer thunderstorms. • Creek has been well prepared to handle high flows with rip-rapping and culverting.
Landslide, debris flow or subsidence	**Occasional or slight**	**High**	• Slight potential for earth movement on logged off ski slopes. • Highest risk is in the Resort Creek drainage and some of the other steep drainage directly to the west of the Burfield.
Critical facility failure	**Moderate or likely**	**Low**	• Possibility of fire protection resources being overwhelmed with a large scale fire. • No permanent police protection in the area, only rural R.C.M.P. patrols from Kamloops and Chase. • Community policing on site at times when the resort has peak visitor periods. • No large scale medical facility or ambulance service in the resort area.
Transport accident – air, earthquake and epidemic-animal	**Highly unlikely or rare**	**Low**	None of these are considered high risk hazards for the area.
Transport accident – rail and mine accident	**Not applicable**	**Not applicable**	Not applicable in this area.

4.5 LOCAL WILDFIRE THREAT ASSESSMENT

The Sun Peaks Mountain Resort Municipality can be directly threatened by wildfires under multiple scenarios and from multiple directions. Echoing this original assessment by Bruce Morrow in previous CWPPs, the greatest threat of wildfire to Sun Peaks is from the west, due to the predominant wind direction and steep slopes of the McGillivray Creek drainage and Sun Peaks Road. However, it has been 21 years since the McGillivray Lake fire of 2003, and fuel has regrown to a high hazard to the east of the community. With upslope and downslope diurnal winds, Sun Peaks is at risk of wildfires from all directions.

Considering fuel-hazard, topography, weather, and probability of ignitions, the most likely scenario would involve the ignition of a fire at lower elevations causing fire to approach the Municipality from the west (**Figure 25**, **Figure 26**). Prevailing winds have the potential to spread the fire uphill through the dry-belt Douglas-fir stands, spreading fire up the McGillivray Creek drainage or the Sun Peaks Road above Whitecroft. This area has greater probability of human-caused ignitions due to the lower elevation and reduced fuel moisture content, along with high vehicle and tourist traffic up this hillside in the summer months. In general, a large portion of wildfires ignite along roadsides or on recreational trails.



Figure 25. *Google Earth - View from Whitecroft to Sun Peaks. The McGillvray Creek drainage has wind-funneling topography that aligns with predominant wind direction combined with steep slopes and presents high wildfire risk for Sun Peaks.*

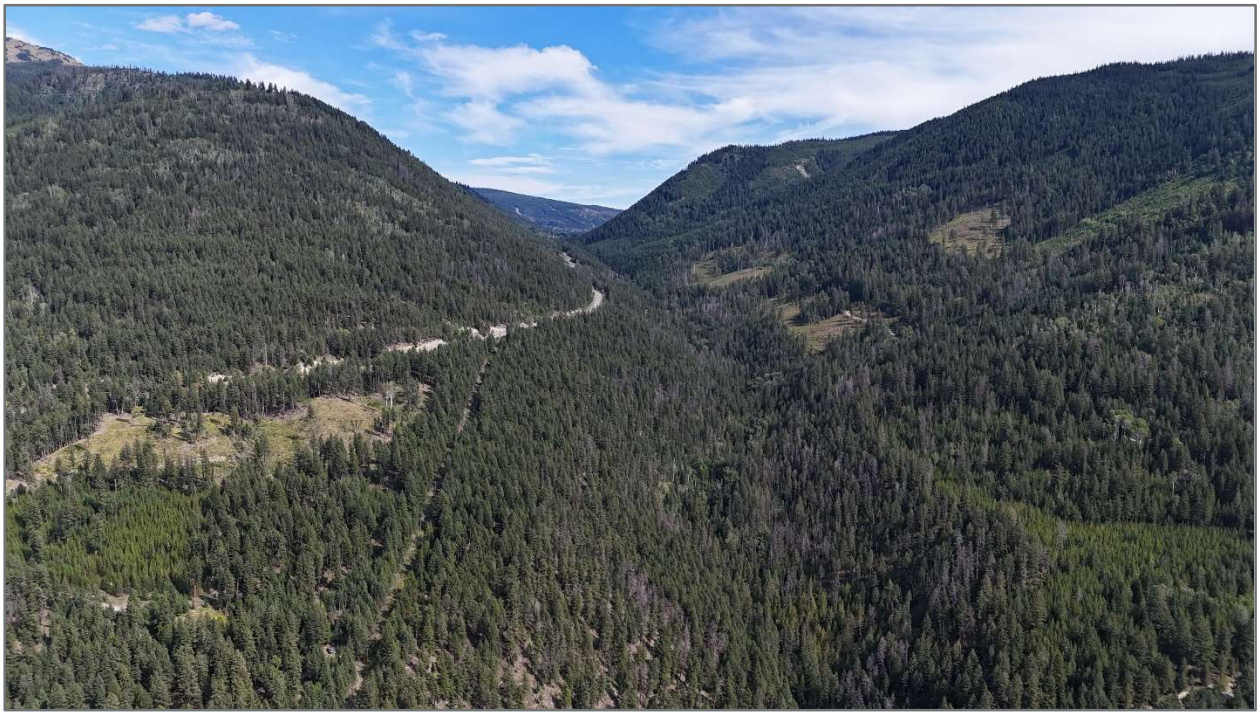


Figure 26. *Oblique aerial photo of McGillivray Creek drainage and Sun Peaks Rd., looking west from Whitecroft towards Sun Peaks. Continuous coniferous canopy cover, standing dead trees, and heavy fuel-loading and funneling terrain towards Sun Peaks (Photo taken: Sept. 11, 2024).*

The community of Whitecroft presents an opportunity for potential fire ignition as well. As pointed out by Bruce Morrow in the 2019 CWPP, a second scenario involves a fire ignition within Whitecroft spreading into the timber and the dry forest ecosystem with topography that will funnel the prevailing winds directly towards the resort in a similar spread pattern.

Another likely wildfire scenario would occur if a wildfire established itself east or southeast of the community and spread towards Sun Peaks from the McGillivray Lake area. This occurred in 2003 as the McGillivray Fire came to within three kilometers of the resort from that direction. The forest ecosystem there scored in the high wildfire threat assessment category. The wildfire threat from this direction is expected to increase over time with ecological succession. Inter-tree competition increases with time, resulting in tree mortality and increased fuel loading of dead and downed material. These ecosystems are highly productive for tree growth, and there is an inverse relationship between canopy closure and understory productivity. Continuous canopy cover presents aerial fuels that are vertically and horizontally continuous; however, gaps in the canopy may allow warmth and sunshine to increase understory productivity. Canopy gaps are likely to increase fine surface fuel loading of herbs and shrubs, such as Pinegrass, which presents a different fuel hazard allowing a faster surface rate of spread.

Another potential scenario may involve a wildfire burning downhill with evening downdraft winds into the resort area. Aggressive downhill spread of a wildfire is less likely than uphill spread, but is possible when a wildfire burns with enough intensity to sustain a backing fire when spotting impact is high, and especially with supporting downdraft winds that often occur in the early evening of hot summer days.

A wildfire threatening the community from the north facing slopes of Mt Morrisey is the least likely scenario. This steep slope receives very little direct sunlight and thus stays relatively moist and cool throughout the summer months, preventing good burning conditions. Forest health is of concern on this northern aspect. Tree mortality on this slope is increasing the wildfire threats from this direction. Additionally, a fire approaching from the south has the potential to loft embers multiple kilometers, causing the fire to advance onto drier aspects or within the community.

4.6 WILDFIRE RISK ASSESSMENT

The wildfire risk assessment is a decision support tool intended to determine wildfire risk reduction activities and opportunities that will increase the community's resiliency to wildfire.

It is important to understand the difference between **fuel hazard**, **wildfire risk** and **wildfire threat**, and their context for the wildfire risk planning process. A wildfire risk-based framework considers the likelihood of an unwanted wildfire event, combined with the consequences to communities and high value resources and assets. Overall wildfire risk can be defined as a combination of the following:

- Likelihood (or probability) of an unwanted wildfire event occurring;
- Associated fire behaviour; and
- Consequence – the resulting impact or damage to values.

Fuel hazard refers to the existing shape, size, volume, arrangement, continuity, and composition of combustible fuels. Fuel hazard does not consider proximity to values at risk, terrain, weather, or other variables that factor into wildfire risk.

Wildfire risk is measured as the product of likelihood and consequence, but multiple inputs are also required to effectively quantify risk, including potential wildfire behaviour severity, value type, and value vulnerability. Identifying wildfire risk levels through the wildfire risk assessment results in a wildfire mitigation priority list, while presenting opportunities to enhance community resiliency.

Wildfire threat refers to the potential for a wildfire to ignite, spread, and consume organic material, such as trees, shrubs, and woody debris, across the landscape. Three main components are used to define wildfire threat, as follows:

- **Topography** – slope (affecting wildfire rate of spread), and aspect (affecting fuel dryness);
- **Fuel** – loading, size/shape, arrangement (horizontal/vertical), compactness, chemical properties, and fuel moisture; and
- **Weather** – temperature, relative humidity, wind speed and direction, and rainfall.

Together these three components interact to characterize the overall wildfire environment and influence wildfire behavior (**Figure 27**).

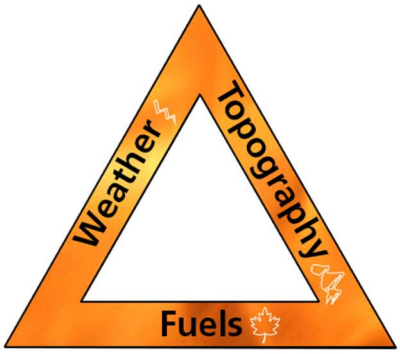


Figure 27. *The fire triangle – interacting components that drive a wildfire.*

All wildfire threat assessment work for this CWRP was completed between October 2023 and October 2024. Assessments were conducted using the *Wildland Urban Interface Wildfire Threat Assessment Worksheet and Guide* (2020), recommended by the B.C. Wildfire Service, to assess wildfire threats in B.C. Only municipal and provincial crown land was included in the mapping exercise. Assessments and mapping were not completed on private land.

4.6.1 Wildfire Fuel Hazard

One hundred nineteen (119) Threat Assessment Plots were physically assessed in the field. Fuel-type and forest structure were interpolated between sampling locations through a multilayered approach including physical observations, correlations in orthophotography and remotely sensed data, GIS analysis of past disturbances including previously fuel-treated areas and the year that they were treated, and GIS analysis of provincial spatial layers including fuel-type, Provincial Strategic Threat Analysis, and ecological and topographical layers. Fuel hazard level descriptions are listed in **Table 15** and mapped fuel hazard is illustrated in **Figure 28**.

***Table 15**. Fuel hazard descriptions[26].*

Fuel Hazard	Description
Low	Fires may start and spread slowly. There will be minimal involvement of deeper fuel layers or larger fuels.
Moderate	Forest fuels are drier and there is an increased risk of surface fires starting. There will be involvement of the organic layer but larger dead material will not readily combust.
High	Forest fuels are drier and there is an increased risk of surface fires starting. There will be involvement of the organic layer but larger dead material will not readily combust.
Extreme	Extremely dry forest fuel, new fires will start easily, burn vigorously; all aerial fuel will be engaged in the flaming front. Most fuel in the organic layer will be consumed and larger dead fuel will be consumed in the smoldering combustion

[26] Wildfire Threat Assessment Guide https://www.ubcm.ca/sites/default/files/2021-05/2019-20-wildfire-threat-assesment-guide.pdf

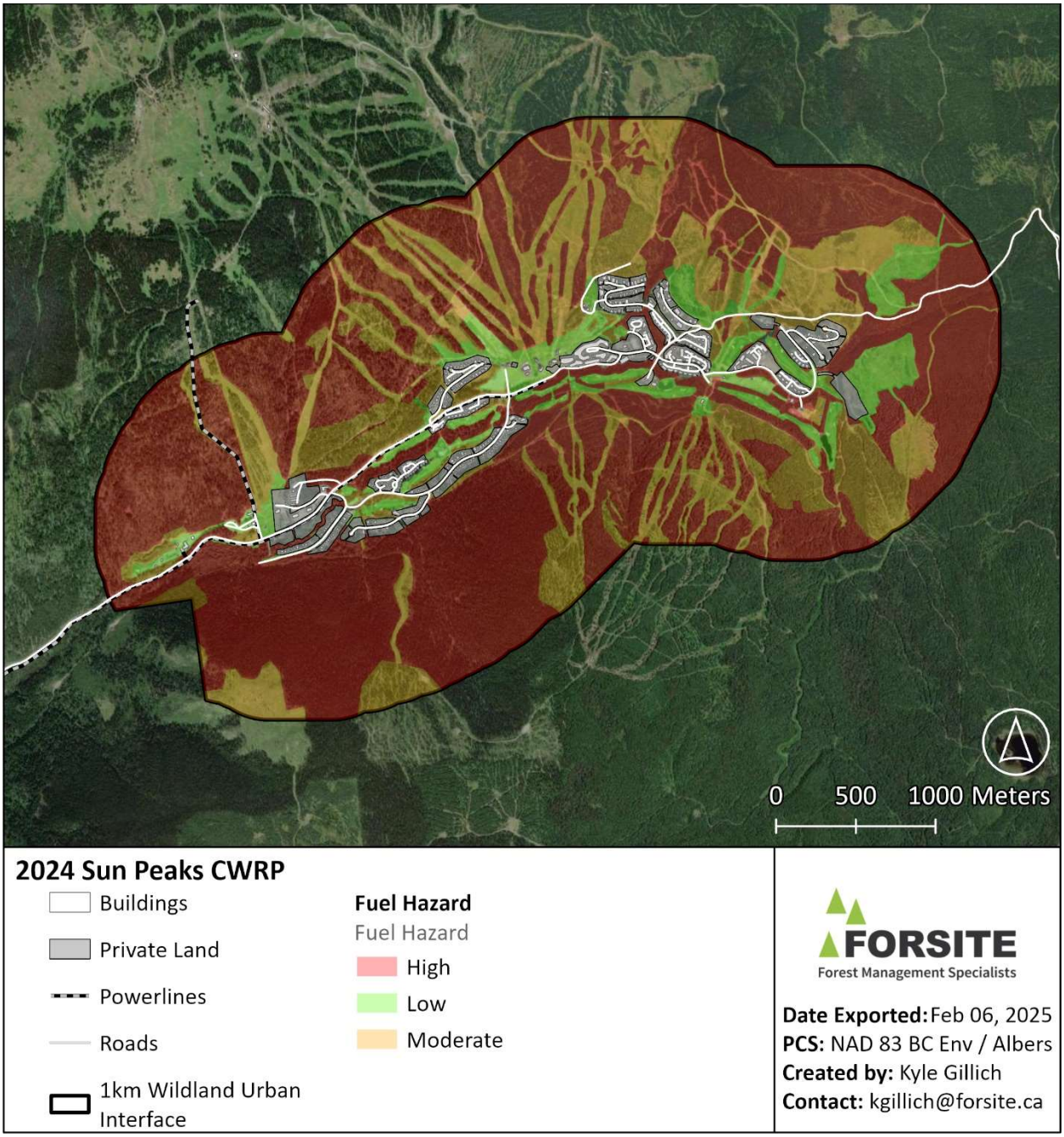


Figure 28. *Wildfire fuel hazard within 1 km WUI at Sun Peaks Mountain Resort Municipality. Hazard polygons were delineated via correlation with wildfire threat assessment plots and photo interpretation of aerial imagery.*

5.0 FireSmart Disciplines

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

FireSmart includes seven disciplines:

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

5.1 EDUCATION

During the development of this plan, Sun Peaks Fire Rescue and Forsite Consultants Ltd. hosted an Open-House to advertise the CWRP, spread FireSmart awareness, share information about fuel-management activities, and gather valuable input from the community into the development of the plan.

Representatives from partnering agencies and community members collectively formed the Sun Peaks Community FireSmart Resiliency Committee (CFRC). Sun Peaks CFRC includes the key planners and responders involved in Sun Peaks' local FireSmart initiatives, wildfire resiliency planning, and wildfire and emergency response management.

Sun Peaks Fire Rescue provide the service of chipping residential organic debris for local homeowners. They have also been active in completing FireSmart structure assessments. It is recommended that Sun Peaks Fire Rescue host regular meetings and events, such as Open Houses, to further engage with the community between CWRP update years. Continual community engagement and education is necessary to achieve FireSmart Canada Neighbourhood Recognition.

Outreach tools and tactics can include:

- **Informational materials** such as newsletters, posters, brochures, videos, Facebook, and the municipal website
- **Community events** such as field tours, workshops, training sessions, public meetings or a Wildfire Community Preparedness Day
- **FireSmart Canada Neighbourhood Recognition Program**
- **Individual communications** such as door-to-door site visits and phone calls
- **Media releases** and **announcements**
- **Community surveys** and other feedback mechanisms
- **Community signage**

Indigenous Community Engagement

In 2019, the Province of B.C. adopted the Declaration on the Rights of Indigenous Peoples Act. This OCP Vision supports collaboration with local and neighbouring First Nations, while recognizing documents such as Calls to Action from the Truth and Reconciliation Commission and the United Nations Declaration of the Rights of Indigenous Peoples (UNDRIP).

Information sharing, collaboration, and cooperation with First Nations is supported by FireSmart interagency cooperation. Interagency Cooperation is one of the seven FireSmart disciplines.

FireSmart recommendations include:

- Provide a copy of the 2024 CWRP on the municipal website.
- A public information program carried forward by the Sun Peaks Fire Rescue should engage all parties who come forward with questions and concerns.
- Prioritize a FireSmart assessment of the Fire Hall, take the necessary actions to FireSmart all assets on the property, and complete the proposed fuel-management in adjacent forested areas. Use the site as a FireSmart demonstration for the community.
- Fire Smart activities are best focused on the large strata units which make up a significant portion of the residential housing.
- Identify and invest in community FireSmart champions who will be available to assist with FireSmart activities as required. FireSmart training is available to support this.
- FireSmart activities are also best focused where there is interest.
- Create a webpage on the municipal website that is dedicated to community FireSmart updates. Share FireSmart information and principles (how to prepare in case of a fire, FireSmart landscaping suggestions, advice on making your property FireSmart, etc.)
- Provide link to FireSmart 101 course on community channels. The course is free and takes approximately one (1) hour to complete (https://www.firesmartcanada.ca/programs-and-education/firesmart-101/)
- Coordinate with FireSmart BC to identify outreach and educational opportunities that can be scheduled into the Official Community Plan and local FireSmart program. One example is the Wildfire Community Preparedness Day, which is typically held in early May. FireSmart provides tool kits to help communities organize the event. The goal is to raise awareness about the FireSmart program and wildfire resiliency in neighbourhoods.
- Consider organizing and hosting public information meetings to promote and distribute FireSmart educational material and resources and discuss topics such as property maintenance and landscaping, wildfire insurance and evacuation planning.
- Conduct surveys as required and communicate results back to the community.
- Ensure that appropriate signage is in place for highly visible fuel-management activities.
- When wildfire danger rating is high and wildfire activity increases across the province during some fire seasons, consider hosting community Open Houses to demonstrate municipal preparedness and provide a calming sense of leadership for the community. Take the opportunity to spread FireSmart awareness and education of evacuation planning, etc.

- Develop a FireSmart Community Plan. Start by partitioning the municipality into smaller cohesive neighbourhoods.
- Apply for FireSmart Canada Community Recognition.
- Provide planning for private property (only with property owners' consent).
- Offer to conduct FireSmart home and property assessments on private property.
- Offer local rebate programs to homeowners on private land who complete eligible FireSmart activities on their own properties.
- Provide off-site debris disposal for private landowners who have undertaken their own vegetation management, by providing a dumpster, chipper or other collection method.
- Continue with curbside chipping program.

5.2 LEGISLATION AND PLANNING

Legislation and Regulation can be a very effective tool for reducing wildfire risk on provincial crown lands and within the administrative boundaries of a local government. Provincial acts and regulations provide the means for local governments to implement wildfire risk reduction actions through by-laws.

It is highly recommended to improve cooperation and collaboration between the Municipality, Sun Peaks Resort LLP, and Mountain Resorts Branch. The dynamics of the Controlled Recreation Area, Sun Peaks Resort LLP, and the Municipality present many opportunities for collaborative FireSmart and wildfire mitigation initiatives.

There are many opportunities to improve wildfire risk awareness and FireSmart success, by incorporating wildfire risk awareness and well-defined FireSmart and fuel-management principles into local bylaws. It is recommended to prioritize new developments and new builds; however, there are opportunities to enforce bylaws on home improvements, additions, renovations, or landscaping.

