SQUAMISH - LILLOOET
REGIONAL DISTRICT

SLRD Electoral Area B

Community Wildfire Resiliency Plan

Blowdown Valley

Photo Credit: Brynley Hanson-Wright

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Executive Summary

Resiliency is the ability to withstand and recover from adverse events. Within the wildfire context, resilient communities will be able to respond, absorb, adapt to and recover from wildfire events. Fire has always been part of the natural ecosystem and it is inevitable that wildfires, including those of an extreme event, will continue to occur within the region. As we enter a new era of climate change, it is not if a wildfire will happen, it is when. This plan has been developed to assist individuals, communities and organizations in becoming more wildfire resilient.

Fire on the land has been integral to the shaping of the natural ecosystems we currently live in and enjoy, but the behaviour of wildfires in recent years has changed dramatically and is expected to continue to change in the years ahead. Wildfires are now becoming more threatening to human life, safety and community values. Wildfire seasons are starting earlier in the spring and continuing later into the fall; the fires themselves are becoming larger and more intense; and communities are seeing unprecedented impacts from wildfires including loss of human life, infrastructure, wildlife and their habitat, livestock and their grazing areas, and even entire communities themselves. For example, the three most impactful fire seasons to communities were recorded in 2017 (12,160 sq km), 2018 (13,550 sq km) and 2021 (8,700 sq km). In 2021, the Kamloops Fire Centre alone saw 455 wildfires burn 498,000 hectares of land, and across the province of BC approximately 1% of the entire land base was burned, creating devastating impacts (Government of BC, n.d.). During the 2021 wildfire season a provincial state of emergency was declared on July 21, 2021, and remained in effect for 56 days until September 14, 2021 (Government of BC, n.d.). During the state of emergency many communities in the southern interior were placed on evacuation alert and resulting evacuation orders, which led to challenges in finding available accommodations for all of the evacuees. These unprecedented impacts from the 2021 wildfire season emphasized the need for communities to take steps to increase their preparedness level and overall resiliency in anticipation for challenging fire seasons that lie ahead.

The focus area of the Community Wildfire Resiliency Plan is the Wildland-Urban Interface (WUI) which is the area of land within 1 kilometre of a community and is where human development meets and intermixes with natural vegetation. There were eight WUIs delineated within the SLRD Electoral B that encompass the communities of Fountain Valley (Frantzen Road – North, Fountain Lake and Kirby Flats – South), Pavilion Lake, Seton Portage, Bridge River Generation, Texas Creek and Yalakom Valley. Within these WUIs, the most common fuel types are those dominated by coniferous forest that varies across the landscape due to diverse topography, hydrological conditions, forest harvesting, wildfire history, human settlement, cattle grazing, and other factors. A wildfire risk analysis completed for the eight WUI areas indicated that the majority of the forested area falls within the moderate to high wildfire threat with some areas of extreme threat. These ratings were developed by analyzing the natural disturbance regime, fuel types, wildfire history, topography, and weather patterns in the WUI areas. Wildfire threat assessments were completed in the field which provided local threat attribute data leading to the development of proposed fuel treatment areas in efforts to mitigate the moderate – extreme threat levels within the WUI areas.

There are many values that are at risk during a wildfire event that require consideration, but first and foremost is the human life and the safety of all residents. Other important values that are considered during resiliency planning include homes where people live, community buildings where people gather, critical infrastructure that supports human life and safety (including energy sources, water and sewage systems, and communication towers), cultural and spiritual values, and the many species at risk. The Community Wildfire Resiliency Plan provides recommendations in efforts to minimize the effects to these values from a wildfire event. Processes that support these resiliency efforts include conducting home and critical infrastructure assessments, mitigating wildfire risks around homes and critical infrastructure, enhancing emergency planning, and developing and supporting neighbourhood FireSmart programs.

This plan is grounded in local knowledge through community participation and input received from the Community Wildfire Resiliency Committees (CFRCs) and the Lillooet & Area Community Wildfire Roundtable. These forums provided local information and challenges, as well as an opportunity to

improve communication and create stronger connections between community members and responding agencies. Through the implementation of this plan, the SLRD Electoral Area B communities will be able to take further steps to prepare for wildfires and to be able to respond and recover from a wildfire event safely, quickly and effectively to emerge stronger and more resilient.