FireSmart BC provides guidelines and manuals that should be referenced in local bylaws:

- Wildfire Development Permit Areas Guide
- FireSmart BC Begins at Home Guide
- FireSmart BC Begins at Home Guide (PDF)
- FireSmart BC Landscaping Hub
- Plant Chart Booklet
- FireSmart BC Landscape Guide

5.2.1 Existing Bylaws

A) **Bylaw 0034** – Official Community Plan
Bylaw 0035 – Development Procedures
Bylaw 0209 – Building Regulations

These three bylaws have been grouped together due to their implications for urban development and the long-term vision for Sun Peaks.

Fire resistance and resiliency, as well as human safety, should be prioritized in the current and future vision for Sun Peaks Mountain Resort Municipality **AND** Sun Peaks Resort LLP. The dynamics of the Controlled Recreation Area, Sun Peaks Resort LLP, and municipality present many opportunities for collaborative initiatives addressed in this CWRP. There is opportunity for improved synergy between Sun Peaks Mountain Resort Municipality and Sun Peaks Resort LLP. All plans, policies, and bylaws should mandate FireSmart building and landscape designs and FireSmart construction materials.

It is recommended that municipal staff continue to incorporate FireSmart guidelines and definitions into municipal policies and bylaws. Fire resistance and resiliency, as well as human safety, should be prioritized in building and landscape designs. FireSmart construction materials should be mandated on all new builds, improvements, or renovations.

It is recommended that the Municipality not only recognize the need for fuel-management, but actively collaborate with Sun Peaks Resort LLP on timing of new developments and required fuel-management. Stakeholders should also be coordinating any timber harvesting/thinning with fuel-management activities, such as ski run development, glading, or housing development. It is recommended to consider Wildfire Development Permit Areas. Additionally, there has been substantial urban development adjacent to riparian areas. Although this development has aligned with provincial legislation and guidelines regarding adequate buffers and riparian reserves, these riparian areas now pose a high wildfire risk to adjacent structures, and it is challenging to conduct fuel-management in riparian reserves. It is recommended to extend riparian buffers for new development, to account for wildfire risk and fuel-management.

Road networks in suburban and forested areas should be designed to allow for multiple points of access/egress to facilitate safe emergency response, fire suppression, medical assistance, and to support emergency evacuations. Emergency response and evacuation planning are two key components of effective community wildfire resilience planning.

In 2019, the Province of B.C. adopted the Declaration on the Rights of Indigenous Peoples Act. This OCP Vision supports collaboration with local and neighbouring First Nations, while recognizing documents such as Calls to Action from the Truth and Reconciliation Commission and the United Nations Declaration of the Rights of Indigenous Peoples (UNDRIP). Information sharing, collaboration, and cooperation with First Nations is supported by FireSmart interagency cooperation. Interagency Cooperation is one of the seven FireSmart disciplines. Collaboration with Indigenous communities is a national objective, and local communities may have valuable input to the OCP.

During field assessments, numerous structures were found to be non-compliant with FireSmart guidelines, including both private dwellings and municipal structures (**Figure 29 – 32**)



Figure 29. *Numerous private properties and strata have been observed with coniferous tree species being intentionally cultivated adjacent to buildings, which presents an unnecessary fire risk.*



Figure 30. *Infrastructure non-compliant with FireSmart.*



Figure 31. *Infrastructure non-compliant with FireSmart.*

B) Bylaw 0007 – Fire Life Safety

There is language in this bylaw suggesting “removal of fire hazards” which provides an avenue for enforcement of some FireSmart guidelines.

Recommendations are listed here:

- It is recommended to expand on the definition of “fire hazards” within this bylaw.
- Amend bylaws to allow for efficient enforcement of FireSmart Principles, while citing clear definitions and guidelines that align with FireSmart principles.
- Bylaw 0007 - Part 10.3f - may be amended to reflect current BC Open Burning and Smoke Control Regulations (OBSCR).
- Enforce FireSmart building materials on new builds and renovations.
- Ban strata bylaws that force non-FireSmart building materials, designs, or aesthetics that create unnecessary fire risk.

- Consider including bylaws for FireSmart landscaping, including prohibiting conifer trees adjacent to structures. Numerous private properties and strata have been observed with coniferous tree species being intentionally cultivated adjacent to buildings, which presents an unnecessary fire risk (**Figure 29-32**).

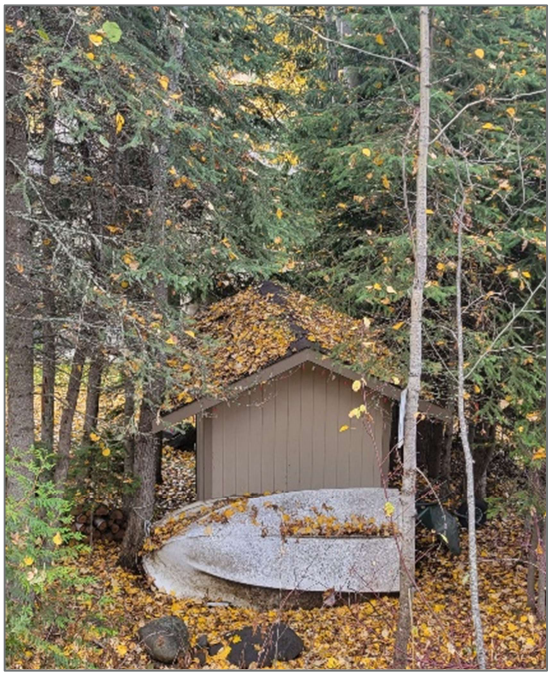


Figure 32. *An example of a structure observed to be non-compliant with FireSmart guidelines.*

C) Bylaw 0043 – Unsightly Premises

This bylaw includes language of "fire hazard" which provides an avenue for enforcement of some FireSmart guidelines. Bylaw 0007 may be sufficient. It is recommended to add or amend bylaws to allow for efficient enforcement of FireSmart Principles

D) Bylaw 0209 – Building Regulations

Bylaw No. 0209, 2023 was implemented in 2023, which replaced Bylaw 2066 from TNRD. This is a bylaw to regulate the construction, alteration, repair, moving and demolition of buildings and structures. This bylaw includes clauses to reduce severity of structural fires, while improving conditions for structural fire suppression. Additionally, this bylaw requires permitting for construction of new structures and prohibits wood-fuelled appliances. This bylaw does not include any wording consistent with FireSmart guidelines for prevention of wildfire damage or spread to the property or structures (i.e. siding or roofing materials, eavestrough design, fuel storage, etc.). It is recommended that bylaw wording is aligned with the *FireSmart Begins at Home Guide*[27] regarding spacing, building materials, and plants.

[27] FireSmart Begins at Home Guide https://firesmartbc.ca/wp-content/uploads/2020/04/05.30.23_BeginsatHomeGuide_Web.pdf

It is recommended to incorporate well-defined FireSmart and fuel-management principles into the process of new developments within the CRA. It is recommended to require and enforce FireSmart construction and landscaping. It is recommended to improve coordination between the Municipality and Sun Peaks Resort LLP regarding the development process, covenants, permits, and building inspections. Definitions of FireSmart principles are recommended to align with current provincial guidelines and may require periodic updates. Fire resistance and resiliency, as well as human safety, should be prioritized in building and landscape designs and materials over aesthetics

E) 2021 Landscape Guidelines

Landscape Design Guidelines were implemented in 2021, developed with the 2019 CRI funding.

Evergreen or coniferous trees should not be within 1.5 m of any buildings or structures, at any point during the life of the tree. It is important to consider the potential size, height, and crown width when planting trees. Deciduous species are preferred.

Planting of non-native coniferous trees and shrubs, such as *Juniperus* and *Thuja* species, may be considered to be banned by local bylaws. The need to plant any conifer shrubs on private property should be evaluated.

Native, fire resistant and resilient species should be preferred over less fire-resistant species for retention during land clearing for development. Species such as subalpine fir, spruces, and hemlocks have dense low hanging branches, thin bark and shallow roots; whereas, species such as Douglas-fir and Larch have deeper roots, thicker bark, and higher self-pruning branches.

Table 16. *Fire resistant species*

Fire Resistant Species	Hazardous Species
• Douglas Fir (*Pseudotsuga menziesii*) • Western Larch (*Larix occidentalis*) • All deciduous species	• Subalpine Fir (*Abies lasiocarpa*) • Spruce species (*Picea spp*) • Hemlock species (*Tsuga spp*) • Lodgepole pine (*Pinus contorta*)

Partnerships

The dynamics of the Controlled Recreation Area, Sun Peaks Resort LLP, and the Municipality present many opportunities for cooperation and collaboration. Fire mitigation is not the sole responsibility of Sun Peaks Fire Rescue, but is rather a collective effort between the Municipality, Sun Peaks Resort LLP, Mountain Resorts Branch, and private landowners.

Not only homes and human life are at risk of wildfire, but the forested landscape on which the resort depends is also at risk of loss or damage. It is recommended that Sun Peaks Resort LLP and their investors incorporate wildfire risk awareness and mitigation into strategic corporate and business plans, for long-term investment security.

It is recommended to improve coordination between the Municipality and Sun Peaks Resort LLP regarding the building development process, covenants, permits, and building inspections. It was determined through

feedback received during the public engagement of this CWRP, that the current wildfire covenants on properties are vaguely worded and lack purpose or clarity. There is confusion around definitions and requirements, as well as enforcement and monitoring of these requirements.

Definitions of FireSmart principles are recommended to align with current provincial guidelines and may require periodic updates, or relative wording that stands the test of time. Fire resistance and resiliency, and human safety, should be prioritized in building and landscape designs and materials over aesthetics.

Annual meetings are recommended for the Municipality and Sun Peaks Resort LLP, on the sole topic of new developments and the relationship to wildfire risk and mitigation. Timber in areas planned to be residential developments will eventually be harvested and it is recommended to not spend resources on thinning and pruning prior to clearcutting. Details on development plans should be seamlessly shared with consultants hired to develop wildfire mitigation or emergency preparedness plans, including the extent of developments, timelines, and spatial data.

Resort developments, such as ski runs, trails, roads, and parking lots are also forms of fuel-management. Plans for these types of new developments should also be discussed.

5.3 DEVELOPMENT CONSIDERATIONS

Development refers to any aspect of the built environment and includes structures, such as individual homes and outbuildings, attachments to structures such as fencing and decks, critical facilities such as health centers, schools, offices, and utility services. Development of utility infrastructure is also considered, including BC Hydro and communications lines. Although renovations and rebuilds are considered, it is recommended to prioritize wildfire mitigation early in the planning process of new developments (**Figure 33**).

The relationship between the built environment and the natural environment must be recognized and planned for with any community-based expansion or development. Considerations include natural or cultivated landscaping, natural forests located in parks or adjacent to the community, open spaces such as grasslands, recreational areas, and the broader forest/grasslands in the landscape. For example, a subdivision with forest or grassland on the fringe might be managed differently than widespread development that is interspersed throughout a forest or grassland.

Development decisions, such as land use types, structure density, road patterns, and other considerations, shape the environment of the wildland urban interface (WUI). These decisions can bring lasting impacts to the WUI and wildfire risk by affecting public and first responder safety. Additionally, developmental design can impact the survivability of homes, critical infrastructure, and other community features in the event of a wildfire. Considering these factors early in the development process can reduce wildfire risk to life safety and property.

The ultimate goal is to implement a strategy for decreasing the chance of structural losses due to wildfire by utilizing regulatory and administrative tools to reduce wildfire hazard and increase the number of buildings and infrastructure compliant with FireSmart guidelines and to lower ignition potential.

In the case of Sun Peaks, the municipality is within the Controlled Recreation Area (CRA). Sun Peaks Resort LLP delineates parcels of land for development. Upon development, these land parcels become part of the Municipality. Analysis of wildfire risk for both current and future developments should be a top priority throughout the process of development at Sun Peaks. Wildfire risk analysis should also be tied closely to the

Official Community Plan and other community-oriented plans as they are created because these plans provide the basis for assessing local conditions, gathering information, and making decisions.

Factors that influence the susceptibility of development, effectiveness of response, and level of public safety during a wildfire include:

- Location of development, including hazardous or vulnerable land uses, in relation to the higher hazard forested vegetation types, steep slopes, and other geographical features that contribute to extreme fire behavior
- Access to and within the community and circulation/travel patterns
- Availability and adequacy of water supply
- Type of construction materials used to build structures and attachments
- Lot size and structure density
- Design guidelines and architectural standards
- Addressing and street signage
- Landscaping, screening, and buffering
- Temporary land uses that determine the type of use and number of people

The actions identified below are intended to help reduce the vulnerability of community members and the community's overall susceptibility regarding future structural and infrastructure development:

- Consider use of fiber-cement board (Hardie board) and other fire-resistant material for future developments and existing structure upgrades
- Consider including FireSmart principles in the Official Community Plan.
- Consider developing building bylaws with considerations to reducing wildfire risk around development. This can include requirement to select specific building material, access to water, landscaping, etc.
- Revise landscaping requirements in zoning and development
- Establish Development Permit Areas for Wildfire Hazard in order to establish requirements for the exterior design and finish of buildings.
- Include wildfire prevention and suppression considerations in the design of subdivisions (e.g. road widths, turning radius for emergency vehicles, and access and egress points).
- Amend referral processes for new developments to ensure multiple departments, including the fire department and/or emergency management staff, are included in the process.

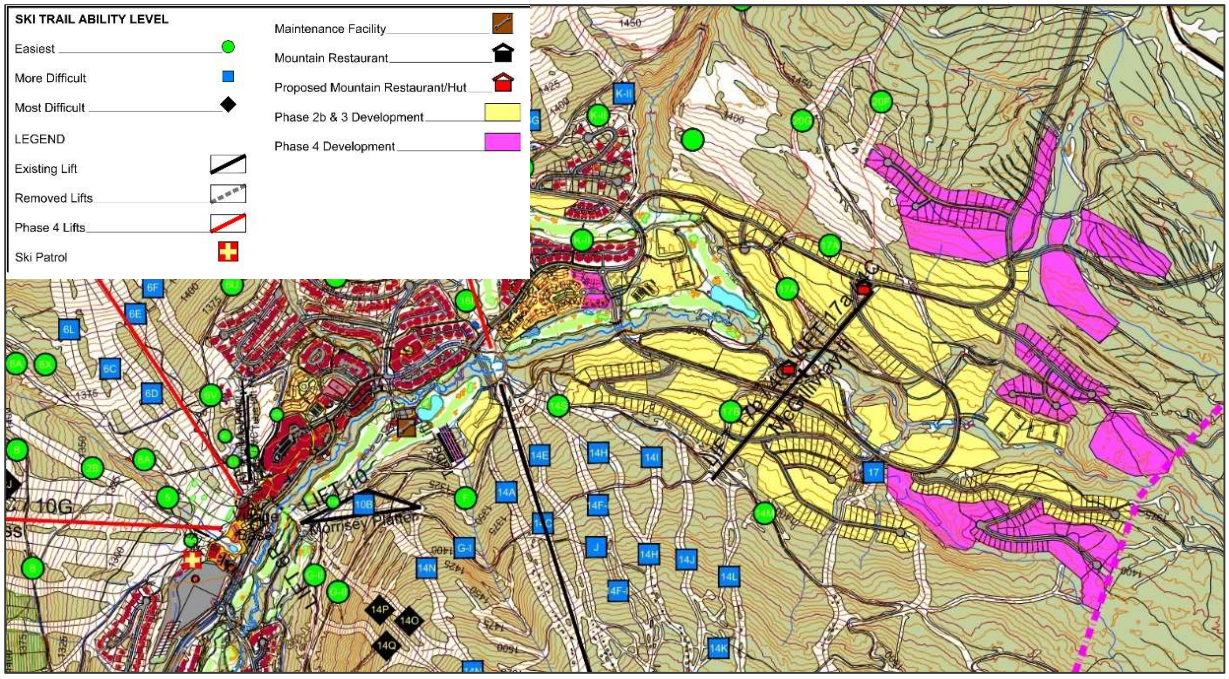


Figure 33. *Sun Peaks Resort LLP – Development Master Plan. Proposed development phases 2-4 are illustrated. Full map may be downloaded at the link in the footnotes.*[28]

Resources

The following list of resources with web links has been compiled in support of development and modifications/improvements to existing infrastructure decisions:

- Information on Development Permit Areas is available at FireSmart BC - Development Considerations
- Additional guidance on land use planning tools and strategies for the Wildland-Urban Interface include the American Planning Association's PAS Report 594 Planning the Wildland-Urban Interface (2019), which are available at no charge through the Association's website.
- The National Research Council (NRC) Wildland-Urban Interface Technical Committee has also published National Guide for Wildland-Urban Interface (WUI) Fires (2021). This guide provides guidance to Canadian local governments and First Nations on WUI land use planning and regulation implementation.

Road networks in suburban and forested areas should be designed to allow for multiple points of access/egress to facilitate safe emergency response, fire suppression, medical assistance, and to support emergency evacuations. Emergency response and evacuation planning are two key components of effective community wildfire resilience planning.

[28] Sun Peaks Master Development Plan https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/all-seasons-resorts/sun-peaks-master-plan-update-2020-final-doc-and-figs/figure_15_resort_master_plan_phase_4.pdf

5.3.1 Wildfire Development Permits

It is recommended to improve coordination between the Municipality and Sun Peaks Resort LLP regarding the development process, covenants, permits, and building inspections. Definitions of FireSmart principles are recommended to align with current provincial guidelines and may require periodic updates. The Municipality and resort are recommended to jointly collaborate on a development process that includes zoning, permitting, enforcement, inspections, and monitoring.

There are currently two development permit areas (DPAs) within SPMRM:

- Natural Hazard Lands Development Permit Area (DPA 1)
- Riparian Areas Development Permit Area (DPA 2)

It is recommended to consider implementing Wildfire Policy and Development planning. “Wildfire Development Permits” are one tool that can help reduce wildfire risk within the community and prevent future developments from creating new undue fire risks. Wildfire Development Permit guidelines would also accelerate the rate at which housing adopts FireSmart principles, increasing the efficiency and completeness of wildfire risk mitigation overall.

Wildfire Development Permits guidelines can mitigate fire risk in the following aspects of home and neighbourhood development:

- Building materials standards,
- Landscaping standards,
- Building setbacks, road width and access routes, hydrant locations; and
- Mitigation of wildfire hazards on future park lands, public lands, or “open space” as defined in the OCP.

5.3.2 Sustainable Urban Forest Strategy

Another opportunity for strengthening policy and planning includes the development of a municipal Sustainable Urban Forest Strategy. There are opportunities to implement policies that will manage municipal green space at a landscape-level. Managing forest ecosystems to support their continued health and resilience will support wildfire risk reduction goals. There are opportunities to adopt a standard for fuel-management in parks and green spaces.

Examples of this include:

- Pruning/thinning of existing coniferous species that present volatile fuel hazards
- Planting more deciduous species
- Restoration of wetlands.

5.4 INTERAGENCY CO-OPERATION

It takes the collaborative efforts of multiple stakeholders working together to achieve a fire resilient community. These people include residents and home occupants, local fire departments, local government staff, elected officials, local First Nations representatives, local businesses, and industry representatives. Individually they are responsible to their own organizations, but all stakeholder organizations are dependent upon each other to develop an effective Community Wildfire Resiliency Plan and undertake a successful wildfire response.

Goal

The ultimate goal is to encourage and establish collaborative relationships among Sun Peaks Mountain Resort Municipality, Sun Peaks Resort LLP, provincial government agencies, stakeholder groups, neighbouring communities and First Nations, and local residents to achieve a wildfire resilient community. Coordination and cooperation are required to develop an effective CWRP and be prepared in the event of a wildfire or other emergency (**Table 17**).

Assessment

The CWRP development process offers an opportunity for individual organizations to work together and develop strong interagency and inter-disciplinary working relationships well ahead of an emergency response. The goal is to broaden from department or agency siloes and the single jurisdiction-based approach to a risk-driven, multi-agency and multi-scalable approach. This increases the ability of individual organizations to plan effectively and ultimately work efficiently and together during the urgency of an emergency response.

Sun Peaks Mountain Resort currently has a comprehensive FireSmart program run by Sun Peaks Fire Rescue. Annual yard waste chipping events, education initiatives, and critical infrastructure assessments are some of the FireSmart activities that the municipality implements.