Frequently Used Acronyms

AoI	Area of Interest
BCWS	British Columbia Wildfire Service
BEC	Biogeoclimatic Ecosystem Classification
CFFDRS	Canadian Forest Fire Danger Rating System
CI	Critical infrastructure
CRI	Community Resiliency Investment
CWPP	Community Wildfire Protection Plan
CWRP	Community Wildfire Resiliency Planning
DP	Development Permit
DPA	Development Permit Area
EMCR	Emergency Management and Climate Readiness
EPA	Emergency Program Act
FBP	Fire Behavior Prediction System
FCFS	FireSmart Community Funding and Support
FMP	Fire Management Plan
FSCNRP	FireSmart Canada Neighbourhood Recognition Program
FNESS	First Nations Emergency Services Society
GAR	Government Action Regulation
HIZ	Home Ignition Zone (also see Structure Ignition Zone)
HRVA	Hazard Risk and Vulnerability Analysis
LACWR	Lillooet Area Community Wildfire Roundtable
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
SAR	Species at Risk
SOLE	State of Local Emergency
SPU	Structure Protection Units
SWPI	Strategic Wildfire Prevention Initiative
UBCM	Union of British Columbia Municipalities
VAR	Values at Risk
WHA	Wildfire Habitat Area
WRR	Wildfire Risk Reduction

Summary of Recommended Activities

Section 5.1 FireSmart Coordination						
Action Item	**Recommended Activity**	**Description**	**Timing**	**Priority**	**Responsibility**	**Output**
1	Continue to employ a dedicated FireSmart Coordinator to oversee the FireSmart program within the SLRD. Access funding through the CRI program to hire a full-time FireSmart Coordinator.	To work with the SLRD Electoral Area B communities to implement identified wildfire resiliency objectives and goals.	Ongoing	High	SLRD Emergency Program	Continued funded FireSmart Coordinator role
Section 5.3 Local Level FireSmart Initiatives						
Action Item	**Recommended Activity**	**Description**	**Timing**	**Priority**	**Responsibility**	**Output**
2	Continue to encourage and support community-level CFRC committee meetings.	To provide an opportunity for collaboration between neighbourhoods and other organizations or communities, and to support neighbourhoods working towards FireSmart Canada Neighbourhood Recognition.	Ongoing	High	SLRD FireSmart Coordinator Neighbourhood Champions Local FireSmart Representatives (LFR's)	Funding to support meeting logistics

3	Encourage and support individuals in the communities to become Neighbourhood Champions.	Identify key individuals within each community to work with the SLRD FireSmart Coordinator to implement initiatives in their local neighbourhoods.	Ongoing	High	SLRD FireSmart Coordinator Neighbourhood Champions	One Champion per neighbourhood
4	Complete neighbourhood wildfire assessments for all identified neighbourhoods.	Complete the Neighbourhood Wildfire Hazard Assessment Form to further identify risks within the identified neighbourhood areas.	Short Term (Within 1 year)	High	SLRD FireSmart Coordinator Qualified LFR	Completion of wildfire hazard assessments for all identified neighbourhoods
5	Continue to offer Home Ignition Zone Assessments for all residences in the WUI areas.	Increase homeowner education about current wildfire risks and how to reduce them using the FireSmart principles.	Ongoing	High	SLRD FireSmart Coordinator and Qualified LFR	Completion of HIZ assessments for all interested homeowners
6	Continue to work with the local Neighbourhood Champions to implement information/education sessions in the SLRD Area B communities.	Continued education and information distribution through events such as Community cleanup or FireSmart preparedness day and Local emergency preparedness days.	Ongoing	High	SLRD FireSmart Coordinator Community participants/ LFRs BC Wildfire Service	At least two community events held annually for the SLRD communities
7	Support interested neighbourhoods in achieving recognition through the FireSmart Canada Neighbourhood Recognition Program.	SLRD FireSmart Coordinator to provide support to local Neighbourhood Champions with CFRC coordination, creating neighbourhood plans, hosting events	Short Term (Within 1 year)	Moderate	SLRD FireSmart Coordinator Neighbourhood Champions	At least one neighbourhood engaged in and working towards FireSmart Canada Neighbourhood

		and submitting documents to FireSmart Canada.				recognition in 2024
8	Re-establish the rebate program.	Create an annual program that provides rebates to homeowners for completion of recommended FireSmart activities. This will provide an incentive for residents to reduce the wildfire risks on their properties.	Short Term (Within 1 year)	High	SLRD FireSmart Coordinator Qualified LFR	A fully funded rebate program for 2023/24 and future years.
Section 5.4 Education and Communication						
Action Item	**Recommended Activity**	**Description**	**Timing**	**Priority**	**Responsibility**	**Output**
9	Increased public messaging during the spring months and throughout the wildfire season.	Increased public messaging reminding people of the importance of implementing FireSmart principles and about emergency preparedness and readiness.	Short Term (Within 1 year)	High	SLRD FireSmart Coordinator Neighbourhood Champions SLRD Communications Department	Increased messaging frequency and targeted topic selection to coincide with appropriate preparedness activities
10	Develop a formal communication strategy for information distribution throughout the wildfire season.	Improved coordination of SLRD messaging resulting in increased awareness for residents and tourists in the SLRD. This includes defining audiences, identifying key messages, creating a plan for outreach methods, and developing a timeline for messaging.	Short Term (Within 1 year)	High	SLRD FireSmart Coordinator and Communications Department	Communication strategy/plan

11	Engage with local ranchers and farmers to determine the interest in developing a Farm and Ranch Wildfire Plan with a Local FireSmart Representative specializing in agriculture.	Assist farmers with information for wildfire preparedness planning, including completing a Farm and Ranch Wildfire Plan that includes developing an evacuation plan for livestock.	Short Term (Within 1 year)	High	SLRD FireSmart Coordinator Qualified LFR	Engage with local ranchers and complete at least one Farm and Ranch Wildfire Plan in 2023/24
12	Engage with Rec Sites and Trails BC and BC Parks to establish signage and/or display boards for key locations such as trailheads and kiosks that contains critical emergency information that the public should be aware of during wildfire season.	To provide the public with key information regarding evacuation routes, protocols and contacts in the event of a wildfire.	Short Term (Within 1 year)	High	SLRD FireSmart Coordinator Rec Sites and Trails / BC Parks	Designate or create at least one dedicated location to display public information.
13	Continue to build upon successful FireSmart public education outreach initiatives that have been previously implemented.	Continued FireSmart and wildfire resiliency awareness through public events. Examples of successfully completed outreach activities are open houses, farmers market info booths, and virtual FireSmart seminars.	Ongoing	High	SLRD FireSmart Coordinator Local LFRs BC Wildfire Service	Hold at least 2 public education outreach initiatives annually.
Section 5.5 Legislation, Planning and Development						
Action Item	**Recommended Activity**	**Description**	**Timing**	**Priority**	**Responsibility**	**Output**
14	Conduct Critical Infrastructure assessments for all critical infrastructure, including those	Complete all CI assessments and recommended mitigative actions,	Short Term	High	SLRD FireSmart Coordinator	Completed CI assessments

	outside the WUI areas, but within the AoI.	with the exception of the CI identified in the Bridge Power Generation WUI.	(Within 1 year)		Qualified LFR	
15	Review pertinent sections of the OCP and embed FireSmart principles where applicable.	Include FireSmart principles in the OCP to strengthen requirements for wildfire resiliency during new home development, renovations, and/or landscaping. This could include researching the impacts and feasibility of strengthening development and landscaping requirements for new home builds and renovations to meet current FireSmart standards. The economic and environmental impacts of these requirements would be considered prior to implementation.	Mid Term (1-3 years)	High	SLRD FireSmart Coordinator SLRD Planning Department	Strengthened requirements of FireSmart principles in the OCP for Area B.
16	Conduct a review to assess the adequacy of water storage for fire suppression activities within each SLRD area B community.	To understand the current capacity of water delivery systems and storage (if present) in relation to fire suppression requirements and determine if improvements are needed.	Mid Term (1-3 years)	High	SLRD Planning Department SLRD Fire Chief	Report on community water storage and delivery capacity for fire suppression.
17	Continue to 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).	Improved emergency response ability for new areas considered for development.	Ongoing	Moderate	SLRD Planning / SLRD Emergency Program	Updated bylaws and policies.

18	That the SLRD engage with organizations such as MOF, MOECCS and post-secondary institutions to further investigate and understand climatic changes that may be occurring within the electoral area. This data would help inform a pre-emptive wildfire hazard and risk analysis that could be completed for community and domestic use watersheds.	To provide SLRD with predictive information to allow planners to proactively develop and implement a mitigation plan to address identified potential impacts that could occur as a result of a wildfire event. This information would assist in understanding the short and mid-term implications a wildfire could have on the integrity of a watershed, including but not limited to water quantity and quality, terrain stability, riparian and wildlife considerations.	Mid to Long Term (3-5 years)	Moderate	SLRD/MOF/MOECCS Post-secondary Institutions	Include this topic at an upcoming interagency or Lillooet Area Community Wildfire Roundtable meeting
Section 5.6 Interagency Cooperation						
Action Item	**Recommended Activity**	**Description**	**Timing**	**Priority**	**Responsibility**	**Output**
19	SLRD to continue to build relationships with liaisons for the Indigenous communities and organizations.	To strengthen working relationships between Indigenous communities and the SLRD through increased collaboration.	Short Term	High	SLRD Emergency Program SLRD Board	Creation of a joint emergency planning working group
20	Provide honoraria when inviting members of Indigenous communities to participate in SLRD-led inter-agency meetings.	To encourage inclusion and provide compensation for participation.	Short Term (Within 1 year)	High	SLRD Emergency Program	Secure funding