One of the ways the implementation of this CWRP will encourage interagency cooperation is through a Community FireSmart and Resiliency Committee (CFRC). The purpose of the CFRC is twofold. First, the Committee is responsible for reviewing and implementing the CWRP, monitoring for funding opportunities via CRI or other sources and working effectively to implement the seven FireSmart disciplines within their community. Second, the Committee is a mechanism for bringing together local communities and provincial agency staff with stakeholders to collaboratively coordinate, plan and share information on FireSmart activities at a local and regional level. Committee membership should reflect local realities. Different members will have different roles, either more hands-on or advisory. It is recommended to include representatives from the following agencies and departments on the committee:

Table 17. *Recommended roles and responsibilities of partnering agencies.*

Agency	Representative Department	Recommended Role
Sun Peaks Resort LLP	Planning & Development staff who lead new developments. Operational staff with knowledge of current buildings, infrastructure, and wildfire risk.	Primary - provides data, information, and other relevant plan content; works to determine CWRP actions; conducts outreach with other government agencies, First Nations, stakeholders, and the public to discuss the plan and receive additional input. Knowledge of new developments and any timber harvesting should be shared with the committee.
Sun Peaks Mountain Resort Municipality	Planning & Development staff, Emergency Services Staff, Council members, and local fire department.	Provides supporting data, information and other relevant plan content; works to determine CWRP actions; conducts outreach with other government agencies, First Nations, stakeholders and the public to discuss the plan and receive additional input.
Representatives from Adjacent Local Governments	FireSmart champions from adjacent communities (i.e. Whitecroft, TNRD)	Information sharing – coordination of efforts response plan in case of a wildfire
Provincial Government	• Ministry of Forests – WRR • BC Parks • Ministry of Transportation and Infrastructure • BC Wildfire Service • Emergency Management BC	Advisory/Collaboration – reviews plan content; may provide some data and information or suggestions for resources; supports development of plan BCWS to provide advisory/support/approval/ program development and monitoring- provide technical advice, review and approve plans and funding applications, supports plan development and implementation. Manage the programs to ensure the best management practices are developed and incorporated.

5.4.1 Local Staff & Volunteers

Local staff and volunteers are essential to timely incident response and containment. Sun Peaks Fire Rescue will likely be the first agency to respond to a new fire. Fire departments cross-trained to include structural fire, wildland fire, and interface fires will be most successful on incidents within the WUI.

Some Sun Peaks Resort LLP and municipal Public Works and Utilities staff are certified in S100/S185. Sun Peaks Fire Rescue crews are certified to WSPP-WFF1. It is recommended to train as many staff and volunteers as possible with S-100 and S-185 certifications. This training, combined with adequate personal protective equipment, allows individuals to safely work on the wildland fire line. This training requires annual recertification. It is recommended to maintain a list of contacts of every resident receiving these certifications.

It is of primary importance for municipal staff to understand their roles and responsibilities in the event of an emergency, especially during the activation of an Emergency Operations Centre. Beyond individual roles, it is also important for staff and volunteers to understand the entire organizational structure of an unfolding incident, so they can better assist others in their different roles.

During the 2024 CWRP Open House, local residents offered to volunteer in fuel-management and FireSmart activities. Safe work standards and practices must be adhered to at all times, but there is capacity to utilize volunteers in fuel-management and FireSmart processes. It is recommended to canvas the interest of volunteers, expand the network of volunteers, provide adequate education and training, and engage volunteers in appropriate, low-safety-risk activities. Pruning, piling, and chipping are some examples of low-risk fuel-management activities. There are additional opportunities for volunteers to demonstrate leadership, or community championship of various initiatives.

5.4.2 Partner Agencies

It is recommended that Sun Peaks Fire Rescue establish a list of contacts from partner agencies. It is advantageous to not only acquire contact information, but to establish and maintain meaningful relationships with a primary and secondary contact within each agency. It is critical to select individuals from each agency who are in a role of authority or decision-making power, who can contribute to needs of education, training, and/or emergency response. People often change positions, take new jobs, or retire, so it is recommended to continually maintain relationships at each agency. Key agencies include Mountain Resorts Branch, Ministry of Forests Wildfire Risk Reduction, BC Wildfire Service, Thompson Nicola Regional District, and First Nations.

5.5 CROSS TRAINING

Wildland firefighters use different communication channels than structural firefighters. It is of primary importance to rehearse communication strategies with all first responding agencies. Wildland firefighters also use different equipment than structural firefighters. It is important for first responders and volunteers to familiarize themselves with all equipment and the integration of all water delivery systems.

It is recommended to organize and host annual training exercises with partnering agencies including:

- Local First Nations
- BC Wildfire Service (BCWS)
- Thompson Nicola Regional District (TNRD) – neighboring fire departments
- Royal Canadian Mounted Police (RCMP)

Annual inter-agency training exercises should review emergency management plans, escape routes, water sources, values at risk, critical infrastructure, communications plans, incident command system, logistics, and mock fire exercises. LACES briefings should be conducted with every mock fire.

LACES is an acronym for a standard checklist of safety points to be discussed in any fire line briefing.

- Lookouts
- Anchor Points
- Communications
- Escape Routes
- Safety Zones

It is recommended to support professional development to increase capacity for FireSmart activities and continue certifying as many staff and volunteers as possible. There are numerous FireSmart training and cross training opportunities available from the FireSmart Community Funding and Supports Program funded through CRI. FireSmart brings together many different people and groups who may not typically work in a wildfire environment, and the funded training opportunities are intended to help create a common foundation upon which local wildfire preparedness, prevention and response resiliency can develop.

The FireSmart Community Funding and Support Program will currently fund the following FireSmart training and firefighter cross-training:

- Training for FireSmart positions (e.g., FireSmart Coordinator)
- Local FireSmart Representative
- Wildfire Mitigation Specialist (initial training and annual renewal fee)
- Wildfire Risk Reduction Basics
- Fire & Life Safety Educator
- ICS-100 Incident Command System introduction
- SPP-WFF1 Wildland Firefighter Level 1
- S-100 Basic Fire Suppression and Safety
- S-185 Fire Entrapment Avoidance and Safety
- S-231 Engine Boss
- WSPP-115 Training for structure protection crews
- Task Force Leader
- Structure Protection Group Supervisor
- Introduction to Emergency Management in Canada

5.6 EMERGENCY PLANNING

On busy fire years, when multiple wildfire emergencies occur simultaneously throughout the province, the availability of resources, such as BCWS staff, contractors, and equipment may be severely reduced and often scarce. Resource shortages force the triage or prioritization of emergencies across the entire province. Allocation of provincial resources is based on the *Provincial Coordination Plan for Wildland Urban Interface Fires*[29]. Lack of provincial organization or resources has also prevented some fires from ever being actioned or receiving adequate resources for containment[30]. Therefore, local governments, local resources, and individuals need to be prepared and ready to act.

Community preparations for a wildfire emergency requires a multi-pronged approach. Individuals and agencies need to be ready to react by developing plans, mutual-aid agreements, resource inventories, training and emergency communication systems. All of these make it possible for a community to respond effectively to the threat of wildfires as a whole.

Goals

FireSmart and fuel-management activities are intended to reduce the potential impact of a wildfire; however, these treatments never remove all probability of fire occurrence. If a wildfire is threatening a community, it is imperative the community has a documented and effective emergency plan prior to the event. The goal of the emergency plan is to prepare Sun Peaks Mountain Resort Municipality and Sun Peaks Resort LLP to respond safely and effectively, in partnership with local first response agencies and local and regional authorities to wildfire events.

This CWRP aims to increase the number of community members who:

1. Understand which disasters can happen in their community and how they could be affected
2. Know what to do to be safe and mitigate damage in an emergency
3. Take action to increase individual and community preparedness
4. Participate in community resilience planning

Assessment

The worst wildfire disaster events are often associated with high wind and extreme dry weather conditions. The resulting thick smoke that precedes the head of the fire can cause poor visibility, increase stress, and impair the decision-making process.

Poorly coordinated emergency efforts can lead to confusion and expose members of the public to unacceptable risk. Without emergency pre-planning for all phases of a response, a wildland urban interface incident can quickly overwhelm resources and render them ineffective. The goal for emergency planning is to take steps to protect the community in advance of a wildfire and plan to evacuate early.

[29] BC Provincial Coord Plan for WUI Fires https://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/emergency-preparedness-response-recovery/provincial-emergency-planning/bc-provincial-coord-plan-for-wuifire_revised_july_2016.pdf
[30] Globe and Mail – News Article https://www.theglobeandmail.com/canada/british-columbia/article-some-bc-residents-stayed-to-fight-wildfires-amid-resource-shortage/

Sun Peaks Fire Rescue provides fire protection for the entire municipality. Sun Peaks Fire Rescue is a composite fire department staffed by three full-time officers and up to 30 volunteers.

To optimize emergency planning, the following emergency planning topics should be considered:

5.6.1 Pre-Incident Planning

The pre-incident plan is a comprehensive compilation of essential fire management information needed to save valuable time during fire suppression operations (**Table 18**). This plan must be reviewed and, if necessary, revised prior to every fire season. A wildfire response plan should be tested and practiced annually through tabletop and live simulation exercises, while in cross-training with BCWS and neighbouring communities/agencies. The following pre-incident planning checklist should be used to develop pre-response wildfire suppression plans and maps.

Table 18. *Pre-incident planning checklist*

Command	• Escape Fire Situation Analysis (if appropriate) • Pre-positioning needs • Draft delegation of authority • Management constraints • Interagency agreements • Structural protection needs • Closure procedures
Operations	• Heli-spot, heli-base locations, flight routes, restrictions, water sources • Control line locations • Natural barriers • Safety zone options • Staging area locations • Fuel Caches • GPS locations for helicopter access
Logistics	• Base camp locations • Road, trails (including limitations) • Utilities • Communications (radio and frequencies, telephone)
Planning	• Community base map • Topographic maps / LiDAR slope maps • Vegetation/fuel maps • Hazard locations (ground and aerial) • Archaeological/cultural base map • Endangered species critical habitats • Sensitive plant populations • Water sources • Land status • Priority zoning • Access/Egress points and routes

The 2024 Sun Peaks Evacuation Plan is publicly available on the municipal website[31], which was an update to the 2010 Sun Peaks Evacuation Plan[32]. It is recommended that Sun Peaks Mountain Resort Municipality and Sun Peaks Resort LLP incorporate this information in current emergency planning.

- Sun Peaks Road is the main access road in from Heffley Creek and is used for all resort supply trucks, fuel, propane, building supplies, visitors and tour buses.
- Sun Peaks Road is also used by logging trucks
- School buses access the village twice daily and turn around in P3.
- Health Centre is not equipped to handle multiple casualty incidents on a first response basis.

[31] Sun Peaks Evacuation Plan 2024 https://sunpeaks.civicweb.net/filepro/documents/41883/
[32] Sun Peaks Evacuation Plan (2010) https://tnrd.civicweb.net/document/4986/

- Entire site is fed by one power line coming in from Heffley Creek. Severity of impact rated high as people could be stranded on lifts and the Village's propane distribution system could be impacted if the tank vaporizers go down. Any short- or long-term hydro grid failure will not impact the propane storage facility or its vaporizers as the plant has automatic back up power provided by a propane powered generator. However, any major break in the propane distribution grid in the main village area may result in a core evacuation due to leaking gas.
- It is also important to note that in the event of loss or damage to wildfire, power & communication lines may be disrupted at Sun Peaks during an emergency when they are most needed.
- Domestic and firefighting water reservoirs (4) are all concrete, in ground, gravity fed. The fourth reservoir was developed in 2023.
- Snowmaking reservoir of 36,000,000 US Gallon capacity (132,000m3).
- Any leakage or large flows due to a failure would drain into the Cahilty Creek watershed and flow away from populated areas.
- The 2024 Sun Peaks Evacuation Plan contains checklists

5.6.2 Data Storage and Organization of Spatial Data

It is highly recommended to designate a municipal role and responsibility to the storage and organization of spatial data. A considerable amount of effort was required to source spatial data required for the development of this CWRP. Different consultants hired to complete different tasks are all spending time and effort repeatedly sourcing the same spatial data (i.e. building developments, ski runs, roads, trails, utilities, critical infrastructure, treatment units, etc.). Due to the tendering of work on Crown land, different companies can be hired at any time. If this data was organized by the Municipality and seamlessly provided to consultants upon project initiation, this would greatly improve efficiency and reduce opportunities for errors.

Dedicate a single data storage location for all fire management related data, managed by a delegated municipal staff member who has experience working with spatial data. Organize this data by year and project name. Additionally, ensure this data is securely backed up in another location and safe from fire damage.

When contractors or consultants submit deliverables, such as plans, prescriptions, or documents, the Municipality should require submission of all the following:

- Final draft MS Word file (.docx)
- Final signed & sealed PDF (.pdf)
- All spatial files (.shp, .kml/.kmz)
- All photos in original quality
- All collected field data

5.6.3 Communication

Sun Peaks Mountain Resort Municipality frequently updates the municipal website as the primary method of communication with the community.

Municipal website link: https://sunpeaksmunicipality.ca/

All residents, guests, and tourists are encouraged to sign up for Voyent Alert, which will be used to send push-notifications to mobile devices in the event of an emergency.

https://sunpeaksmunicipality.ca/public-safety/emergency-notifications/

It is recommended that Sun Peaks Fire Rescue host regular meetings and events, such as Open Houses, to further engage with the community between CWRP update years. Continual community engagement and education is necessary to achieve FireSmart Canada Community Recognition.

It is recommended to develop an annual document for fire season preparedness and distribute to each individual community member prior to wildfire season.

When wildfire danger rating is high and wildfire activity increases across the province during some fire seasons, consider hosting community Open-Houses to demonstrate municipal preparedness and provide a calming sense of leadership for the community. Take the opportunity to spread FireSmart awareness and education of evacuation planning, etc.

5.6.4 Evacuation Planning

In 2022, funding was provided by the Union of BC Municipalities (UBCM) for Evacuation Route Planning. The 2024 Sun Peaks Evacuation Plan is publicly available on the municipal website[33]. There are three major safety concerns with the execution and details of this plan:

1. It is recommended that evacuation routes and plans be publicly available and easily accessible to the public. Evacuation routes should be advertised and clearly marked with signage for residents, renters, guests, and tourists in the event of an emergency. It is also recommended to publicly advertise any updates regarding evacuation routes and plans because emergencies can happen at any moment and are never planned. It is also recommended to share evacuation routes and plans with neighbouring communities, municipalities, and First Nations. Escape routes may be discussed during cross-training emergency planning exercises with multiple agencies (i.e. BCWS, RCMP, BC Ambulance, TNRD, etc.).

2. Field assessments conducted for the development of this CWRP concluded that alternative egress routes from Sun Peaks, primarily McGillivray Lake and Cahilty FSRs, present a number of hazards to the general public in the event of a wildfire, including:

    - Water bars, or off-road features requiring high clearance 4x4 vehicles. Many sections of these roads are not suitable for low vehicles and may be impassable with small cars.
    - These roads are narrow corridors through dense forest stands that pose high fuel hazard and high fire risk to commuters. These roads are not considered safe zones in the event of a wildfire, nor do they provide access to safe zones for dozens of kilometres.
    - Cahilty FSR was not identified as an evacuation route in the 2024 Sun Peaks Evacuation Plan. This road is inaccessible due to the washout and



Figure 34. *Road washout at 37 km on McGillvray Lake FSR (Photo taken Sept 11, 2023)*

[33] Sun Peaks Evacuation Plan 2024 https://sunpeaks.civicweb.net/filepro/documents/41883/

culvert removal at 37 km on McGillivray FSR. There are currently no plans to reactivate or improve this route. This implies that McGillivray Lake is not accessible from Cahilty FSR or Heffley Louis Creek Rd (**Figure 34**) .

3. It is recommended to always consult with qualified forest professionals and wildfire experts to plan safe and effective fire evacuation routes, especially when wildfire risk mitigation of these proposed routes requires landscape-level forest management planning. Long and complex emergency evacuation routes likely require landscape-level forest management planning, community input/consultation, and fuel-management prescriptions to ensure safe and effective operability.

9. **Evacuation Routes, Distances and Time Considerations**

* Sun Peaks to:
(via paved main access road)

Whitecroft	8 km	10 minutes
Heffley Creek	32 km	30 minutes
Kamloops City Centre	55 km	45 minutes

** Sun Peaks to:
(via unpaved McGillivray Lake Road)

Kamloops/East Shuswap Road	28 km	35 minutes
Pritchard Bridge	38 km	45 minutes
Kamloops City Centre	77 km	75 minutes

* Year-round access

** Summer Only (mid May thru October). This road would probably not be useable by buses. Persons unfamiliar with this road would need an escort to avoid getting lost on the wrong road.

Figure 35: Evacuation routes, distances, and time considerations as per the 2010 Sun Peaks Mountain Resort Evacuation Plan

Shelters Available

For a full-scale evacuation at maximum occupancy, evacuees would be directed towards reception in the City of Kamloops. For lower numbers of people, or if only a portion of the resort area was being evacuated, the evacuees would either be directed to hotels at Sun Peaks or to a reception centre located either at Sun Peaks, the Heffley Creek Community Hall, or Kamloops.

Total Access Plan

The development of a Total Access Plan is also recommended, and this plan should be regularly updated simultaneously with the pre-incident plan. A Total Access Plan should include the following pieces of information, in written documentation and on maps and spatial layers:

- All maintained trails and roads within the municipality
- Type of access available for each access route (foot, ATV, etc.)
- Trails which are gated and / or have barriers
- Information for unlocking / removing barriers (e.g., key location or ownership)
- Natural areas where access is insufficient

- Sensitive environmental areas where the lowest-impact access options should be prioritized

As part of pre-incident planning, the municipality may consider developing local daily action guidelines based on expected wildfire conditions. The table below provides a template that can be tailored specifically to the Municipality outlining actions that staff, fire department members, and other emergency staff can take as fire danger levels change throughout the year. Some of these actions are already undertaken annually, (e.g. during Extreme fire danger, EOC staffing availability information is updated, and natural area closures occur), while other actions have not yet been initiated. Year-round, fire danger signs posted throughout municipality should be updated to reflect the current fire danger.

Table 19. *Recommended Wildfire Response Preparedness Condition Guide*

Recommended Wildfire Response Preparedness Condition Guide	
Fire Danger Rating	**Action Guidelines**
1 - LOW	• All Community staff on normal shifts.
2 - MODERATE	• All Community staff on normal shifts • Staff will update fire danger signs.
3 - HIGH	• All Community staff on normal shifts. • Regional fire situation evaluated. • Daily fire behavior advisory issued. • Wildland fire-trained community staff and EOC staff notified • Establish weekly communications with local wildland fire agency contacts. • Staff will update fire danger signs.
4 - EXTREME	• Daily fire behavior advisory issued. • Daily detection patrols by Staff. • Regional fire situation evaluated. • EOC staff considered for stand-by. • Wildfire Incident Command Team members considered for stand-by/extended shifts. • Update public website as new information changes. • Provide regular updates to media services members/Community staff on fire situation • Update public website as new information changes
FIRE(S) ONGOING	• All conditions apply as for Level IV (regardless of actual fire danger rating). • Provide regular updates to media/structural fire departments/park staff on fire situation. • Mobilize EOC support if evacuation is possible, or fire event requires additional support. • Implement Evacuation Alerts and Orders based on fire behavior prediction and under the direction of the Fire Chief.

5.6.5 Action Planning

CRI Eligible Activities:

- Consider coordinating with local authorities (RCMP, BCWS, and Municipal Fire Departments) or other cross jurisdictional organizations to build relationships, ensure relationships and contact information is up to date, and complete tabletop exercises focused on wildfire preparedness and suppression, including seasonal wildfire readiness meetings.
- Consider assessing community water delivery ability for suppression activities.
- Consider assessing structure protection inventory and supplementing with needed WUI response equipment.

Non-CRI - Eligible Activities

The following actions have been identified in support of emergency preparedness and planning for wildfire:

- Develop an Emergency Management Plan specific for this community.
- Consider incorporating the following information into the Emergency Plan:
    - Identify and include maps of all muster stations and evacuation routes.
    - Prior to wildfire season, review emergency contact information annually to confirm contacts are up to date.
    - As part of continuous improvement, include plans to debrief following any incident to document lessons learned; ensuring that complications are identified and can be prevented or mitigated for future incidents.
    - To help maintain awareness and competency, consider planning for Annual Drills and rehearse emergency situations with key municipal personnel.
- Rehearse the Evacuation Plan specifically designed for a wildfire event including considerations for vulnerable populations, various vehicle types, and situations where primary paved access may be cutoff.
- Develop an annual document for fire season preparedness and distribute to each individual community member prior to wildfire season.
- Create a database (Excel sheet or link on website) with contact information for a list of local equipment operators, or skilled community members available in the event of emergency (i.e. liaison roles, local knowledge).