21	That SLRD staff participate in Indigenous cultural safety awareness training.	To provide a deeper understanding of Indigenous history and culture and to foster more effective partnerships with local First Nations in emergency response and wildfire prevention.	Short Term (Within 1 year)	Moderate	SLRD Staff	Complete training
22	Continue to organize/support/participate in inter-agency meetings and Lillooet Area Community Wildfire Roundtable LACWR) meetings with key emergency response organizations including, but not limited to DoL, BCWS, MOF, BC Hydro, MOTI, EMBC, BC Parks, Rec Sites and Trails BC, local First Nation organizations, and community fire departments.	Continued coordination and collaboration with organizations involved in wildfire response and preparedness initiatives within the electoral area.	Ongoing	High	SLRD FireSmart Coordinator SLRD Emergency Program	Participation in all LACWR meetings and secure funding to host two local inter-agency meetings per year.
23	Encourage BCWS to have more presence in and around the communities during active wildfire season, and to increase the amount of fire ban signage (when applicable).	This will help to improve information exchange with tourists/visitors frequenting the back country, stronger enforcement of campfire bans, and increased presence for monitoring the area for fire starts.	Short Term (Within 1 year)	High	SLRD FireSmart Coordinator BCWS	Include this topic in an upcoming interagency meeting.
24	Collaborate and engage with organizations such as MOF, forest licensees and local woodlot owners to ensure that a coordinated approach to future wildfire resiliency measures are incorporated into any land-based activities proposed in WUI areas.	To create a consistent and coordinated approach to wildfire resiliency and fuel reduction initiatives on the land base within the WUI area around communities, including addressing potential excess fuel buildup in the WUI area around the communities.	Short Term (Within 1 year)	Moderate	SLRD FireSmart Coordinator Neighbourhood Champions	Complete an introductory meeting with identified stakeholders. Identify high risk areas.

25	Engage with BC Parks and Rec Sites and Trails BC to explore options for fuel reduction opportunities along well used recreational sites and trails, especially trails that are located in close proximity to the communities.	To explore collaborative opportunities for fuel reduction initiatives along potential fire ignition corridors. These features could also be considered for use as fuel breaks around communities.	Mid Term (1-3 years)	Moderate	SLRD FireSmart Coordinator Neighbourhood Champions	Complete an introductory meeting with identified stakeholders. Identify high risk areas.
Section 5.7 Emergency Planning						
Action Item	**Recommended Activity**	**Description**	**Timing**	**Priority**	**Responsibility**	**Output**
26	Update community Emergency Response Plans. Ensure each plan is specific to each community's needs and requirements. Increase the frequency of reviewing the plan with the community to annually or to a maximum of every two years.	To provide ongoing or updated emergency preparedness information to community members for emergency events.	Short Term (Within 1 year)	High	SLRD Emergency Program	Hold one meeting annually with each specific community to review and update the ERP. Integrate details from the draft 2022 Yalakom ERP into the SLRD Yalakom ERP.
27	Develop a comprehensive communication protocol for emergency events specific to each community's needs and	To improve effective communication during emergency events.	Short Term (Within 1 year)	High	SLRD Communities SLRD Emergency Program	Communication Protocol

	communication infrastructure requirements.					
28	Support and encourage the development of communication liaisons – residents who can be a point of contact for a neighbourhood or community.	This will improve the flow of communications during wildfires between emergency response organizations and communities in remote areas that have limited cell service and internet access.	Mid Term	High	SLRD Emergency Program	Identification of one communication liaison per community.
29	Facilitate an annual ERP review and update session with BCH Generation and Transmission, Tsal'alh and Seton Portage to coordinate emergency preparedness and response between all organizations.	To ensure that communities and organizations are aware and briefed on all applicable ERP's in the area.	Short Term (Within 1 year)	High	SLRD Emergency Program	SLRD facilitated meeting between BCH, Tsal'alh and Seton Portage residents
30	Engage with the Thompson-Nicola Regional District to improve communications and emergency response for communities that cross electoral area administrative boundaries.	To improve communication and emergency response between SLRD and TNRD which will reduce conflicting information, confusion and improve evacuation processes.	Short Term	Moderate	SLRD Emergency Program	Complete 1 meeting between emergency program staff at TNRD and SLRD.
31	Provide support to local fire services personnel to carry out pre-wildfire season evacuation route inspections of all evacuation routes identified in the ERP.	To ensure that all identified evacuation routes are passable during an emergency event. This will involve coordination with other agencies responsible for the upkeep and maintenance of these routes if repairs are required.	Short Term (Within 1 year)	High	SLRD Emergency Program Tsal'alh Fire Department	Identify costs and secure funding to support and complete pre-wildfire season inspections

32	Develop and conduct various table-top evacuation scenarios with SLRD communities.	That an all-hazard planning approach is taken to ensure that residents are functionally prepared for all types of emergency events and situations.	Mid Term (1-3 years)	Moderate to High	SLRD Emergency Program	Complete one tabletop evacuation scenario with the SLRD Area B communities by 2024-2025.
33	Install backup power systems/generators for all SLRD critical infrastructure assets.	To ensure that critical services can continue to function even if the electrical grid system is compromised by a wildfire or other event.	Mid Term (1-3 years)	High	SLRD Planning/ SLRD Emergency Program	Secure funding
34	Engage with and encourage SLRD Area B businesses and/or other organizations that own infrastructure which has been identified as providing critical services during an emergency to also invest in backup power generators.	Backup power will provide business continuity during an emergency event even if the electrical system has been compromised. This is of particular importance during a shelter in place event due to the remote location of the communities.	Short Term (Within 1 year)	Moderate	SLRD FireSmart Coordinator SLRD Emergency Program	Hold one meeting with SLRD Area B businesses in 2023-2024.
35	Complete a Community Structure Protection Plan for each community and share with BCWS to facilitate rapid and coordinated deployment of SPU and fire suppression equipment units during a wildfire emergency.	The Community Structure Protection Plan will play a crucial pre-organizational role for wildfire preparedness by ensuring that adequate SPU and fire suppression resources are identified, are available and strategic placements determined prior to a wildfire event. This would also include the locations and capacity of water storage units.	Short Term (within 1 year)	High	SLRD Regional Fire Chief	Completed Report