Resources

The following resources are available for reference and to assist with emergency planning:

National Guide for Wildland-Urban-Interface Fires - which provides guidance to Canadian local governments and First Nations on WUI land use planning and regulation implementation, as well as guidance on wildfire response preparedness planning.

FireSmart BC Emergency Planning

Emergency Management in B.C. – which contains several valuable resources including fire services, education and toolkits, and preparedness and recovery information.

5.6.6 Firefighting Resources

For successful fire response it is recommended that Sun Peaks Fire Rescue inventory, maintain, and improve upon the following:

- Defendable spaces
- Access/egress routes
- Fire hydrant locations
- Creeks and water sources
- Staging areas /safety zones
- Completed fuel-management treatment units
- Helipad/helispots

5.7 VEGETATION AND FUELS MANAGEMENT

The general goal of vegetation management is to reduce the potential wildfire intensity and ember exposure to people, infrastructure, structures and other values through manipulation of both the natural and cultivated vegetation that is within or adjacent to a community. A well-planned vegetation management strategy that is coordinated with development, planning, legislation and emergency response wildfire risk reduction objectives can greatly increase fire suppression effectiveness and reduce damage and losses to structure and infrastructure.

Vegetation management, also referred to as fuel-management, is considered a key tool in FireSmart. Vegetation management should be strategically focused on minimizing impact while maximizing value to the community. For example, understory thinning, or surface fine woody debris removal may suffice to reduce fuel hazard. In situations where the risk is high, a more aggressive vegetation management strategy may be necessary. The effectiveness of vegetation management depends on the longevity of treatment (vegetation response and recovery), cost, and the expected effect on fire behaviour.

Vegetation management can be accomplished through two different activities:

1. **Residential-scale FireSmart landscaping**: The removal, reduction, or conversion of flammable plants (such as landscaping for residential properties, parks and open spaces) in order to create more fire-resistant areas in FireSmart Home Ignition. Refer to the FireSmart Guide to Landscaping.
2. **Fuel management treatments**: The manipulation or reduction of living or dead forest and grassland fuels to reduce the rate of spread and head fire intensity and enhance likelihood of successful suppression, generally outside of FireSmart Home Ignition Zone.

Goals

Proactively manage vegetation at multiple scales to reduce the potential wildfire intensity and ember exposure to people, infrastructure, and other values.

5.7.1 FireSmart

Assessment

Both residential FireSmart landscaping and fuel management treatments should be undertaken in the Home Ignition Zone (HIZ) around each structure within the wildland urban interface. The HIZ can be broken down into four (4) distinct priority zones that must be managed to reduce the wildfire threat to a structure (**Figure 36**). These zones, listed in order of treatment priority, include:

Non-combustible Zone is the highest priority area directly adjacent to a structure (from 0 m to 1.5 m). This zone extends around the structure and its attachments (such as decks, car ports, etc.) and is completely cleared of combustible materials or storage. Treatments in this zone can reduce the chance of windblown embers igniting materials near the structure.

Zone 1 is the area adjacent to the Non-Combustible Zone that is from 1.5 m to 10 m from the structure. This zone is generally free of woody plants and debris and should be vegetated with fire resistant plants and materials. Sheds and storage of firewood, recreational vehicles, and other combustible structures should be kept outside of Zone 1.

Zone 2 extends from 10 m to 30 m from the structure where thinning and pruning of existing woody plants is an important step to reducing wildfire hazards. Debris cleanup and surface fuel management in this zone is ongoing to keep hazards down. Zone 2 is the recommended zone for storage sheds and other potential combustibles.

Zone 3 is the area from 30 m to 100 m from the structure and will influence how a wildfire approaches the structure. Vegetation management in this zone can significantly change the dynamics of wildfire behaviors on the property – particularly where opportunities to reduce canopy closure and wildfire intensity have been maximized. Coordination with Regional and Provincial agencies may be required where portions of these HIZs overlap Crown land.

Wildfire Mitigation Program

Catastrophic loss of homes due to wildfires is often due to structure ignition from ember showers which can ignite fuels surrounding, or in contact with, the structure. Once a home, or other infrastructure, is ignited the fire can spread throughout the built environment and quickly overwhelm suppression resources. The best strategy to prevent loss of values is to mitigate the level of hazard on the property. The previously mentioned education campaign will be critical to inform residents of the small steps they can take around their homes to reduce risk.

The Wildfire Mitigation Program is available for Sun Peaks Mountain Resort Municipality. This program, with grant funding through CRI, helps fund a Wildfire Mitigation Specialist or Prevention Officer to conduct property assessments for homeowners and municipal infrastructure. Additionally, if insurance providers are part of the program, homeowners may have the opportunity to save money on home insurance. This program helps communities work towards FireSmart Canada's Neighbourhood Recognition.[34]

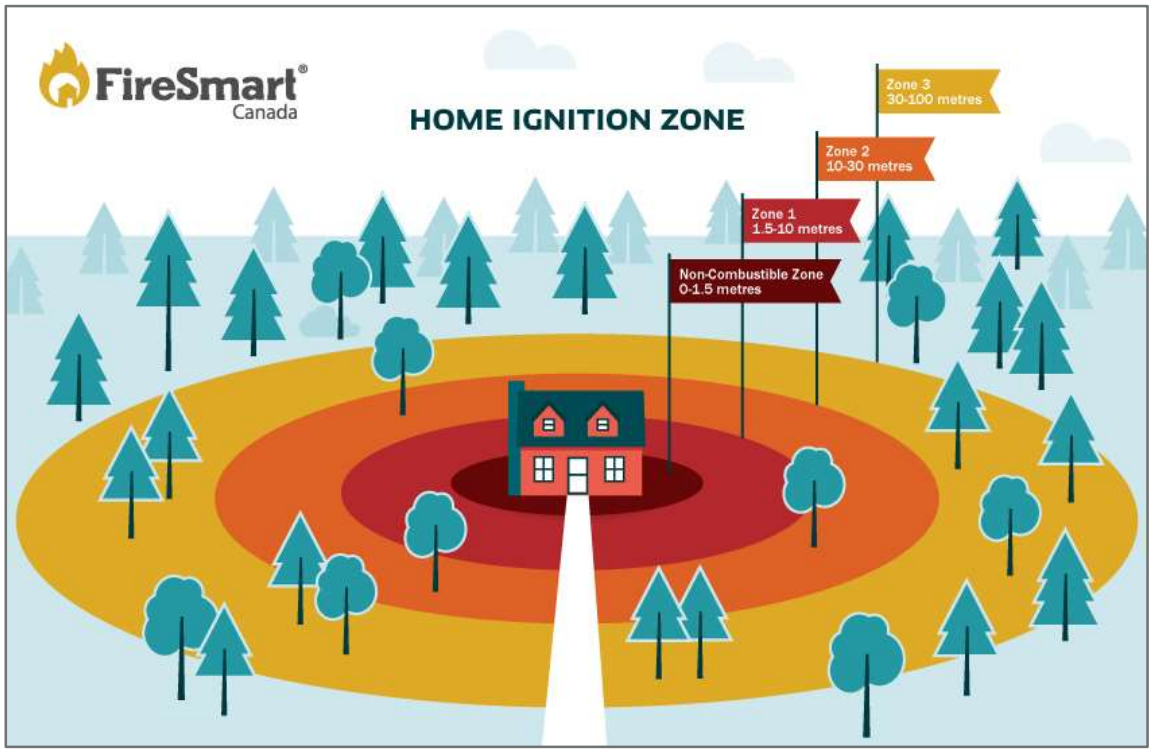


Figure 36. *FireSmart – Home Ignition Zone*

5.7.2 Fuel Management

Wildfire behaviour is based on three factors.

1. Forest Fuel – the woody material available to burn, volume, configuration and continuity
2. Weather – daytime temperature, the amount of drying and wind
3. Topography – the lay of the land, slope, aspect and terrain

Of these three factors, we are only able to control the forest fuel. Reducing the volume and continuity of the forest fuels can reduce the intensity, maximum behaviour and the rate of spread of a wildfire, thus reducing the wildfire threat. The wildfire threat goals for forest fuel management should be:

a) Reducing the crown fire potential, and

[34] FireSmart Canada Neighbourhood Recognition Program https://firesmartbc.ca/firesmart-canada-neighbourhood-recognition-program-fcnrp/

b) Reducing the surface fire intensity.

Other important benefits include easier access into an area, better firefighter safety and greater effectiveness of aerial wildfire suppression resources. There must also be ecosystem-based goals including retention and enhancement of other forest values and stand resilience and biodiversity.

There are two basic approaches to wildfire threat reduction or forest fuel management. The chosen method will depend on numerous site-specific factors.

1. **Timber Harvesting:** Timber harvesting in interface areas is a cost-effective method of reducing crown closure and opening up a forest stand to significantly reduce crown fire potential. In large areas of commercially viable forest, a form of timber harvesting to remove a portion of the stand is the most logical option. The wildfire threat reduction work can be self-funding, and a valuable resource gets properly utilized. The intensity and method of harvesting will depend on the topography, tree species, forest health, degree of wildfire threat, community acceptance and a variety of other site-specific factors. Clearcut harvesting, while usually not a very popular option for any community, may be the only solution in pure pine or spruce forest stands impacted by bark beetles.

   Where necessary, a form of partial or selective harvesting is better accepted by local residents. Removal of targeted tree species, based on forest health, wind firmness and a wide assortment of other factors is common practice.

   Harvesting for fuel management, or wildfire threat reduction, is significantly different from conventional commercial harvesting. The emphasis should be directed towards the final product left behind in the forest, not necessarily the timber removed from the site.

2. **Non-harvesting forest fuel management:** In immature, inaccessible, sensitive and small patches of forestland where harvesting is not an option, wildfire threat reduction efforts can be completed without timber extraction. Treatments can be carried out by hand, with equipment or a combination of the two. These treatments are rarely self-funded and require a funding source for completion. Treatments can vary in cost from $7000-$10,000 per hectare or more. Reducing the amount and configuration of the forest fuels consists of four basic activities.

   a. **Danger Tree Removal**: Trees considered dangerous to work around and dead trees that can reach private land or access roads must be removed before fuel management activities commence. Retention of high value wildlife trees must be considered where possible.

   b. **Spacing or Thinning**: Spacing, thinning or tree removal involves the reduction of the number of stems and associated branches and needles within the forest canopy. There are a number of different techniques. The spacing treatment necessary is dependent on many factors including tree species, forest health, age of the stand, stand structure and other factors. Spacing treatments must be designed on a site-specific basis. In some cases, small scale forest harvesting may be the best method to space the area and cover the costs of the treatment. Any forest harvesting in interface areas must be well planned and supervised.

Spacing activities in multi-layered stands involves the removal of the weakest trees on site. These trees have usually been outcompeted, damaged or suffered forest health issues and are falling out of the stand. Caution must be taken to ensure the multi-aged characteristics of the stand are maintained. This is often referred to as 'spacing from below', or forest health spacing. This usually increases the crown base height and creates a healthier, more vigorous forest. In relatively even aged stands, spacing the trees so the crowns are separated by a set average distance is a reasonable treatment option. This inter-crown distance should be increased on slopes. This spacing distance is also dependent on crown base height and the amount of surface fuel remaining after the site treatment.

c. **Pruning**: Pruning involves the removal of the lower branches of coniferous tree species to separate the crown fuels from the surface fuels. By raising the Crown Base Height (CBH) within the stand, it will be more difficult for a surface fire to spread upwards into the tree canopy where it will spread quickly, greatly increase the wildfire intensity and create ember showers, or spotting, onto adjacent structures.

   The required height of the pruning is variable depending on canopy closure, tree species, topography and amount of surface fuels remaining after the site treatment.

   One commonly used convention for pruning is a three-meter crown base height. This is based as much on the crew's reach as on crown fire initiation concerns. Again, there is no one prescription to manage all situations. Pruning must take into account the tree height and amount of live crown. The tree must be left a certain portion of its live crown to remain healthy and vigorous.

d. **Surface Fuel Reduction**: Surface fuel reduction involves the removal, chipping or burning of all spaced and pruned material, and sometimes additional downed and dead material that will contribute to wildfire spread. Removal of a significant portion of the fine (small diameter) fuels is the priority on most sites as these fuels dry out quickly, ignite easily and are the main contributor to surface fire spread on most sites. Surface fuel treatments are often considered the most important component of any fuel modification activities, and the most expensive. Overly aggressive surface fuel clean up can cause serious environmental impacts including erosion, introduction of noxious weeds and loss of wildlife habitat.

   These techniques should be employed on the forested land adjacent to homes or new developments in all High and Extreme wildfire behaviour threat class areas to reduce the wildfire threat to Moderate or below. No one prescription will solve all wildfire threat problems. All prescriptions must be site specific and developed by an experienced individual.

Other Factors to Consider When Conducting Fuel Management

The 'All Things Considered' approach is necessary when conducting any forest management activity. Fuel management is no exception. Fuel management plans and prescriptions must address other forest values that could be impacted by the planned treatments. The other values include visuals, water, wildlife habitat, site stability, noxious weeds, access, biodiversity, Old Growth Management Areas and endangered species.

5.7.3 Wildfire Threat Reduction Maintenance

Fuel management maintenance regimes will vary greatly. The regime will often depend on the condition of the stand before treatment and the intensity of the activity carried out. The interval between treatments will be largely a result of the response of the stand to the treatment and any forest health of physical impacts on the stand that increase the wildfire threats above specified levels. Properly planned and implemented fuel management activities should improve the overall health and vigour of a stand, making it more resilient and more able to withstand moisture deficits, pests and diseases.

Many stands are not able to withstand aggressive fuel management treatments and must instead be planned for multiple entries to reach an acceptable standard. For example, very heavily stocked lodgepole pine stands that have grown tall with little diameter growth can be prone to windthrow and snow press when opened up too quickly. Another local example is in stands with spruce beetle attack. The understory trees cannot be removed too aggressively due to the potential for significant losses in the mature trees.

In an effort to retain a forest ecosystem, a significant portion of the understory needs to be retained until the spruce beetle impacts are fully known. In a healthy stand with no new disease or environmental impacts, spacing and pruning treatments should last a decade or more before further work is required. The amount of maintenance on the surface fuels will depend on tree species, mortality in the stand, tree ingress, grass growth and other factors that increase the amount of dead and down forest fuel.

5.7.4 Implications of Wildfire Threat Reduction Work

Reducing wildfire threats through the reduction of the forest fuels sounds simple enough, but forest fuel treatments can have a wide range of implications. Fuel treatments can have both positive and negative effects on wildfire threats.

The application of spacing, pruning and surface fuel removal techniques creates a more open forest stand.

Open forest stands:

- allow more light to reach the surface, often drying out the site or
- allowing more grass, herb and shrub growth, creating heavier, more continuous surface fuels
- can lengthen the fire season (burn window) on the site by allowing
- the site to dry up faster and stay dry longer,
- allow more wind to move through the stand and along the surface,
- possibly increasing the rate of spread of surface fires, and often have lower relative humidity in the summer months from the increased sunlight and temperatures.

The positive effects of wildfire threat reduction through forest fuel reduction include:

- lower probability of crown fires due to the more open forest canopy and and higher crown base height,
- lower intensity surface fires from the reduced forest fuels,
- easier and safer access for wildland firefighters, and
- more effective aerial fire control efforts with air tankers.

In general, properly planned and implemented forest fuel reduction work reduces the crown fire potential and overall intensity of wildfires within the treatment area. This will increase the survivability of the trees in the stand and of adjacent homes and structures. Forest fuel reduction work can also increase the dryness on the site, and allow more wind to reach the surface, creating conditions for fast moving, low intensity wildfires to spread.

5.7.5 Effectiveness of Hand Fuel Management Treatments

Hand crew completed fuel management treatments usually consist of a combination of danger tree removal, spacing, pruning and surface fuel removal, at varying intensities. The main forest canopy is often kept in place. Much of the work on Crown land is often restricted by merchantable timber utilization standards, where only live trees below the utilization standards can be cut and removed.

This type of treatment can be very effective for small fires that start in the community or within the treatment area. Good visuals and reduced danger trees and ladder fuels can allow for safe, fast, aggressive wildfire suppression action within the managed area. Initial attack success can be far higher under these circumstances. Hand crew treatments are far less effective in a landscape level wildfire event that sweeps into the treatment area from the unmanaged forestland. A well-developed Rank 5 or 6 wildfire (continuous crown fire) that spreads into a hand treatment area surrounding a community, may easily spread quickly and aggressively through the hand treated fuel management treatment areas, at least for a significant distance before low surface fuels reduce overall wildfire intensity – providing only minimal safety to the community.

Hand crew fuel management treatments are most effective when supported by forest harvesting along the treatment area perimeter or when tied to low fuel areas. If landscape level fuel breaks can reduce the wildfire intensity significantly before the wildfire enters the hand treatment areas, the effectiveness of the hand treatments is significantly increased. This process is followed whenever possible at Sun Peaks. The forest land is well broken up by ski runs and timber harvesting activities. Hand treatments are conducted on leave strips, riparian areas, and long-term reserves around the community perimeter and towards Whitecroft.

The effectiveness of hand fuel treatments also depends on the ecosystem response to the more open conditions created. On drier sites, significantly higher volumes of native grass can increase surface fuel continuity and height. This needs to be planned for in the spacing and crown base height prescription. This is a concern in the IDF and much of the MS biogeoclimatic zones in the Sun Peaks area. Vegetation response in the ESSF and ICH zones often complement the wildfire threat reduction efforts through the growth of low volatility herbs and shrubs which provide low flammability surface cover that shades the duff layers and surface fuels, reducing the burn window.

5.7.6 Wildfire Threat Reduction Options

Reducing the wildfire threat to existing communities, homes, and to future developments can be a very complex planning process. All plans or prescriptions for wildfire threat reduction must be site specific, aesthetically pleasing, economically feasible and environmentally sensitive.

The goal of wildfire threat reduction efforts should not be to stop all fires, which is not realistic or achievable. The goals should include:

- to alter wildfire behaviour on the forested land adjacent to developments through forest fuel management to greatly reduce the potential for house and structure losses
- alter the forest structure to significantly reduce the potential for crown fire initiation,
- to create safe access for wildland fire crews to more efficiently and effectively control wildfires
- to construct and maintain houses that are designed to withstand a wildfire.

Building construction materials and design are outside the scope of this report but are discussed in detail in the FireSmart manual, Chapter 3. Improving structure survivability through forest fuel management has two key components: one, separating the structures from the forest with FireSmart landscaping, and two, reducing or modifying the forest fuels in the surrounding forest to reduce the wildfire behaviour.

5.7.7 Anchor Points

An anchor point is an advantageous location, from which fireguards, fuel-breaks, or fuel-management treatments should begin from and tie into. The effectiveness of an anchor point depends on resources and terrain features available on any particular site and are typically settled on as being the best available on the landscape at any particular time. Anchor points typically meet the following criteria:

- Natural or developed barrier to fire spread (i.e. rocky cliffs, lake, wetlands, road, parking lot, fuel-management treatment, ski runs, etc.)
- Easy accessibility or access points.

5.7.8 Functional Fuel Breaks

Functional fuel-breaks are low fuel-hazard spaces that have social or economic functions within the community, such as sports fields, golf courses, parking lots, ski runs, roads, etc. It is recommended to design functional fuel-breaks as near the outer perimeter of the community to protect from approaching wildfires. Mechanical tree removal for ski-glading is an excellent functional fuel-break. Merchantable fibre may potentially be sold to offset treatment costs. **It is recommended to prioritize treatments along Burfield lift & Rollercoaster runs to develop an effective fuel break, incorporating glading techniques to achieve fire resilient and recreationally valuable features. Recommended treatment units include TU 7A and 56-60.**



Table 20. *Successful mechanical glading converted high fuel hazard to low fuel hazard.*

5.7.9 Debris Management

Research has shown that there is significantly less smoke produced from pile burning relative to a wildfire fire (**Figure 37**). The policies that prohibit open pile burning between Dec. 1 to Apr. 1 are detrimental to fuel-management around the community. Compromises should be made for smoke from fuel-management, as we weigh potential consequences such as life and safety.