36	Initiate the purchase of mobile fire suppression and structure protection units and situate them in strategic locations in WUI areas that are not currently covered under fire protection services.	These units would be included in the community Structure Protection Plan for the communities and provide additional first response suppression equipment available for use by local responders during a wildfire event.	Mid Term (1-3 years)	High	SLRD Emergency Program	Secure funding through CRI
Section 5.8 Cross Training						
Action Item	**Recommended Activity**	**Description**	**Timing**	**Priority**	**Responsibility**	**Output**
37	Fund, support and provide additional emergency response training and education, including basic EOC and ICS training for local first responders, neighbourhood champions and interested community members.	To increase community awareness and knowledge about the standardized Incident Command Systems that are used during emergencies.	Short Term (Within 1 year)	Moderate	SLRD Emergency Program	Fund and coordinate training sessions.
38	Fund and coordinate training for local community fire services personnel, first responders and interested community members to practise and improve on basic fire suppression techniques and tactics including joint training sessions with BCWS.	Due to the remoteness of some of the communities and lengthy response times, it is imperative to have locally trained first responders to provide initial fire suppression response safely and effectively for interface fires.	Short Term (Within 1 year)	High	SLRD Regional Fire Chief in conjunction with BCWS and/or other qualified training facilitators Local Fire Departments / Brigades	Fund and assist coordination of training sessions

Section 5.9 Vegetation Management						
Action Item	**Recommended Activity**	**Description**	**Timing**	**Priority**	**Responsibility**	**Output**
39	Create a vegetation disposal site near the Pavilion Lake and Seton Portage communities. These need to be tenured sites for debris disposal.	Illegal dumping of vegetative debris will become less common. This will provide alternatives to burning on private properties where there are small lots adjacent to wildland areas (Pavilion Lake).	Mid Term (1-3 years)	Moderate	SLRD Emergency Program & Environmental Services Department	Identify and designate appropriate disposal sites for each community.
40	Fund and coordinate a seasonal roadside chipping program for residents.	Participants would bring vegetative debris to the roadside for chipping by an arborist company and provide alternative options for debris disposal for local residents. This would further encourage residents to complete vegetation reduction in and around their properties.	Short Term (Within 1 year)	Moderate	SLRD Emergency Program SLRD FireSmart Coordinator	Secure funding and contractors
41	Advocate to the UBCM for funds that provide free vegetation removal programs for residents located on high-risk properties.	Homeowners will be able to reduce their wildfire risk regardless of financial status, physical ability, remoteness, and other barriers.	Mid Term (1-3 years)	High	SLRD Emergency Program	Restore similar activities that were included in the past CRI Stream 3 program.
42	Develop an annual vegetation management program to ensure that vegetation around all identified SLRD critical	This will reduce the possibility of a wildfire impacting critical infrastructure. A maintenance plan will outline the frequency and type of	Short Term	High	SLRD Emergency Program	Maintenance plan development

	infrastructure (particularly in Zone 1) is kept maintained throughout the wildfire season. Areas around other public buildings should also be considered for inclusion.	vegetation maintenance needed such as weed whacking, pruning, or watering. Implementation could be achieved through existing or new staff, including summer students or in conjunction with other organizations programming.	(Within 1 year)			
43	That the SLRD work with WRR program staff to complete fuel reduction treatments (forest fuel reduction and prescribed burning) for the proposed treatment areas identified in the SLRD Area B WUI areas.	Reduction of high hazard fuels/vegetation adjacent to the communities.	Short Term (Within 1 year)	High	Cascades Natural Resource District WRR staff.	Identify priority areas and secure treatment funding.
44	Explore and assess opportunities for designing landscape-level fuel breaks outside of the 1 km WUI.	To identify opportunities to further reduce high hazard fuels.	Mid Term (1-3 years)	Moderate	SLRD Emergency Program Ministry of Forests WRR Program BC Wildfire Service Indigenous communities and organizations Forest licensees	Topic included on the meeting agenda for the Lillooet & Area Community Wildfire Roundtable.

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SECTION 1: Plan Overview and Structure

Wildfire is an integral part of British Columbia's ecosystems and landscapes, including areas where citizens settle and communities grow. Due to an increasing population and expanding rural development, more communities and developments in B.C. are situated in areas of potentially increased wildfire risk.

This Community Wildfire Resiliency Plan (CWRP) builds off the 2016 Squamish-Lillooet Regional District Community Wildfire Protection Plan (CWPP) to determine the level of and resulting steps to manage wildfire risk within and surrounding the communities of Seton Portage, Texas Creek, Yalakom, Fountain Valley and Pavilion Lake. The plan also provides background information and links to supplementary information required to ensure that factors contributing to wildfire risk are well understood. The recommendations and Best Management Practices (BMP) included in this plan are considered relevant for a general timeframe of 5 years unless changes and improvements to FireSmart initiatives, fuel reduction efforts, community development, community involvement and/or wildfire events alter the needs and resiliency of the local area, which may prompt updating components of this Community Wildfire Resiliency Plan.

The Community Wildfire Resiliency Plan is organized into the following major sections:

Section 1 Introduction: introduces the purpose of a CWRP and the plan development process.

Section 2 Local Area Description: defines the Area of Interest (AoI) for the CWRP; provides a description of the community (or communities) within the AoI, a description of the Wildland Urban Interface (WUI) areas and identifies linkages to other plans that warrant consideration in this planning process.

Section 3 Values at Risk: identifies values within identified WUI's and the extent to which wildfire has the potential to impact those values.

Section 4 Wildfire Risk Analysis: describes the process that was undertaken to identify and summarize the fuel hazard and other factors that contribute to the wildfire threat within the WUI's.

Section 5 Recommendations for Mitigating Wildfire Risk: outlines the strategies that can be implemented to help reduce the risk and the impact of a wildfire:

> 5.1 FireSmart Planning and Activities: summarizes the current level of FireSmart implementation and identifies priority areas for future FireSmart activities,
>
> 5.9 Vegetation Management and Forest Fuel Reduction: identifies and prioritizes forest fuel reduction treatments. This section also includes other preventative measures that identify local actions and strategies that can further reduce the threat of wildfires.

Section 6 Community Wildfire Resiliency Plan monitoring and updates.

1.1 Plan Goals

The purpose of the Community Wildfire Resiliency Plan is to:

1) to assist the Squamish-Lillooet Regional District in identifying priority wildfire risks to the Electoral B communities,

2) describe potential consequences from the impacts of wildfire, and

3) provide mitigation recommendations based on current information that should be considered for implementation to reduce the identified risks.

Specifically, the CWRP will:

- Delineate the community Wildland Urban Interface (WUI) areas around habited areas at risk of wildfire, including the locations of homes and essential community infrastructure
- Identify the threat to human life, property and critical infrastructure within this area
- Determine wildfire risk throughout the WUI Area,
- Provide wildfire community resiliency recommendations and Best Management Practices (BMP) using current information and science.
- Identify recommendations to reduce the identified threats. The CWRP planning process will provide a detailed framework to guide the implementation of specific actions that will result in:
    1. Reduced likelihood of a wildfire entering the community
    2. Increased community wildfire preparedness
    3. Reduced impacts and losses to property and critical infrastructure
    4. Reduced negative economic and social impacts to the community
- Identify priority areas within the WUI for fuel reduction treatments, develop a Treatment Plan and provide recommendations to further support and enhance the community's efforts to be FireSmart. The recommendations are based on the seven (7) FireSmart disciplines to increase community resilience in the event of a wildfire.

1.2 Plan Development Summary

The Squamish-Lillooet Regional District contracted Landscope Consulting Corporation in 2021 to develop a CWRP for both Electoral Areas A and B. This plan and recommendations therein are applicable to Electoral Area B communities.

The following key steps were undertaken during the development of the CWRP:

Phase 1 – Initial planning, preparation and information gathering;

Phase 2 – Information gathering from regionally-based Community Wildfire Roundtables

Phase 3 – Creation and facilitation of a local, community-based Community FireSmart Resiliency Committee (CFRC) groups. There were several CFRC meetings held, including larger and smaller groups. The full list of participants and meeting dates can be found in Appendix 1.

Phase 4 – Field and office data collection;

The data collection for the structure inventory and 113 wildfire threat assessment plots was completed between September 2022 and October 2022.

Phase 5 – Development of the draft Community Wildfire Resiliency Plan document, maps and spatial data files;

Phase 6 – Proposed treatment area information provided to First Nation organizations in March 2023 for review and feedback.

Phase 7 – Review of completed draft CWRP document by SLRD, and revisions completed;

Phase 8 – Submission of completed CWRP document and supporting files

The declaration of the COVID-19 pandemic and resulting implementation of the BC Public Health orders/restrictions in efforts to manage the virus outbreak occurred in March 2020 and continued into 2022. The Public Health Orders/restrictions required specific safety protocols to be in place, including the restriction of all non-essential travel, limiting the size of groups/gatherings and increasing personal protection measures such as sanitizing all common surfaces/equipment, wearing masks and maintaining a minimum 2m/6ft distance wherever possible. Offices were closed and administrative staff were encouraged to work from home whenever possible. This created challenges for information gathering as well delaying the original completion date of field work. In addition, the 2021 wildfires and atmospheric flooding events created additional challenges and unanticipated delays.