Fire seasons are lasting longer, and fire danger ratings are persisting into late October. Atmospheric venting conditions are also required to be of "GOOD" or "FAIR" venting for burning to occur. Due to the high elevation sites at Sun Peaks, there are very few allowable venting days. Sun Peaks Resort also limits open-pile-burning as the ski hill opens. Many high-traffic multi-use trails run through fuel treatment areas and would require closures detracting from the guest experience. Due to climate, weather, recreation values, and health and safety there is often only one week of viable time to burn hundreds of piles per year. Piles have currently been sitting for four years (since 2020), unable to be burned, and are presenting a high fire hazard.

OBSCR has been updated in recent years to provide special conditions for open burning under a plan for community wildfire risk reduction. When burning under an approved WRR framework, the setbacks for open burning have been relaxed. The Municipality may wish to update Bylaw 0007-10.3f to align with OBSCR and allow for potential changes OBCSR may make.

Not only homes and human life are at risk of wildfire, but the forested landscape on which the resort depends is also at risk of loss or damage. It is recommended that Sun Peaks Resort LLP and their investors incorporate wildfire risk awareness and mitigation into strategic corporate and business plans, for long-term investment security. It is recommended that Sun Peaks Resort LLP provide more reasonable support for open-pile burning during ski season.

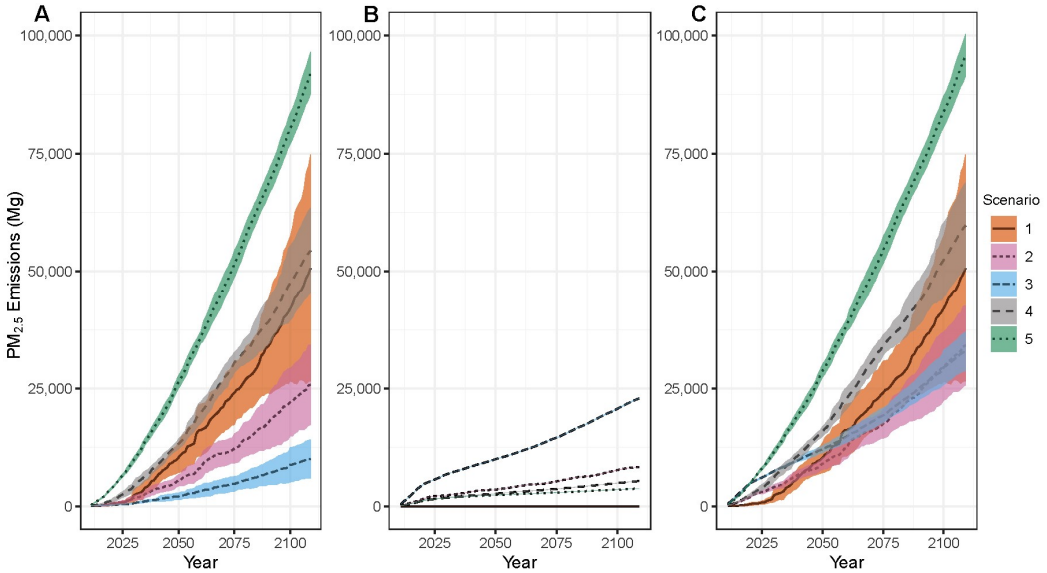


Figure 37. *Cumulative total fine particulate emissions (A: wildfires and understory prescribed burning, B: pile burning, C: combined) for each management scenario over a 100-year period for the Lake Tahoe West landscape (central line is the average, and ribbon is the standard deviation, calculated over three replicates for eight climate projections) (Long et al. 2022)[35].*

[35] Journal Article -Comparing smoke emissions (Long et al. 2022) https://ecologyandsociety.org/vol27/iss4/art26/ES-2022-13553.pdf

5.7.10 Fuel Management Treatment Units

The following two (2) tables include all proposed Fuel-management Treatment Units (FTU) during the process of this CWRP (**Table 21,Table 22**). All historical treatment units are listed in Appendix D – All Treatment Units.

Table 21. *All proposed fuel management units within the Sun Peaks Wildland Urban Interface (WUI), which are currently eligible for FireSmart Community Funding Supports (FCFS). These FTU are in numerical order, and order does not reflect level of priority.*

FTU #	Total Area (ha)	Treatment Unit Type / Objective	Fuel Threat/ Plot #	Overlapping Values / Treatment Constraints	Treatment Rationale
05A-M	2.41	Maintenance, may incorporate recreational values such as ski glading. (Previously treated in 2019).	High (Plots 40-44)	<120 m from structures <150 m from fire hall <200 m from primary evac route. Prescribe only light thinning & pruning, until a hydrological assessment and clearcut equivalent area is determined for this area.	Remove pockets of high fuel-hazard between ski runs, bolster fuel-breaks of existing ski runs. Reduce fire intensity and spotting potential within vicinity of structures, especially around the firehall. The western flank of municipality requires mitigation efforts, as the slope, aspect, terrain, continuity of fuel-loading, and pre-dominant winds present high risk of a wildfire spreading up McGillivray Creek drainage from Whitecroft.
07A-M	6.02	Maintenance. Enlarge treatment area if possible. (Previously treated in 2010).	High (Plots 2-5)	Immediately adjacent to municipal service buildings, water treatment facility, and powerlines. Prescribe only light thinning & pruning, until a hydrological assessment and clearcut equivalent area is determined for this area.	Remove high fuel-hazard, and reduce fire intensity and spotting potential within vicinity of structures. Bolster existing fuel-break of cleared land around water treatment facility. The western flank of municipality requires mitigation efforts, as the slope, aspect, terrain, continuity of fuel-loading, and pre-dominant winds present high risk of a wildfire spreading up McGillivray Creek drainage from Whitecroft.
07B	9.1	Maintenance. Thin, pruning, surface fuel clean-up. (Previously treated in 2010).	High (Plots 6-8,10)	Within 30 m of municipal buildings and water treatment facility.	Remove high fuel-hazard, and reduce fire intensity and spotting potential within vicinity of structures. Bolster existing fuel-break of cleared land around water treatment facility. The western flank of municipality requires mitigation efforts, as the

FTU #	Total Area (ha)	Treatment Unit Type / Objective	Fuel Threat/ Plot #	Overlapping Values / Treatment Constraints	Treatment Rationale
				Prescribe only light thinning & pruning, until a hydrological assessment and clearcut equivalent area is determined for this area.	slope, aspect, terrain, continuity of fuel-loading, and pre-dominant winds present high risk of a wildfire spreading up McGillivray Creek drainage from Whitecroft.
09B-M	1.51	Maintenance. Enlarge treatment area if possible. (Previously treated in 2013).	High (Plots 49-50)	<70 m from homes.	Remove pockets of high fuel-hazard between ski runs, bolster fuel-breaks of existing ski runs. Reduce fire intensity and spotting potential within vicinity of structures.
17A-M	3.72	Maintenance. Enlarge treatment area if possible. (Previously treated in 2014).	High (3.07 ha) Moderate (0.65 ha) (Plots 13-14)	Within 150 m of municipal buildings and water treatment facility. Immediately adjacent to utility lines.	Remove high fuel-hazard, and reduce fire intensity and spotting potential within vicinity of utility lines and evacuation route. Reduce probability of trees falling across the road. The western flank of municipality requires mitigation efforts and continuity of FTUs, as the slope, aspect, terrain, continuity of fuel-loading, and pre-dominant winds present high risk of a wildfire spreading up McGillivray Creek drainage from Whitecroft.
38A-38D	3.0	Thin, prune, and surface-fuel clean up.	High (Plots 88-90)	Immediately adjacent to and surrounding school buildings and primary evacuation route. Riparian area throughout. FRPA/FPPR riparian regulations must be navigated during prescription phase.	Remove high fuel-hazard, and reduce potential fire intensity and spotting potential within vicinity of school and evacuation route.
39	n/a	FTU cancelled		Riparian areas	FTU cancelled
40	3.17	Thin, prune, and surface-fuel clean up.	High (1.87 ha) Moderate (1.3 ha)	Immediately adjacent to primary evacuation corridor, overhead utility lines, and water/sewage treatment	Remove high fuel-hazard, and reduce fire intensity and spotting potential within vicinity of utility lines and evacuation route. Reduce probability of trees falling across the road. The western flank of municipality requires mitigation efforts and

FTU #	Total Area (ha)	Treatment Unit Type / Objective	Fuel Threat/ Plot #	Overlapping Values / Treatment Constraints	Treatment Rationale
			(Plots 12, 16-18)	facility. MoTI & BC Hydro ROW overlap to be navigated during prescription phase.	continuity of FTUs, as the slope, aspect, terrain, continuity of fuel-loading, and pre-dominant winds present high risk of a wildfire spreading up McGillivray Creek drainage from Whitecroft.
41	6.36	Thin, prune, and surface-fuel clean up.	High (Plot 86)	Proposed developments will be immediately adjacent. Riparian area to be navigated during prescription phase.	This FTU is currently low priority. Priority is conditional to progress of proposed development phases according to master plan.
42	4.37	Thin, prune, and surface-fuel clean up.	High (Plot 86)	Proposed developments will be immediately adjacent.	This FTU is currently low priority. Priority is conditional to progress of proposed development phases according to master plan.
43	17.86	Thin, prune, and surface-fuel clean up.	High (Plot 115)	Proposed developments will be immediately adjacent.	This FTU is currently low priority. Priority is conditional to progress of proposed development phases according to master plan.
44	7.19	Thin, prune, and surface-fuel clean up.	High (Plot 110)	Proposed developments will be immediately adjacent.	This FTU is currently low priority. Priority is conditional to progress of proposed development phases according to master plan.
45	16.01	Thin, prune, and surface-fuel clean up.	High (Plot 110)	Proposed developments will be immediately adjacent.	This FTU is currently low priority. Priority is conditional to progress of proposed development phases according to master plan.
46	27.0	Widen road ROW. Thin, prune, and surface-fuel clean up.	High (Plot 93)	Immediately adjacent to secondary evacuation route.	This is the only secondary evacuation route for Sun Peaks. It is recommended to reduce wildfire risk along this evac corridor, reduce probability of trees and debris falling on the road in the event of a wildfire. Bolster roads and ROWs for control lines and defendable space for first responders.
48	14.71	Thin, prune, and surface-fuel clean up.	High (Plots 22-24, 33-34)	<70 m from homes.	Remove high fuel-hazard, and reduce fire intensity and spotting potential within vicinity of utility lines and evacuation route. Reduce probability of trees falling across the road. The

FTU #	Total Area (ha)	Treatment Unit Type / Objective	Fuel Threat/ Plot #	Overlapping Values / Treatment Constraints	Treatment Rationale
				Within 150 m of municipal buildings and water treatment facility. Immediately adjacent to primary evacuation corridor and overhead utility lines. Riparian areas must be navigated during prescription phase. May need to consult with hydrologists/biologists.	western flank of municipality requires mitigation efforts and continuity of FTUs, as the slope, aspect, terrain, continuity of fuel-loading, and pre-dominant winds present high risk of a wildfire spreading up McGillivray Creek drainage from Whitecroft.
49	1.82	Thin, prune, and surface-fuel clean up.	High (Plots 25, 35, 36, 73)	Immediately adjacent to homes. Riparian areas must be navigated during prescription phase. May need to consult with hydrologists/biologists.	Remove high fuel-hazard, and reduce fire intensity and spotting potential near homes. Reduce fuel-loading to reduce potential fire severity within riparian area, and enhance fire resiliency of riparian area to prevent catastrophic damage of a severe wildfire.
50	9.3	Thin, prune, and surface-fuel clean up.	High (Plots 79, 116-118)	Immediately adjacent to homes, primary evacuation corridor, and overhead utility lines. Riparian areas must be navigated during prescription phase. May need to consult with hydrologists/biologists.	Remove high fuel-hazard, and reduce fire intensity and spotting potential near homes. Reduce fuel-loading to reduce potential fire severity within riparian area, and enhance fire resiliency of riparian area to prevent catastrophic damage of a severe wildfire.
51	7.53	Thin, prune, and surface-fuel clean up.	High (Plots 76-78,80-83,85)	Immediately adjacent to homes, primary evacuation corridor, and overhead utility lines. Riparian areas must be navigated during prescription	Remove high fuel-hazard, and reduce fire intensity and spotting potential near homes. Reduce fuel-loading to reduce potential fire severity within riparian area, and enhance fire resiliency of riparian area to prevent catastrophic damage of a severe wildfire.

FTU #	Total Area (ha)	Treatment Unit Type / Objective	Fuel Threat/ Plot #	Overlapping Values / Treatment Constraints	Treatment Rationale
				phase. May need to consult with hydrologists/biologists.	
52	2.61	Thin, prune, and surface-fuel clean up.	High (Plots 116, 121-123)	Immediately adjacent to homes and primary evacuation corridor. Riparian areas must be navigated during prescription phase. May need to consult with hydrologists/biologists.	Remove high fuel-hazard, and reduce fire intensity and spotting potential near homes. Reduce fuel-loading to reduce potential fire severity within riparian area, and enhance fire resiliency of riparian area to prevent catastrophic damage of a severe wildfire.
53	7.36	Thin, prune, and surface-fuel clean up.	High (Plots 101, 114)	Immediately adjacent to existing homes. Has potential to be immediately adjacent to proposed developments. Riparian areas must be navigated during prescription phase. May need to consult with hydrologists/biologists.	Remove high fuel-hazard, and reduce fire intensity and spotting potential near homes. Reduce fuel-loading to reduce potential fire severity within riparian area, and enhance fire resiliency of riparian area to prevent catastrophic damage of a severe wildfire.
54	5.61	Thin, prune, and surface-fuel clean up.	High (Plots 99, 103, 106, 108)	Has potential to be immediately adjacent to proposed developments. Riparian areas must be navigated during prescription phase. May need to consult with hydrologists/biologists.	This TU is currently low priority. Priority is conditional to progress of proposed development phases according to master plan.
56	8.88	Thin, prune, and surface-fuel clean up.	High (Plots 19-21)	Immediately adjacent to overhead utility lines.	Protect utility lines and Sun Peaks Resorts' infrastructure. Remove pockets of high fuel-hazard between ski runs, bolster fuel-breaks of existing ski runs. The western flank of municipality requires mitigation efforts, as the slope, aspect, terrain, continuity of fuel-loading, and

FTU #	Total Area (ha)	Treatment Unit Type / Objective	Fuel Threat/ Plot #	Overlapping Values / Treatment Constraints	Treatment Rationale
					pre-dominant winds present high risk of a wildfire spreading up McGillivray Creek drainage from Whitecroft. **TUs 56-59 could create a large fuel-break around the Burfield lift, bolstering existing ski runs.**
57	8.63	Thin, prune, and surface-fuel clean up.	High (Plots 19-21)	Immediately adjacent to overhead utility lines.	Protect utility lines and Sun Peaks Resorts' infrastructure. Remove pockets of high fuel-hazard between ski runs, bolster fuel-breaks of existing ski runs. The western flank of municipality requires mitigation efforts, as the slope, aspect, terrain, continuity of fuel-loading, and pre-dominant winds present high risk of a wildfire spreading up McGillivray Creek drainage from Whitecroft. **TUs 56-59 could create a large fuel-break around the Burfield lift, bolstering existing ski runs.**
58	5.43	Thin, prune, and surface-fuel clean up.	High (Plots 19-21)	Immediately adjacent to overhead utility lines.	Protect utility lines and Sun Peaks Resorts' infrastructure. Remove pockets of high fuel-hazard between ski runs, bolster fuel-breaks of existing ski runs The western flank of municipality requires mitigation efforts, as the slope, aspect, terrain, continuity of fuel-loading, and pre-dominant winds present high risk of a wildfire spreading up McGillivray Creek drainage from Whitecroft. **TUs 56-59 could create a large fuel-break around the Burfield lift, bolstering existing ski runs.**
59	17.88	Thin, prune, and surface-fuel clean up.	High (Plots 19-21)	Immediately adjacent to overhead utility lines.	Protect utility lines and Sun Peaks Resorts' infrastructure. Remove pockets of high fuel-hazard between ski runs, bolster fuel-breaks of existing ski runs. The western flank of municipality requires mitigation efforts, as the slope, aspect, terrain, continuity of fuel-loading, and pre-dominant winds present high risk of a wildfire spreading up McGillivray Creek drainage from Whitecroft.

FTU #	Total Area (ha)	Treatment Unit Type / Objective	Fuel Threat/ Plot #	Overlapping Values / Treatment Constraints	Treatment Rationale
					TUs 56-59 could create a large fuel-break around the Burfield lift, bolstering existing ski runs.
60	1.13	Thin, prune, and surface-fuel clean up.	High (Plot 87)	Within 30 m of homes. Adjacent to primary evacuation corridor.	Remove high fuel-hazard, and reduce fire intensity and spotting potential near homes. Protect evacuation corridor, prevent trees and debris from falling on road during a potential wildfire.

FTU #	Total Area (ha)	Treatment Unit Type / Objective	Fuel Threat/ Plot #	Overlapping Values / Treatment Constraints	Treatment Rationale
47	50.52	Widen road ROW. Thin, prune, and surface-fuel clean up.	High (Plot 119)	Immediately adjacent to secondary evacuation route.	This is the only secondary evacuation route for Sun Peaks. It is recommended to reduce wildfire risk along this evac corridor, reduce probability of trees and debris falling on the road in the event of a wildfire. Bolster roads and ROWs for control lines and defendable space for first responders.
55	0.66	Thin, prune, and surface-fuel clean up.	High (No plot data, Fuel hazard was determined by photos and aerial imagery)	Immediately adjacent to communication tower.	This is the only communication tower that services Sun Peaks. In the event of a wildfire, or any emergency, it is crucial to maintain communications.

***Table 22**. All proposed fuel management units OUTSIDE of the Sun Peaks Wildland Urban Interface (WUI), which are NOT currently eligible for FireSmart Community Funding Supports (FCFS). However, these FTU are eligible for other funding services such as Mountain Resorts Branch (MRB) or Forest Enhancement Society BC (FESBC). These FTU are in numerical order, and order does not reflect level of priority.*

6.0 Action Plan & Implementation

The following table outlines the recommended Action Plan and Implementation (**Table 23**).

Table 23. *Community Wildfire Resilience Plan Action Table*

Action	Lead(s)	Priority	Timeframe	Resources Required	Metric for Success
Risk Assessment					
Objective: To identify all values, evaluate hazard and risk, and mitigate associated risks.					
1. Continually review values at risk within the municipality and resort infrastructure/structures. Take note of new developments to be incorporated into future CWRPs.	Sun Peaks Mountain Resort Municipality AND Sun Peaks Resort LLP	High	Immediate & ongoing	FireSmart Prevention Officer or FireSmart Coordinator	All structures and infrastructure at risk of wildfire must be identified.
2. FireSmart assessments of public buildings and infrastructure	Sun Peaks Mountain Resort Municipality AND Sun Peaks Resort LLP	High	Immediate & ongoing	FireSmart Prevention Officer or FireSmart Coordinator to complete FireSmart assessments of public buildings and infrastructure. Working collaboratively with the FireSmart Resiliency Committee and FireSmart adviser, to prioritize funding.	Percentage of public buildings and infrastructure with completed FireSmart assessments. The goal being 100% of values assessed.
3. FireSmart assessments of privately owned buildings or	Sun Peaks Mountain Resort	Moderate	Immediate & ongoing	Complete FireSmart assessments of all	Percentage of private buildings and infrastructure

Action	Lead(s)	Priority	Timeframe	Resources Required	Metric for Success
infrastructure only upon request of property owner or manager. Following improved community engagement and education, it is expected that community participation in FireSmart activities will also improve. Encourage private property owners to seek FireSmart assessments from your FireSmart Prevention Officer or FireSmart Coordinator or community champions.	Municipality AND Sun Peaks Resort LLP			buildings and infrastructure. Additionally, it is recommended to expand on FireSmart education, training, and engagement within the community.	with completed FireSmart assessments. The goal being 100% of values assessed.
4. Seek professional consultation with forest hydrologists for a **full hydrological assessment**. The primary objective should be to determine *Equivalent Clearcut Area* that is safe and sustainable on the slopes surrounding Sun Peaks for fuel-management, development, and ski runs, with consideration of climate change, riparian areas, and potential high-severity fire.	Sun Peaks Mountain Resort Municipality AND Sun Peaks Resort LLP	High	Immediate & ongoing	Professional consultation with forest hydrologists	A professional hydrological assessment report of the CRA or full municipal area.
It is recommended that for long-term investment security, Sun Peaks Resort LLP and their investors **incorporate wildfire risk awareness and mitigation into strategic corporate and business plans.**	Sun Peaks Resort LLP	Moderate	Immediate & ongoing	Review all fire mitigation and emergency plans, such as this CWRP.	Documentation of incorporation of wildfire risk awareness into strategic corporate and business plans.
Education					
Objective: Develop a FireSmart Community Plan and stive for FireSmart Canada Community Recognition by following all required steps.					
6. **Develop a FireSmart Community Plan**	Sun Peaks Mountain Resort Municipality	High	Immediate & ongoing	FireSmart Prevention Officer or FireSmart	Development of an official FireSmart Community Plan document that is shared

Action	Lead(s)	Priority	Timeframe	Resources Required	Metric for Success
				Coordinator or consultants may seek all available grant funding to assist.	publicly.
7. Strive for FireSmart Canada Community Recognition. Apply for FireSmart Canada Community Recognition. Satisfy all requirements of this recognition.	Sun Peaks Mountain Resort Municipality	Moderate	Review requirements immediately. Aim for recognition by 2035.	FireSmart Prevention Officer or FireSmart Coordinator	Achievement of interim milestones and eventually complete recognition by 2035.
8. Continually improve on public engagement. Coordinate with FireSmart BC to identify outreach and educational opportunities that can be scheduled into the Official Community Plan and local FireSmart program. It is recommended that Sun Peaks Fire Rescue demonstrate FireSmart around the fire hall, other community buildings, and host regular meetings and events, such as open houses, to further engage with the community between CWRP update years. Continual community engagement and education is necessary to achieve FireSmart Canada Community Recognition.	Sun Peaks Mountain Resort Municipality	Moderate	Immediate & ongoing	FireSmart Prevention Officer or FireSmart Coordinator or consultants may seek all available grant funding to assist.	Achievement of entire streets or neighbourhoods being 100% FireSmart compliant.
9. Invest in FireSmart leadership. Identify and invest in community	Sun Peaks Mountain Resort Municipality	High	Immediate & ongoing	FireSmart Prevention Officer or FireSmart	One FireSmart community champion per neighbourhood.

Action	Lead(s)	Priority	Timeframe	Resources Required	Metric for Success
FireSmart champions who will be available to assist with FireSmart activities as required. FireSmart training is available to support this.				Coordinator	
Legislation and Planning					
Objective: Ensure all municipal bylaws and plans align with FireSmart guidelines. Encourage FireSmart compliance with bylaws and permits.					
10. Ensure all municipal bylaws and plans align with fire mitigation and emergency response plans.	Sun Peaks Mountain Resort Municipality	High	By 2029 or when this CWRP is updated	This CWRP document	This CWRP will be updated in 2029. By that time, there should be no additional bylaws required.
11. Include FireSmart standards in Official Community Plan (OCP) and bylaws for construction and landscaping. Consider developing FireSmart policies and practices for the design and maintenance of publicly owned buildings and lands such as parks and open spaces.	Sun Peaks Mountain Resort Municipality	High	Consider prior to finalization of OCP. Or upon next review of OCP.	This CWRP document	This CWRP will be updated in 2029. By that time, there should be no additional FireSmart guidelines to be added.
12. Wildfire Development Permits. Consider adopting bylaws that require Wildfire Development Permits for new builds and renovations.	Sun Peaks Mountain Resort Municipality	Moderate	Consider prior to finalization of OCP. Or upon next review of OCP.	Other municipality's implementing these bylaws require a professional risk assessment to be completed on each proposed development or renovation within areas delineated as high risk.	Successful implementation of Wildfire Development Areas and permitting process.
Development Considerations					

Action	Lead(s)	Priority	Timeframe	Resources Required	Metric for Success
Objective: Improve collaboration & synergy between the Municipality & Sun Peaks Resort LLP. Proactively reduce risk with new builds and renovations.					
13. Incorporate well-defined FireSmart and fuel-management principles into the process of new developments within the CRA. It is recommended to require and enforce FireSmart construction and landscaping. It is recommended to improve coordination between the Municipality and Sun Peaks Resort LLP regarding the development process, covenants, permits, and building inspections. Definitions of FireSmart principles are recommended to align with current provincial guidelines and may require periodic updates.	Sun Peaks Mountain Resort Municipality AND Sun Peaks Resort LLP	High	Immediate & ongoing	It may be advantageous to reference bylaws of other jurisdictions who have adopted these principles into local bylaws and zoning.	Sun Peaks Mountain Resort Municipality and Sun Peaks Fire Rescue must be comfortable with new developments and the communication process.
14. Wildfire Development Permits & Wildfire Risk Awareness in the development process. The Municipality and resort are recommended to jointly collaborate on a development process that includes zoning, permitting, enforcement, inspections, and monitoring. Improve coordination and timing of new developments and required fuel-management around the	Sun Peaks Mountain Resort Municipality AND Sun Peaks Resort LLP	Moderate	Consider prior to finalization of OCP. Or upon next review of OCP.	It may be advantageous to reference bylaws of other jurisdictions who have adopted these principles into local bylaws and zoning.	FireSmart activities and fuel-management should be completed during the land-clearing phase of new developments. New developments should not require fuel-management after construction is complete.

Action	Lead(s)	Priority	Timeframe	Resources Required	Metric for Success
expanding community. Stakeholders should also be coordinating any timber harvesting/thinning with fuel-management activities, such as ski run development, glading, or housing development. The dynamics of the Controlled Recreation Area, Sun Peaks Resort LLP, and municipality present many opportunities for collaborative projects addressed in this CWRP.					
Cross-Training					
Objective: Prepare staff and have adequate equipment in the event of a wildfire incident.					
15. Certify as many staff and volunteers as possible in wildfire suppression courses listed in Section 5.5	Sun Peaks Mountain Resort Municipality AND Sun Peaks Resort LLP	High	Immediate & ongoing	Funding from FireSmart Community Funding and Support Program	Annually increasing personnel experience and certifications, as well as increasing the total number of certified personnel.
16. Strengthen relationships. Contact representatives from partnering agencies and maintain personal relationships. This helps with awareness, education, training, and assistance during an emergency. Maintain a contact list.	Sun Peaks Mountain Resort Municipality	Moderate	Immediate & ongoing	FireSmart Prevention Officer or FireSmart Coordinator	Municipal staff, particularly Sun Peaks Fire Rescue, should feel confident in their established relationships with partnering agencies, including: BCWS, TNRD, all neighbouring fire departments, RCMP, Mountain Resort Branch, and local First Nation governments.
17. Host annual inter-agency training exercises.	Sun Peaks Mountain Resort	Moderate	Immediate &	FireSmart	Successful inter-agency

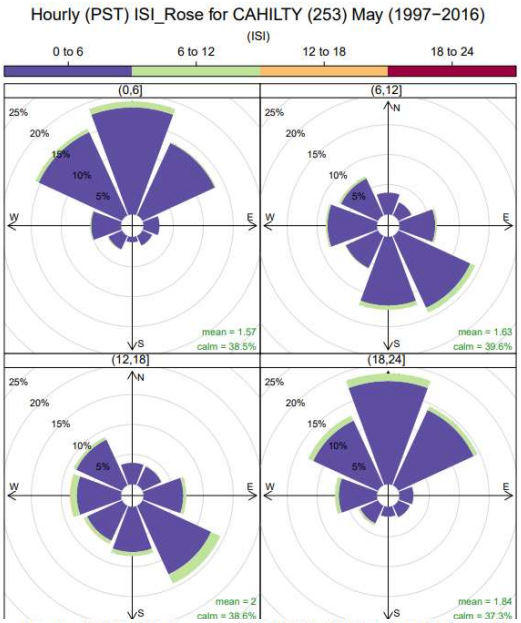
Action	Lead(s)	Priority	Timeframe	Resources Required	Metric for Success
Annual inter-agency training exercises should review emergency management plans, escape routes, water sources, values at risk, critical infrastructure, communications plans, incident command system, logistics, and mock fire exercises. LACES briefings should be conducted with every mock fire.	Municipality		ongoing	Prevention Officer or FireSmart Coordinator	training exercises scheduled annually.
Emergency Planning					
Objective (example): Conduct an annual FireSmart education campaign to educate the public on wildfire risk and support local resident actions.					
18. Develop a Pre-Incident Plan, as in Section 5.6. Review, update, and rehearse this plan annually.	Sun Peaks Mountain Resort Municipality	High	Immediate & ongoing	Time. Planning will require time and effort. Hire a consultant if guidance is needed.	A publicly available Pre-Incident Plan document that s reviewed and updated annually.
19. Ensure communication pathways are widely understood and functioning (both internal and public).	Sun Peaks Mountain Resort Municipality	High	Immediate & ongoing	Time. Planning will require time and effort. Hire a consultant if guidance is needed.	Tests & feedback from residents.
20. Review and rehearse evacuation plans. Rehearse communication of evac routes. Ensure evacuation routes are well maintained.	Sun Peaks Mountain Resort Municipality	High	Immediate & ongoing	Time. Planning will require time and effort. Hire a consultant if guidance is needed.	A log of documented evacuation route tested and verification of status or maintenance requirements.
21. Ensure adequate local water supply for worst-case scenario of late summer drought compounded with demand of water for fire suppression activities.	Sun Peaks Mountain Resort Municipality	High	Immediate & ongoing	Time. Planning will require time and effort. Hire a consultant if guidance is needed.	Ensure adequate water supply for worst-case scenario of late summer drought compounded with demand of water for fire suppression activities.

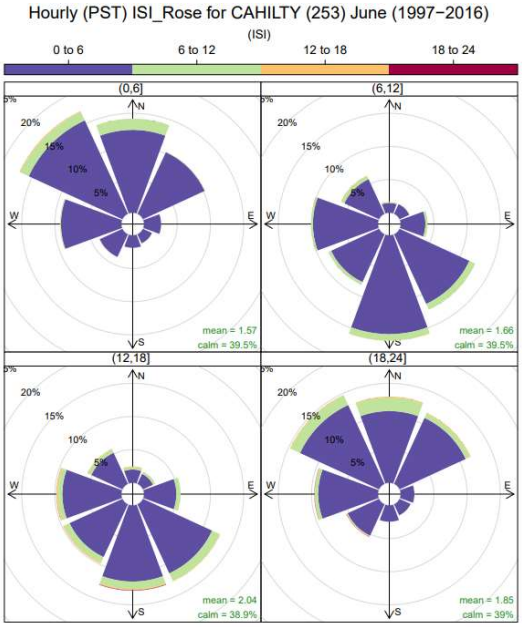
Action	Lead(s)	Priority	Timeframe	Resources Required	Metric for Success
Vegetation Management					
Objective: To improve human safety and prevent loss of property by mitigating potential wildfire behaviour, enhancing safe and defendable space for first responders, and creating continuous and functional fuel-breaks around the community.					
22. Annual cycles of prescriptions and treatments. Each year, new Fuel-Management Prescriptions (FMP) for proposed areas should be completed and authorized, as well as treatments being implemented for FMP approved in previous years. There should be a continual pool of approved FMP ready for implementation the following year. Completed treatments must be maintained every 5-10 years.	Sun Peaks Mountain Resort Municipality	High	Immediate & ongoing	Plans (CWRP & WUI-WRR Plan) Funding programs such as: FireSmart Community Funding and Support Program, CRI, FESBC, MRB-WRR, MoF-WRR	Treat ~30 ha per year. Prescribe ~30 ha per year. More area is preferred.
23. Follow priority recommendations of proposed fuel-management treatment units provided in this CWRP, Section 5.8 and any other plans such as WUI-WRR plans.	Sun Peaks Mountain Resort Municipality	High	Immediate & ongoing	Plans (CWRP & WUI-WRR Plan) Funding programs such as: FireSmart Community Funding and Support Program, CRI, FESBC, MRB-WRR, MoF-WRR	The number of "proposed FTUs" should decrease with each CWRP update, as all area around the community is successfully treated, but eventually just maintained.
24. Address fuel-hazards on private land. Improve	Sun Peaks Mountain Resort	High	Immediate & ongoing	FireSmart Prevention Officer or	Annual increases in number of participating

Action	Lead(s)	Priority	Timeframe	Resources Required	Metric for Success
community education and participation in FireSmart activities, including the *Wildfire Mitigation Program.*	Municipality			FireSmart Coordinator. Funding from FireSmart Community Funding and Support Program	neighbourhood champions and FireSmart compliant streets/neighbourhoods

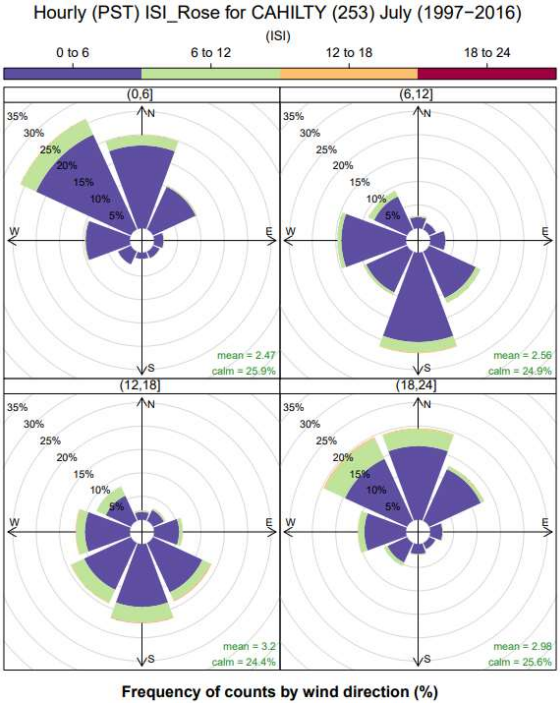
Appendix A – ISI Roses

Figures A.1-A.5 – Initial Spread Index (ISI) Roses

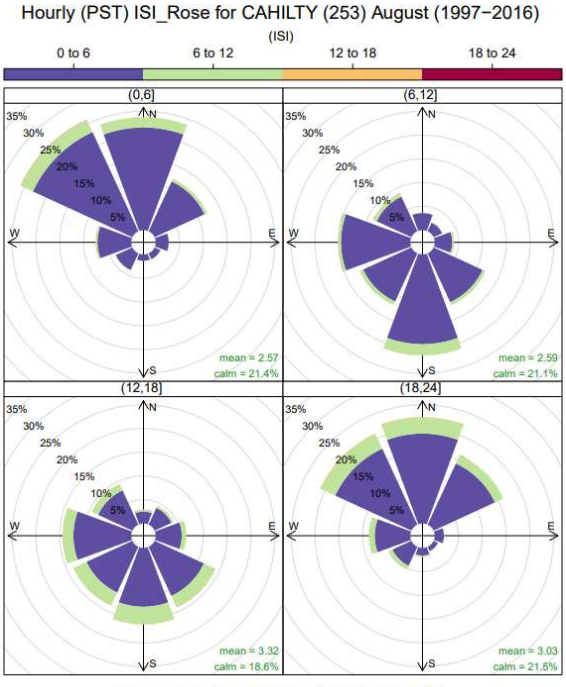




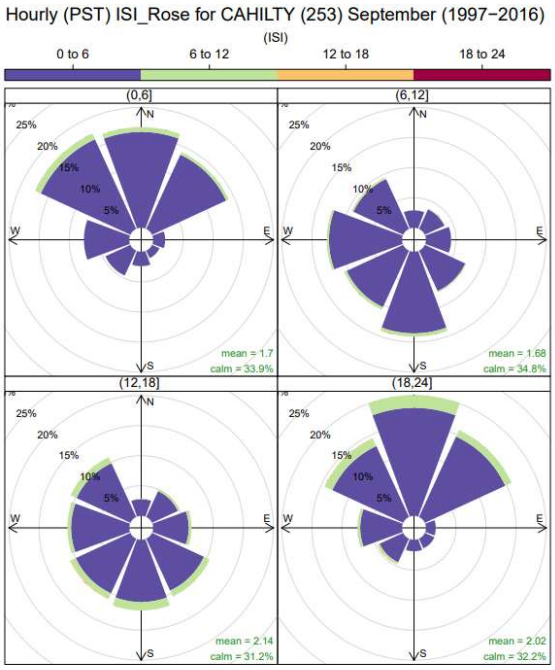
Frequency of counts by wind direction (%)



Frequency of counts by wind direction (%)



Frequency of counts by wind direction (%)


Hourly (PST) ISI_Rose for CAHILTY (253) September (1997−2016)
(ISI)
0 to 6
6 to 12
12 to 18
18 to 24
(0,6]
(6,12]
(12,18]
(18,24]
N
S
W
E
25%
20%
15%
10%
5%
mean = 1.7
calm = 33.9%
mean = 1.68
calm = 34.8%
mean = 2.14
calm = 31.2%
mean = 2.02
calm = 32.2%
Frequency of counts by wind direction (%)

Appendix B – Maps

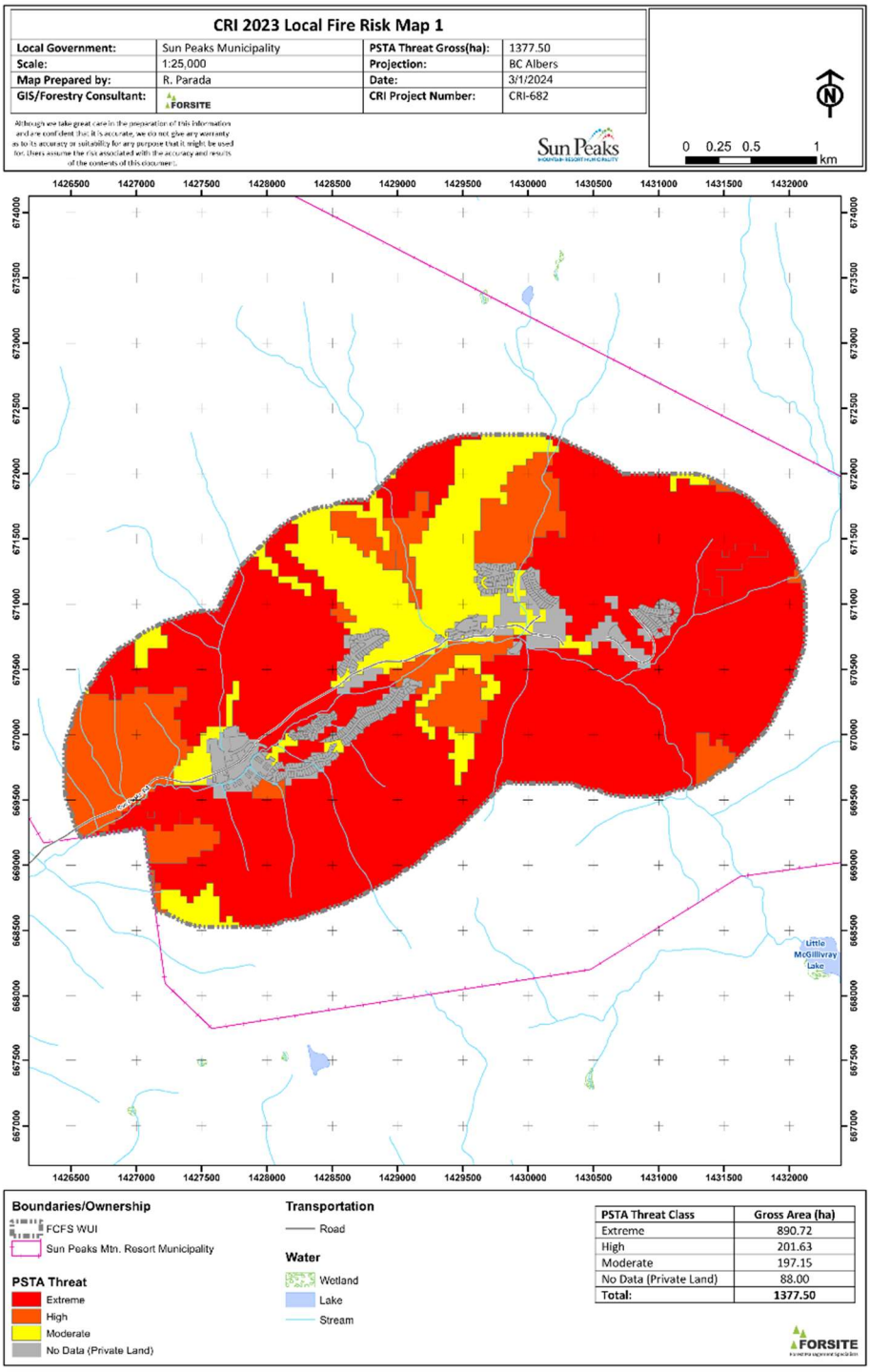


Figure B.1. – Local Fire Risk Map. FireSmart Community Funding and Support (FCFS) Wildland Urban Interface (WUI) and Provincial Strategic Threat Analysis (PSTA).