1.3 Linkage to CWPP's/CWRP's

Community Wildfire Protection Plans

Landscope Consulting Corporation completed a Community Wildfire Protection Plan for the SLRD Electoral B in August 2016. Local information, remaining treatment areas and recommendations from the 2016 plan have been integrated in this document where applicable.

The following First Nation communities have completed CWPP's within the SLRD AoI area:

- Ts'kw'aylaxw (June 2016)
- Sekw'el'was (April 2016)
- T'it'q'et (August 2010)
- Tsal'alh (April 2016)
- Xwisten (April 2016)
- District of Lillooet (July 2016)

Community Wildfire Resiliency Plans

Landscope Consulting Corporation completed the Community Wildfire Resiliency Plan for the SLRD Area A in March 2023.

B.A. Blackwell completed Community Wildfire Resiliency Plans for the adjoining SLRD Electoral areas C & D in March 2022.

Frontera Forest Solutions completed a Community Wildfire Resiliency Plan for Xaxli'p in June 2022.

1.4 Linkage to Other Plans

The intent of this section is to identify the sources and linkages to other planning documents to minimize duplication, while still identifying the relevance of other plans, legal requirements, objectives, strategies and policies that will influence the development of the CWRP.

Table 1: Key Plans and Relationship to CWRP

Plan Type	Description and Relationship to CWRP	Links
Community Plans		
Existing Electoral Area B Official Community Plan, Bylaw No. 1073, 2008 (Adopted February 22 2010. Consolidated copy November 2022) **Under Review**	The purpose of an Official Community Plan (OCP) is to provide direction for land use and development within a given area. The Electoral Area B OCP contains objectives, policies, and land use designations adopted by the Squamish-Lillooet Regional District Board of Directors that are implemented on a long-term basis, generally over a 10-15 year period.	https://www.slrd.bc.ca/planning-building/planning-development-services/official-community-plans https://www.slrd.bc.ca/planning-building/planning-development-services/development-applications-approvals/application-forms-and-guides
SLRD Regional Growth Strategy Bylaw No. 1062, 2008 Amendment Bylaw No. 1356-2014	This bylaw provides guidance to creating healthy, resilient communities as the SLRD areas and member communities continue to grow. Multiple sections of this bylaw speak to improving emergency management, such as improved 911 and cell service to rural areas, promoting emergency preparedness in community planning, expanding emergency preparedness and management plans/strategies, and enhancing community resiliency. Strategic directions for Goal 6 “Encourage the sustainable Use of Parks and Natural Areas” include subsection 6.1c “support the creation (and management) of an interconnected network of regional green spaces / corridors to serve as recreation and wildlife corridors, growth boundaries and wildfire interface areas.	RGS_Amended_ADOPTED_Mar2015V2.pdf (slrd.bc.ca)
Area B Lillooet & St’at’imc Agricultural Plan (2014)	Pertinent sections of the Area B Lillooet & St’at’imc Agricultural Plan to the CWRP are found in Priority 6 “Encouraging Water Conservation and Climate Change Preparedness”. Recommendation 6.2A: “to create individual farm-based plans to deal with emergency weather events (extreme drought, flooding, winter storms, and wildfires). Recommendation 6.2B: “Using GIS and mapping analysis, create a map of current fuel management, green	SLRDB_AgPlan_Pt1_FINAL_Sept2014.pdf

	space and fire breaks to assess the need for further fuel management to reduce the risk of agricultural resources to wildfire." Recommendation 6.2C: "Create a list of wildfire risk reduction resources for farmers; have hard copies of the resource list, reports and maps available at SLRD and DoL offices and digital copies on the SLRD website.	
SLRD Fire Services Review	The Fire Services Review examines the operational status and readiness of each service with emphasis on apparatus, firehalls, small equipment, response criteria, training, safety and service-specific regulatory compliance. The Fire Services Review also evaluates the overall management and the effectiveness of legislative and regulatory structures, both at the Regional District level and within the respective fire departments. The review provides recommendations for bylaws, policies, agreements, OH&S program, standard operating guidelines and more.	In Progress
Emergency Plans		
SLRD All-Hazards Emergency Response Plan	The All Hazards Plan (AHP) for the Squamish-Lillooet Regional District (SLRD) forms part of the Comprehensive Emergency Management Plan (CEMP). This plan is a strategic document to be used by staff to help guide and create resiliency within the communities when disaster consequences cannot be avoided.	SLRD All Hazards Plan v1.0 with Annexes.pdf
SLRD Community Risk Assessment	The purpose of a Community Risk Assessment (CRA) is to consider all known hazards that may trigger a risk event and impact communities of the SLRD, identify what would trigger a risk event to occur, and determine what the potential impact would be if the risk event did occur. The HRVA identifies interface fires as having a very high likely hood of probability with a high to very high consequence rating.	https://www.slrd.bc.ca/emergency-program/hazard-reports-information/community-risk-assessment
Community Emergency Plans (2018): Yalakom Valley Seton Potage Fountain Valley	The community emergency plans detail critical infrastructure, response capabilities, hazards and risks, evacuation routes, including muster points, evacuation protocols and a community action plan that includes a review every three years, for each individual community.	Community Emergency Plans | Squamish-Lillooet Regional District (slrd.bc.ca)