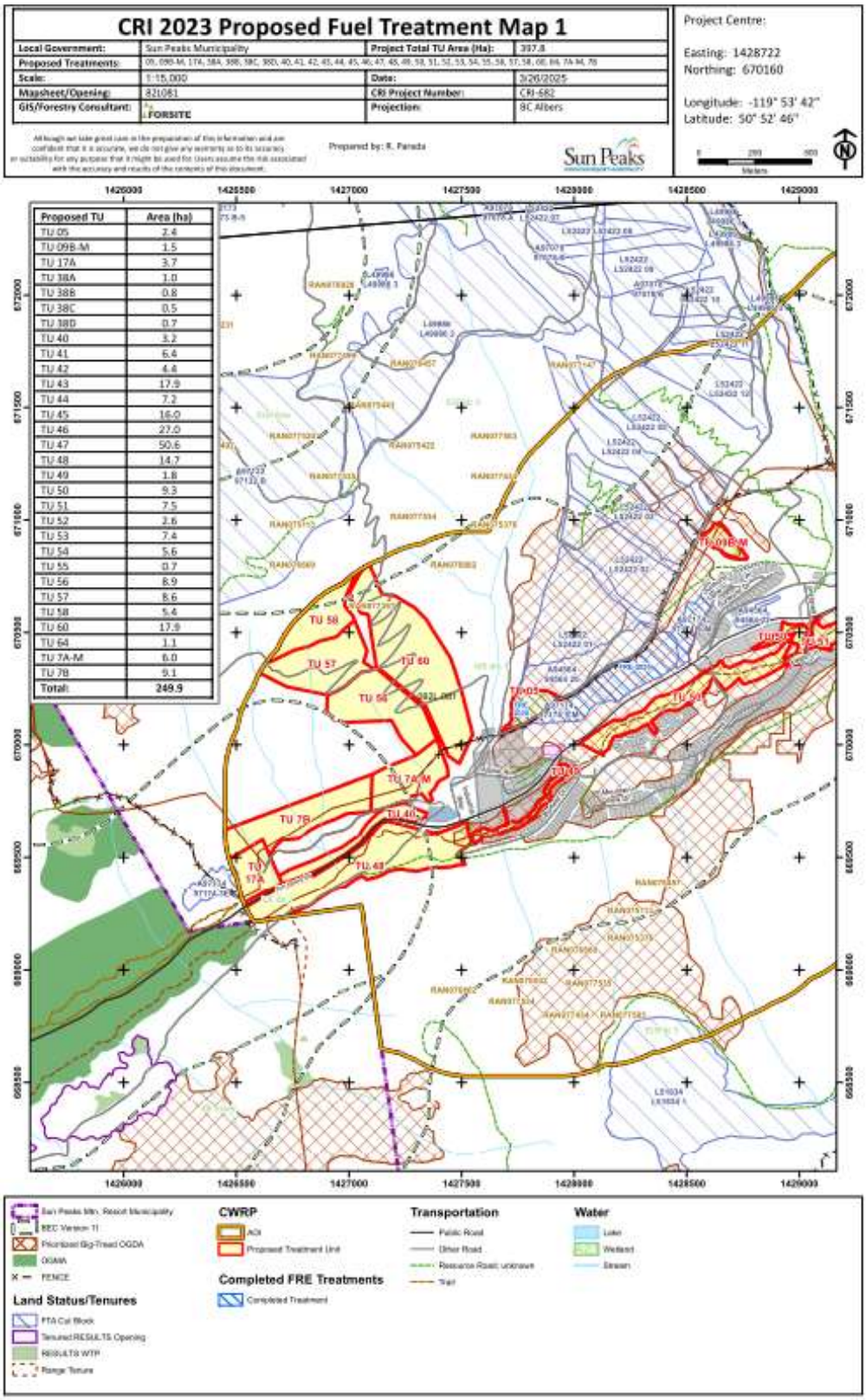


Figure B.2. – Proposed FTUs Map 1. Proposed FTUs within FireSmart Community Funding and Support (FCFS) Wildland Urban Interface (WUI).

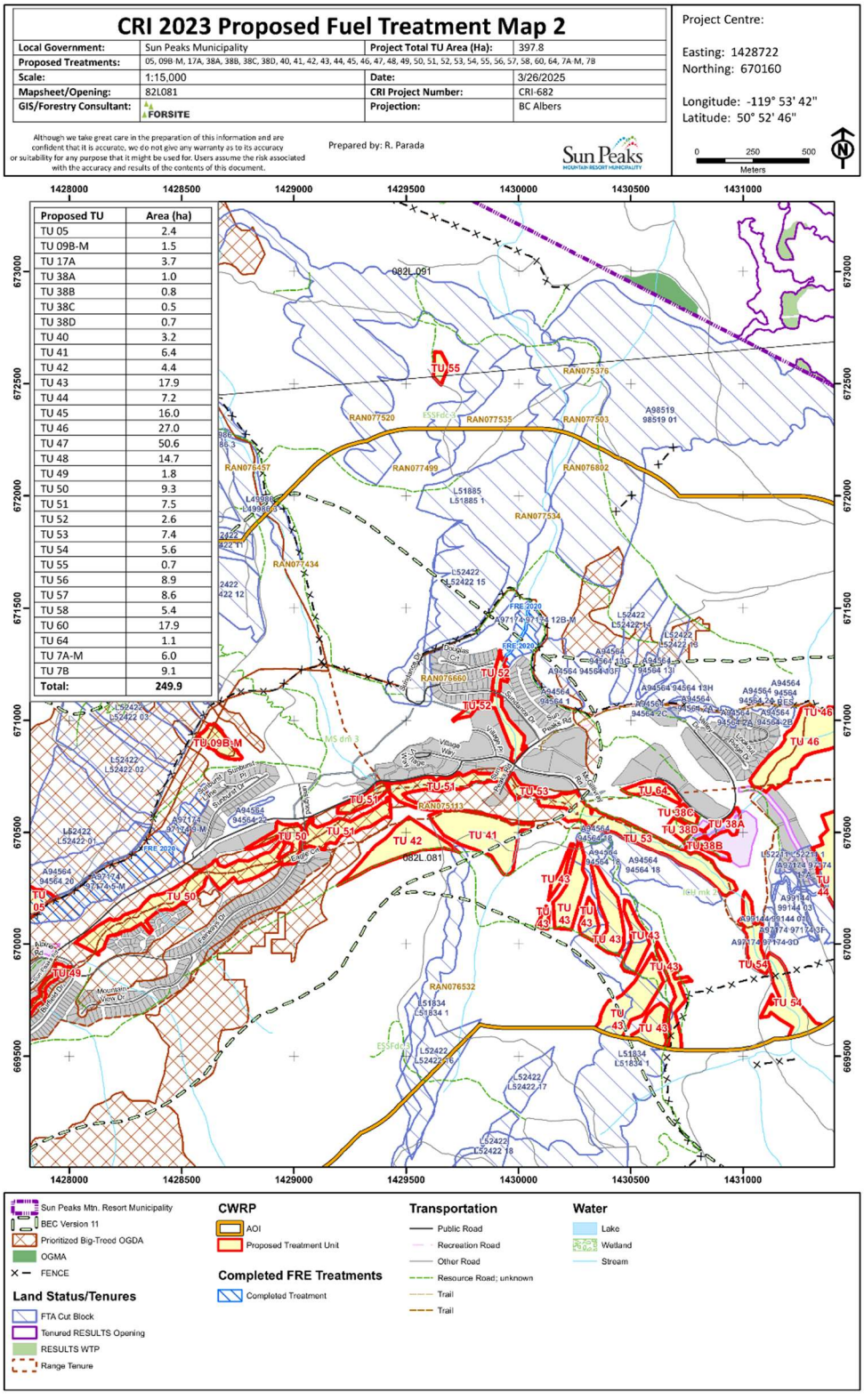


Figure B.3. – Proposed FTUs Map 2. Proposed FTUs within FireSmart Community Funding and Support (FCFS) Wildland Urban Interface (WUI).

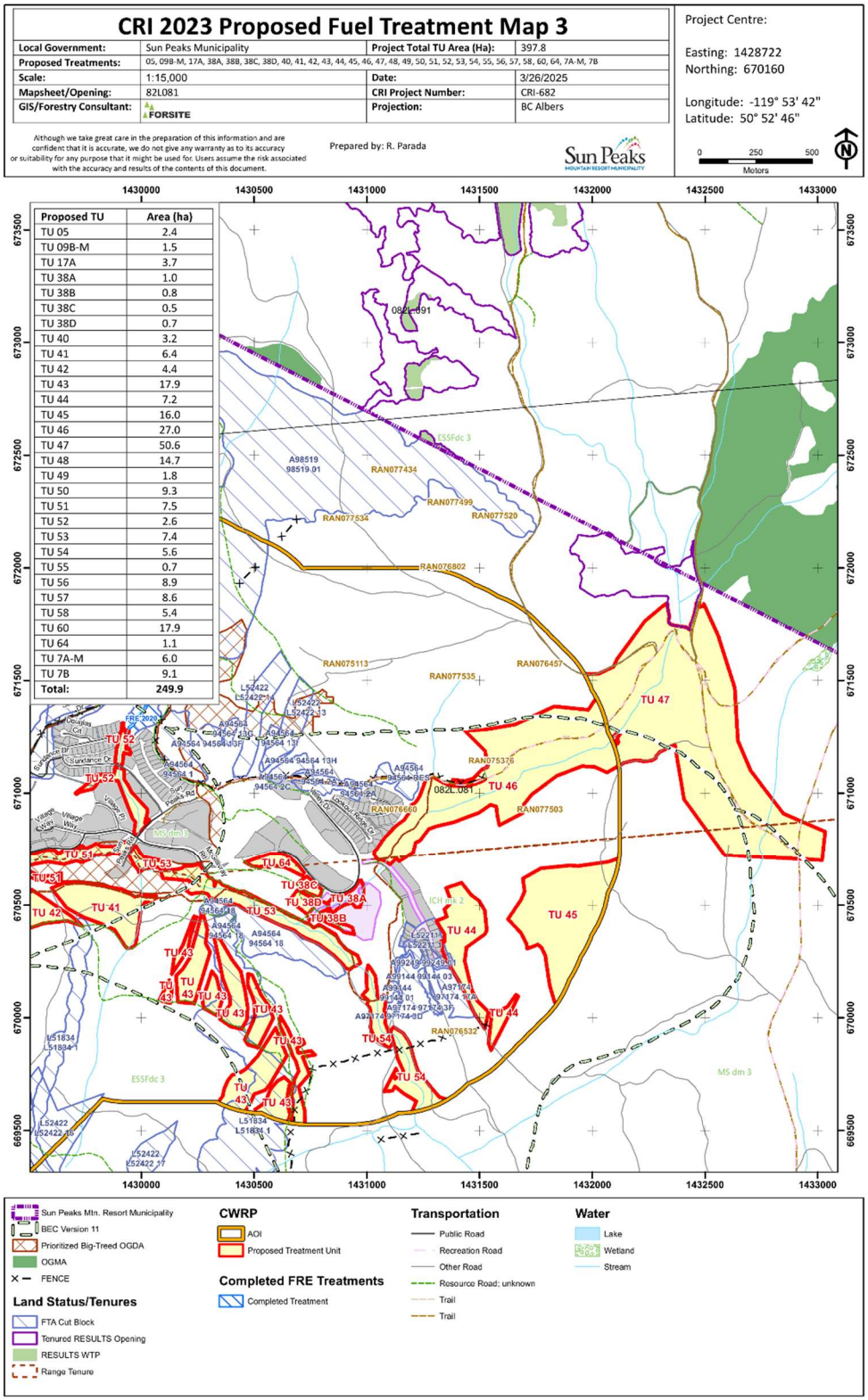


Figure B.4. – Proposed FTUs Map 3. Proposed FTUs within FireSmart Community Funding and Support (FCFS) Wildland Urban Interface (WUI).

Appendix C – Threat Assessment Plots

This field data was collected as per the Wildfire Threat Assessment Guide and Worksheets (2020)[36]. Full descriptions of column headers can be found on the Wildfire Threat Assessment Worksheet (2020).

***Table C.1**. – Threat Assessment Plot Data Collected at Sun Peaks on October 16, 2023.*

Plot #	Duff Depth	Surf Comp	D&D Cont.	Ladd Comp	Ladd Cont	Under - sph	Over - sph	Over - CBH	Strata gap	Crown Close	Dead/Dying	**Fuel Score**	**Fuel Rating**	Prox value	Treat btw	Placement	Veh Access	Dist no-treat	Slope	Aspect	Slope Pos.	**Setting**	**Total**
1	3	10	4	5	8	2	6	4	3	2	2	**49**	M	20	5	15	5	5	0	5	3	**58**	**107**
2	5	8	8	15	10	4	3	3	5	5	2	**68**	H	25	5	15	5	5	1	5	3	**64**	**132**
3	5	8	8	15	10	4	3	3	5	5	2	**68**	H	25	0	15	5	5	3	5	3	**61**	**129**
4	5	8	12	15	10	8	3	5	5	2	2	**75**	H	25	0	15	5	5	5	5	3	**63**	**138**
5	5	8	12	15	10	8	3	5	5	2	2	**75**	H	20	0	15	5	5	5	5	3	**58**	**133**
5	5	8	12	15	10	8	3	5	5	2	2	**75**	H	25	0	15	5	5	3	5	3	**61**	**136**
6	3	8	4	5	10	2	3	5	5	2	2	**49**	M	25	0	15	5	5	5	5	3	**63**	**112**
7	5	8	12	15	10	8	3	5	5	2	2	**75**	H	20	0	15	0	5	1	5	3	**49**	**124**
7	3	8	4	5	10	2	3	5	5	2	2	**49**	M	20	0	15	5	5	3	5	3	**56**	**105**
8	5	8	12	15	10	8	3	5	3	2	2	**73**	H	20	0	15	5	5	3	5	3	**56**	**129**

[36] BC Wildfire Service (2020) Wildfire Threat Assessment Guide and Worksheets

Plot #	Duff Depth	Surf Comp	D&D Cont.	Ladd Comp	Ladd Cont	Under - sph	Over - sph	Over - CBH	Strata gap	Crown Close	Dead/Dying	Fuel Score	Fuel Rating	Prox value	Treat btw	Placement	Veh Access	Dist no-treat	Slope	Aspect	Slope Pos.	Setting	Total
9	3	8	4	5	10	2	3	5	5	2	2	**49**	M	20	0	15	5	5	3	5	3	**56**	**105**
10	3	8	4	5	10	2	3	5	5	2	2	**49**	M	20	5	15	5	5	3	5	3	**61**	**110**
11	5	8	12	15	10	8	3	3	3	2	2	**71**	H	20	5	15	5	5	1	5	3	**59**	**130**
12	5	8	12	15	10	8	3	3	3	2	2	**71**	H	20	5	15	5	5	3	5	3	**61**	**132**
13	3	8	4	5	10	2	3	5	5	2	2	**49**	M	25	0	15	5	5	3	5	3	**61**	**110**
14	5	8	12	15	10	4	3	2	5	2	2	**68**	H	25	0	15	0	5	3	5	3	**56**	**124**
15	5	8	12	15	10	4	3	2	5	2	2	**68**	H	25	0	15	0	5	3	5	3	**56**	**124**
16	5	8	12	15	10	4	3	2	5	2	2	**68**	H	20	0	15	0	5	3	5	3	**51**	**119**
17	5	8	12	15	10	4	3	2	5	2	2	**68**	H	25	0	15	5	5	3	5	3	**61**	**129**
18	5	8	12	15	10	8	3	3	3	2	2	**71**	H	20	0	15	5	5	4	5	3	**57**	**128**
19	5	8	12	15	10	8	3	3	3	2	2	**71**	H	20	0	15	5	5	4	5	3	**57**	**128**
20	5	8	12	15	10	4	3	2	5	2	2	**68**	H	25	0	15	5	5	3	4	3	**60**	**128**
21	5	8	12	15	10	8	3	3	3	2	2	**71**	H	20	0	15	5	5	5	4	3	**57**	**128**
22	5	8	12	15	8	8	3	3	3	2	2	**69**	H	20	0	15	5	5	0	4	3	**52**	**121**
23	5	8	12	15	8	8	3	3	3	2	2	**69**	H	25	0	15	5	5	0	4	3	**57**	**126**
24	5	8	12	15	10	8	3	3	3	2	2	**71**	H	25	0	15	5	5	1	0	3	**54**	**125**

Plot #	Duff Depth	Surf Comp	D&D Cont.	Ladd Comp	Ladd Cont	Under - sph	Over - sph	Over - CBH	Strata gap	Crown Close	Dead/Dying	Fuel Score	Fuel Rating	Prox value	Treat btw	Placement	Veh Access	Dist no-treat	Slope	Aspect	Slope Pos.	Setting	Total
25	5	8	12	15	8	8	3	3	3	2	2	69	H	25	0	15	5	5	0	0	3	53	122
26	5	8	12	15	10	8	3	3	3	2	2	71	H	25	0	15	5	5	1	0	3	54	125
27	5	8	12	15	8	8	3	5	3	2	2	71	H	25	0	15	5	5	1	0	3	54	125
28	5	8	12	15	8	8	3	3	3	2	2	69	H	25	0	15	5	5	3	0	3	56	125
29	5	8	12	15	10	8	3	3	3	2	2	71	H	25	0	15	5	5	5	0	3	58	129
30	5	8	12	15	10	8	3	3	3	2	2	71	H	20	0	15	5	5	0	0	3	48	119
31	5	8	12	15	8	8	3	5	3	2	2	71	H	20	0	15	5	5	1	0	3	49	120
32	5	8	12	15	8	8	3	3	3	2	2	69	H	20	0	15	5	5	1	0	3	49	118
33	5	8	12	15	8	8	3	3	3	2	2	69	H	25	0	15	5	5	1	4	3	58	127
34	3	8	4	5	10	2	3	5	5	2	2	49	M	25	0	15	5	5	1	4	3	58	107
35	5	8	12	15	8	8	3	3	3	2	2	69	H	20	0	15	5	5	0	5	3	53	122
36	3	8	8	5	10	2	3	5	5	2	2	53	M	20	0	15	5	5	0	5	3	53	122
38	3	8	8	5	10	2	3	5	5	2	2	53	M	20	0	15	5	5	1	5	3	54	123
39	3	8	4	5	10	2	3	5	5	2	2	49	M	20	5	15	5	5	5	5	3	63	112
40	5	8	12	15	8	8	3	3	3	2	2	69	H	20	5	15	5	5	3	5	3	61	130
41	5	8	12	15	8	8	3	3	3	2	2	69	H	20	5	15	5	5	3	5	3	61	130

Plot #	Duff Depth	Surf Comp	D&D Cont.	Ladd Comp	Ladd Cont	Under - sph	Over - sph	Over - CBH	Strata gap	Crown Close	Dead/Dying	Fuel Score	Fuel Rating	Prox value	Treat btw	Placement	Veh Access	Dist no-treat	Slope	Aspect	Slope Pos.	Setting	Total
42	3	8	4	5	10	2	3	5	5	2	2	49	M	20	5	15	5	5	3	5	3	61	110
43	3	8	4	5	10	2	3	5	5	2	2	49	M	20	5	15	5	5	3	5	3	61	110
44	5	8	12	15	8	8	3	3	3	2	2	69	H	20	5	15	5	5	3	5	3	61	130
46	5	8	12	15	8	8	3	3	3	2	2	69	H	20	5	15	5	5	5	5	3	63	132
47	3	8	4	5	10	2	3	5	5	2	2	49	M	20	5	15	5	5	3	5	3	61	110
48	5	30	0	0	0	0	0	0	0	0	0	35	L	20	0	15	5	5	1	5	3	54	89
49	3	8	4	5	10	2	3	5	5	2	2	49	M	20	0	15	5	5	1	5	3	54	103
50	5	8	12	15	8	8	3	3	3	2	2	69	H	20	0	15	5	5	1	5	3	54	123
51	3	8	4	5	10	2	3	5	5	2	2	49	M	25	5	15	5	5	3	5	3	66	115
52	5	4	4	15	2	2	3	3	3	2	2	45	L	25	5	15	5	5	3	5	3	66	111
53	3	8	4	5	10	2	3	5	5	2	2	49	M	25	5	15	5	5	3	5	3	66	115
54	3	8	4	5	10	2	3	5	5	2	2	49	M	25	5	15	5	5	3	5	3	66	115
55	5	4	4	15	2	2	3	3	3	2	2	45	L	25	5	15	5	5	3	5	3	66	111
56	5	4	4	15	2	2	3	3	3	2	2	45	L	25	5	15	5	5	3	5	3	66	111
57	5	4	4	15	2	2	3	3	3	2	2	45	L	25	5	15	5	5	0	5	3	63	108
58	5	8	12	15	8	8	3	3	3	2	2	69	H	20	5	15	5	5	1	5	3	59	128

Plot #	Duff Depth	Surf Comp	D&D Cont.	Ladd Comp	Ladd Cont	Under - sph	Over - sph	Over - CBH	Strata gap	Crown Close	Dead/Dying	Fuel Score	Fuel Rating	Prox value	Treat btw	Placement	Veh Access	Dist no-treat	Slope	Aspect	Slope Pos.	Setting	Total
59	5	4	4	15	2	2	3	3	3	2	2	**45**	L	20	5	15	5	5	0	5	3	**58**	**103**
60	5	8	12	15	8	8	3	3	3	2	2	**69**	H	20	5	15	5	5	1	5	3	**59**	**128**
61	5	8	12	15	8	8	3	3	3	2	2	**69**	H	20	5	15	5	5	0	5	3	**58**	**127**
62	5	8	12	15	8	8	3	3	3	2	2	**69**	H	25	0	15	5	5	1	0	3	**54**	**123**
63	5	8	12	15	8	8	3	3	3	2	2	**69**	H	25	0	15	5	5	1	0	3	**54**	**123**
64	5	8	12	15	8	8	3	3	3	2	2	**69**	H	25	0	15	5	5	1	0	3	**54**	**123**
65	5	8	12	15	8	8	3	3	3	2	2	**69**	H	25	0	15	5	5	3	0	3	**56**	**125**
66	3	8	4	5	10	2	3	5	5	2	2	**49**	M	25	0	15	5	5	1	0	3	**54**	**103**
67	3	8	4	5	10	2	3	5	5	2	2	**49**	M	25	0	15	5	5	1	0	3	**54**	**103**
68	3	8	4	5	10	2	3	5	5	2	2	**49**	M	25	0	15	5	5	1	0	3	**54**	**103**
69	5	8	12	15	8	8	3	3	3	2	2	**69**	H	25	0	15	5	5	1	0	3	**54**	**123**
70	5	8	12	15	8	8	3	3	3	2	2	**69**	H	25	0	15	5	5	0	0	3	**53**	**122**
71	3	8	4	5	10	2	3	5	5	2	2	**49**	M	25	0	15	5	5	0	4	3	**57**	**106**
72	5	8	12	15	8	8	3	3	3	2	2	**69**	H	25	0	15	5	5	0	4	3	**57**	**126**
73	3	8	4	5	10	2	3	5	5	2	2	**49**	M	25	0	15	5	5	0	4	3	**57**	**106**
74	3	8	4	5	10	2	3	5	5	2	2	**49**	M	25	5	15	5	5	0	5	3	**63**	**112**

Plot #	Duff Depth	Surf Comp	D&D Cont.	Ladd Comp	Ladd Cont	Under - sph	Over - sph	Over - CBH	Strata gap	Crown Close	Dead/Dying	Fuel Score	Fuel Rating	Prox value	Treat btw	Placement	Veh Access	Dist no-treat	Slope	Aspect	Slope Pos.	Setting	Total
75	5	8	12	15	10	8	3	3	3	2	2	71	H	20	0	15	5	5	0	4	3	52	123
76	5	8	12	15	10	8	3	3	3	2	2	71	H	20	0	15	5	5	0	4	3	52	123
77	5	8	12	15	10	8	3	3	3	2	2	71	H	25	0	15	5	5	0	4	3	57	128
78	5	8	12	15	8	8	3	3	3	2	2	69	H	25	0	15	5	5	0	4	3	57	126
79	5	8	12	15	8	8	3	3	3	2	2	69	H	20	0	15	5	5	0	4	3	52	121
80	5	8	12	15	10	8	3	3	3	2	2	71	H	25	0	15	5	5	0	4	3	57	128
81	5	8	12	15	10	8	3	3	3	2	2	71	H	25	0	15	5	5	0	4	3	57	128
82	5	8	12	15	10	8	3	3	3	2	2	71	H	25	0	15	5	5	0	4	3	57	128
83	5	8	12	15	10	8	3	3	3	2	2	71	H	25	0	15	5	5	0	4	3	57	128
84	5	8	12	15	10	8	3	3	3	2	2	71	H	25	0	15	5	5	0	4	3	57	128
85	5	8	12	15	10	8	3	3	3	2	2	71	H	25	0	15	5	5	0	0	3	53	124
86	5	8	12	15	8	8	3	3	3	2	2	69	H	25	0	15	5	5	0	4	3	57	126
87	5	8	12	15	8	8	3	3	3	2	2	69	H	25	0	15	5	5	0	0	3	53	122
88	5	8	12	15	8	8	3	3	3	2	2	69	H	25	0	15	5	5	0	4	3	57	126
89	5	8	12	15	8	8	3	3	3	2	2	69	H	25	0	15	5	5	0	4	3	57	126
90	5	8	12	15	8	8	3	3	3	2	2	69	H	25	0	15	5	5	3	5	3	61	130

Plot #	Duff Depth	Surf Comp	D&D Cont.	Ladd Comp	Ladd Cont	Under - sph	Over - sph	Over - CBH	Strata gap	Crown Close	Dead/Dying	Fuel Score	Fuel Rating	Prox value	Treat btw	Placement	Veh Access	Dist no-treat	Slope	Aspect	Slope Pos.	Setting	Total
91	5	8	12	15	8	8	3	3	3	2	2	69	H	25	0	15	5	5	1	5	3	59	128
92	3	8	4	5	10	2	3	5	5	2	2	49	M	25	5	15	5	5	1	5	3	64	113
93	5	4	4	15	2	2	3	3	3	2	2	45	L	20	5	15	5	5	3	4	3	60	105
94	5	8	12	15	8	8	3	3	3	2	2	69	H	20	5	15	5	5	0	4	3	57	126
95	5	4	4	15	2	2	3	3	3	2	2	45	L	20	5	15	5	5	1	4	3	58	103
96	3	8	4	5	10	2	3	5	5	2	2	49	M	20	5	15	5	5	5	4	3	62	111
97	5	8	12	15	8	8	3	3	3	2	2	69	H	20	5	15	5	5	0	4	3	57	126
98	3	8	4	5	10	2	3	5	5	2	2	49	M	20	5	15	5	5	1	3	3	57	106
99	5	8	12	15	8	8	3	3	3	2	2	69	H	20	5	15	5	5	1	3	3	57	126
100	5	8	12	15	8	8	3	3	3	2	2	69	H	20	5	15	5	5	0	3	3	56	125
101	5	8	12	15	8	8	3	3	3	2	2	69	H	20	5	15	5	5	3	4	3	60	129
102	3	8	4	5	10	2	3	5	5	2	2	49	M	20	5	15	5	5	0	4	3	57	106
103	3	8	4	5	10	2	3	5	5	2	2	49	M	20	5	15	5	5	1	4	3	58	107
104	3	8	4	5	10	2	3	5	5	2	2	49	M	20	5	15	5	5	1	4	3	58	107
105	5	8	12	15	8	8	3	3	3	2	2	69	H	25	0	15	5	5	0	0	3	53	122
106	5	8	12	15	8	8	3	3	3	2	2	69	H	25	0	15	5	5	0	5	3	58	127

Plot #	Duff Depth	Surf Comp	D&D Cont.	Ladd Comp	Ladd Cont	Under - sph	Over - sph	Over - CBH	Strata gap	Crown Close	Dead/Dying	Fuel Score	Fuel Rating	Prox value	Treat btw	Placement	Veh Access	Dist no-treat	Slope	Aspect	Slope Pos.	Setting	Total
107	5	8	12	15	8	8	3	3	3	2	2	**69**	H	25	5	15	5	5	3	5	3	**66**	**135**
108	5	4	4	15	2	2	3	3	3	2	2	**45**	L	25	5	15	5	5	5	5	3	**68**	**113**
109	5	4	4	15	2	2	3	3	3	2	2	**45**	L	25	5	15	5	5	1	5	3	**64**	**109**
110	5	8	12	15	8	8	3	3	3	2	2	**69**	H	25	0	15	5	5	0	5	3	**58**	**127**
111	5	8	12	15	8	8	3	3	3	2	2	**69**	H	25	0	15	5	5	0	5	3	**58**	**127**
112	5	8	12	15	8	8	3	3	3	2	2	**69**	H	25	0	15	5	5	1	5	3	**59**	**128**
113	5	8	12	15	8	8	3	3	3	2	2	**69**	H	25	5	15	5	5	3	5	3	**66**	**135**
114	3	8	4	5	10	2	3	5	5	2	2	**49**	M	25	5	15	5	5	3	5	3	**66**	**115**
115	5	8	12	15	8	8	3	3	3	2	2	**69**	H	25	0	15	5	5	3	5	3	**61**	**130**
116	5	8	12	15	10	8	3	3	3	2	2	**71**	H	25	0	15	5	5	0	4	3	**57**	**128**
117	5	8	12	15	10	8	3	3	3	2	2	**71**	H	25	0	15	5	5	0	4	3	**57**	**128**
118	5	8	12	15	10	8	3	3	3	2	2	**71**	H	25	0	15	5	5	0	4	3	**57**	**128**
119	5	8	12	15	10	8	3	3	3	2	2	**71**	H	20	5	15	5	5	3	4	3	**60**	**129**

Table C.2. *Plot location UTM coordinates (UTM Zone 11).*

Plot #	Latitute	Longitude
1	50.886664	-119.869236
2	50.885818	-119.868115
3	50.876442	-119.862268
4	50.876564	-119.860465
5	50.881337	-119.870845
5	50.880342	-119.868753
6	50.87538	-119.862294
7	50.875068	-119.862466
7	50.875224	-119.860385
8	50.875088	-119.860717
9	50.87326	-119.859322
10	50.873105	-119.859548
11	50.872177	-119.856029
12	50.877823	-119.857064
13	50.8776	-119.857488
14	50.876226	-119.85796
15	50.876084	-119.859837
16	50.881872	-119.872782
17	50.881154	-119.873967
18	50.884809	-119.875979
19	50.888478	-119.876038
20	50.888924	-119.87497
21	50.888017	-119.87474
22	50.886312	-119.872208
23	50.886955	-119.877304
24	50.887449	-119.877315
25	50.888437	-119.876934
26	50.889276	-119.880941
27	50.888681	-119.878468
28	50.88906	-119.878307
29	50.878873	-119.906975
30	50.8789	-119.903209
31	50.879238	-119.901642

Plot #	Latitute	Longitude
32	50.879929	-119.899105
33	50.888848	-119.84647
34	50.886664	-119.869236
35	50.885818	-119.868115
36	50.876442	-119.862268
38	50.876564	-119.860465
39	50.881337	-119.870845
40	50.880342	-119.868753
41	50.87538	-119.862294
42	50.875068	-119.862466
43	50.875224	-119.860385
44	50.875088	-119.860717
46	50.87326	-119.859322
47	50.873105	-119.859548
48	50.872177	-119.856029
49	50.877823	-119.857064
50	50.8776	-119.857488
51	50.876226	-119.85796
52	50.876084	-119.859837
53	50.881872	-119.872782
54	50.881154	-119.873967
55	50.884809	-119.875979
56	50.888478	-119.876038
57	50.888924	-119.87497
58	50.888017	-119.87474
59	50.886312	-119.872208
60	50.886955	-119.877304
61	50.887449	-119.877315
62	50.888437	-119.876934
63	50.889276	-119.880941
64	50.888681	-119.878468
65	50.88906	-119.878307
66	50.878873	-119.906975
67	50.8789	-119.903209

Plot #	Latitute	Longitude
68	50.879238	-119.901642
69	50.879929	-119.899105
70	50.888848	-119.84647
71	50.885818	-119.868115
72	50.876442	-119.862268
73	50.876564	-119.860465
74	50.881337	-119.870845
75	50.880342	-119.868753
76	50.87538	-119.862294
77	50.875068	-119.862466
78	50.875224	-119.860385
79	50.875088	-119.860717
80	50.87326	-119.859322
81	50.873105	-119.859548
82	50.872177	-119.856029
83	50.877823	-119.857064
84	50.8776	-119.857488
85	50.876226	-119.85796
86	50.876084	-119.859837
87	50.881872	-119.872782
88	50.881154	-119.873967
89	50.884809	-119.875979
90	50.888017	-119.87474
91	50.886312	-119.872208
92	50.886955	-119.877304
93	50.88906	-119.878307
94	50.879238	-119.901642
95	50.879929	-119.899105
96	50.888848	-119.84647
97	50.886664	-119.869236
98	50.885818	-119.868115
99	50.876442	-119.862268
100	50.876564	-119.860465
101	50.881337	-119.870845

Plot #	Latitute	Longitude
102	50.880342	-119.868753
103	50.87538	-119.862294
104	50.875068	-119.862466
105	50.875224	-119.860385
106	50.87326	-119.859322
107	50.873105	-119.859548
108	50.872177	-119.856029
109	50.877823	-119.857064
110	50.876226	-119.85796
111	50.876084	-119.859837
112	50.881872	-119.872782
113	50.884809	-119.875979
114	50.888478	-119.876038
115	50.888924	-119.87497
116	50.888017	-119.87474
117	50.886312	-119.872208
118	50.886955	-119.877304
119	50.887449	-119.877315

Appendix D – All Treatment Units

Table D.1. All historical, current, and proposed fuel management treatments units (FTUS) around Sun Peaks, year of most recent treatment completion, and prescription recommendations or objectives.

TU	Status	Year of Recent Completion	Prescription Recommendations / Objectives
01-M	Complete	11/1/2024	
02A	Complete	12/16/2015	Continually monitor and reassess priority.
02B	Complete	12/16/2015	Continually monitor and reassess priority.
02C	Complete	12/16/2015	Continually monitor and reassess priority.
02-M	Prescription Approved	12/16/2015	Due for maintenance. Previously treated in 2015. Prescription approved 3/20/2022. Includes 2A&2B.
03A (3-M)	Prescription Approved	2/12/2014	Due for maintenance. Thin & prune. Prescription approved 03/20/2022.
03B (3-M)	Prescription Approved	2/12/2014	Due for maintenance. Thin & prune. Prescription approved 03/20/2022.
03C	Prescription Approved (3-M)	2/12/2014	Due for maintenance. Thin & prune. Prescription approved 03/20/2022.
03D	Complete	11/15/2024	Continually monitor and reassess priority. May require maintenance by 2030.
03E	Complete	11/15/2024	Continually monitor and reassess priority. May require maintenance by 2030.
03F	Complete	11/15/2024	Continually monitor and reassess priority. May require maintenance by 2030.
04W	Complete	4/28/2010	Continually monitor and reassess priority.
05	Maintenance Required	7/18/2019	Thin & prune.
05A	Complete	2/12/2014	Thin & prune. Continually monitor and reassess priority.
05-M	Prescription Approved	2/12/2014	Protect Fire Hall. Monitor need for maintenance.
6	Complete	1/15/2013	Thin & prune.
06B	Proposed		Mechanical ski glading. Connect treatments on western perimeter.
06W-M	Complete	1/15/2013	Continually monitor and reassess priority.
07A-M	Maintenance Required	4/26/2010	Thin & prune. Connect treatments on western perimeter.
07B	Proposed		Thin & prune. Connect treatments on western perimeter.
07W-M	Complete	4/26/2010	Continually monitor and reassess priority.

TU	Status	Year of Recent Completion	Prescription Recommendations / Objectives
08 -M	Maintenance Required	2/12/2014	Thin & prune. Connect treatments on western perimeter.
09A	Complete	9/1/2019	Thin & prune.
09B	Complete	1/15/2013	Thin & prune. Continually monitor and reassess priority.
09C	Complete	1/15/2013	Thin & prune.
10A-M	Prescription Approved	1/15/2013	Maintenance.
10B-M	Prescription Approved	1/15/2013	Maintenance.
11A-M	Prescription Approved	1/3/2014	Maintenance.
11B-M	Prescription Approved	1/15/2013	Maintenance.
11C-M	Prescription Approved	1/15/2013	Maintenance.
12A	Complete	3/17/2010	Continually monitor and reassess priority.
12B	Complete	3/17/2010	Continually monitor and reassess priority.
12-M	Prescription Approved	3/17/2010	Thin & prune.
13A-M	Operational	1/15/2013	To be completed 2025/26. Prescription approved 04/20/2022 (CRI 342).
13B	Complete	1/15/2013	Thin & prune.
13C	Complete	1/15/2013	Thin & prune.
13D	Complete	1/15/2013	Thin & prune.
13E-M	Operational	1/15/2013	To be completed 2025/26. Prescription approved 04/20/2022 (CRI 342).
13F	Complete	12/16/2015	Thin & prune.
13G	Complete	12/16/2015	Thin & prune.
13H	Complete	12/16/2015	Thin & prune.
13I	Complete	12/16/2015	Thin & prune.
16A-E	Complete	2/12/2014	Conitnually reassess/monitor need for maintenance
17A	Proposed	2/12/2014	Thin & prune. Connect treatments on western perimeter.
17B	Prescription Approved	2/12/2014	Thin & prune. Connect treatments on western perimeter.
17C	Prescription Approved	2/12/2014	Thin & prune. Connect treatments on western perimeter.
18	Complete	1/15/2013	Thin & prune.
20-M	Operational	2/12/2014	To be completed 2025/26

TU	Status	Year of Recent Completion	Prescription Recommendations / Objectives
22	Complete	1/15/2013	Thin & prune.
23	Operational		To be completed 2025/26
24B	Operational		To be completed 2025/26
25	Complete	9/1/2019	Thin & prune.
26A	Operational		To be completed 2025/26
26B	Operational		To be completed 2025/26
26C	Operational		To be completed 2025/26
27A	Operational		To be completed 2025/26
27B	Operational		To be completed 2025/26
28	Operational		To be completed 2025/26
34	Prescription Approved		Protect homes in the southwest of the community.
35	Prescription Approved		Protect homes in the southwest of the community.
36	Prescription Approved		Protect homes in the southwest of the community.
37	Prescription Approved		Protect homes in the southwest of the community.
38A	Proposed		Protect the new school. Monitor need for maintenance.
38B	Proposed		Protect the new school. Monitor need for maintenance.
38C	Proposed		Protect the new school. Monitor need for maintenance.
38D	Proposed		Protect the new school. Monitor need for maintenance.
38E	Proposed		Protect the new school. Monitor need for maintenance.
39	n/a		TU cancelled
40	Proposed		Remove trees near powerlines, thin, prune, encourage deciduous.
41	Proposed		Priority conditional to new development
42	Proposed		Thin & prune.
43	Proposed		Priority conditional to new development
44	Proposed		Priority conditional to new development
44	Proposed		Priority conditional to new development
45	Proposed		Priority conditional to new development
46	Proposed		Protect evacuation routes. Widen road ROW, thin & prune.
47	Proposed		Protect evacuation routes. Widen road ROW, thin & prune.
48	Proposed		McGillvray Creek, thin & prune, connect western TUs
49	Proposed		McGillvray Creek, thin & prune, connect western TUs
50	Proposed		McGillvray Creek, thin & prune, connect TUs

TU	Status	Year of Recent Completion	Prescription Recommendations / Objectives
51	Proposed		McGillvray Creek, thin & prune, connect TUs
52	Proposed		McGillvray Creek, thin & prune, connect TUs
53	Proposed		McGillvray Creek, thin & prune, connect TUs
54	Proposed		Priority conditional to new development
55	Proposed		Communication Tower
56	Proposed		Thin & prune, connect all TUs to create Rollercoaster/Expo fuel-break.
57	Proposed		Thin & prune, connect all TUs to create Rollercoaster/Expo fuel-break.
58	Proposed		Thin & prune, connect all TUs to create Rollercoaster/Expo fuel-break.
59	Proposed		Thin & prune, connect all TUs to create Rollercoaster/Expo fuel-break.
60	Proposed		Thin & prune