Texas Creek Area Pavilion Lake Area		
FireSmart Plans		
FireSmart Community Plans and Assessments	FireSmart Neighbourhood Wildfire Assessments, Critical Infrastructure Assessments and Home Ignition Zone assessments. These assessments and plans are currently in progress for the SLRD Area B communities.	In progress
Higher Level Plans		
Lillooet and Resource Management Plan (LLRMP) – Non-Legal	The Lillooet Land and Resource Management Plan (LLRMP) is a non-legal plan introduced in 2002 that incorporates the Lillooet Timber Supply Area (TSA). There are 28 First Nations with asserted territory within the plan area. Sections of the Plan have been selected for Government Action Regulation (GAR) Orders, including those for wildlife and at-risk species management, as well proposed protected areas becoming designated provincial Parks.	Lillooet Land & Resource Management Plan - Province of British Columbia (gov.bc.ca)
Xaxli'p Land Use Planning – Fountain Valley	The Xaxli'p Ecosystem-Based Plan is an overarching approach to land use planning within Xaxli'p Survival Territory. The plan was completed and approved in 2001 by the Xaxli'p community as a guiding document for all land management within Xaxli'p Survival Territory.	
Lillooet Timber Supply Review and Analysis – In progress (Public Discussion Paper August 2022)	The British Columbia Ministry of Forests regularly reviews the timber supply for all timber supply areas (TSA) and tree farm licences (TFL) in the province. This review examines the impacts of current legal requirements and demonstrated forest management practices on the timber supply, economy, environment, and social conditions of the local area and province. Variances (reductions) to stocking standards in WUI areas may be considered during the TSR analysis.	15ts_pdp_2022.pdf (gov.bc.ca)
Nxekmenlhkálha Iti Tmícwa (St'át'imc Preliminary Draft Land Use Plan)	In March 2004, the St'át'imc Land and Resource Authority completed the Nxekmenlhkálha Iti Tmícwa (St'át'imc Preliminary Draft Land Use Plan) for the St'át'imc Territory. The land use plan follows the St'át'imc Vision and Principles through an ecosystem-based planning process that focuses on what to leave behind on the land to sustain ecology and St'át'imc culture.	part1.qxd (libraries.coop)

	The St'át'imc Chiefs Council advised government agencies and resource users in the St'át'imc Territory that all plans, tenures and activities are to comply with the Nxekmenlhkálha Iti Tmícwa. This CWRP will be consistent with the St'át'imc Vision and Principles and management objectives for the Land Designations and Protection Areas presented in the Nxekmenlhkálha Iti Tmícwa, where they apply.	
Parks, Recreation and Trail Plans	Parks and recreation plans guide the management of parks and open spaces. Trail planning may be incorporated into these plans or developed as stand-alone plan. Vegetation management objectives in rec site areas and along trails areas should be aligned and support wildfire risk reduction strategies wherever possible (control lines, emergency access, etc.). These plans also incorporate wildfire risk reduction messaging and initiatives into the overall management objectives and strategies for the park. The Pavilion Lake WUI overlaps with the Marble Canyon Provincial Park. The Seton Portage Park overlaps with the Seton Portage WUI The Fred-Antione Park overlaps with the Yalakom Valley WUI area.	Park management plans - Province of British Columbia | BC Parks
Wildlife and Wildlife Habitat Species At Risk (SAR) Government Action Regulations (GAR) Wildlife Habitat Area (WHA)	To identify and include specific considerations for SAR or species of concerns when considering wildfire reduction measures. Include pertinent habitat considerations for SAR species into all wildfire reduction operational treatment projects. Grizzly Bear – Wildlife Habitat Area (WHA) 3-221 overlaps with several WUI areas WHA 3-164 for Western Screech Owl overlaps with the Yalakom WUI WHA 3-158 and 3-160 for Spotted Owl overlaps the Texas Creek WUI	Species at Risk Act (justice.gc.ca). File MELP: 36460/20 (gov.bc.ca) WSOW-3-164 to 3-166_ord.pdf (gov.bc.ca) SPOW_3-034to036_3-158to160_ord.pdf (gov.bc.ca)

Other Plans		
Wildfire Risk Reduction Program	Fuel management planning and treatment activities focusing on provincial Crown land located around communities, which includes the use of prescribed fire. Risk reduction activities target provincially identified critical infrastructure, beginning with critical response infrastructure such as government-owned radio repeaters, weather stations and airtanker bases. Eligible operational projects funded by the CRI Crown Land WRR category will be contracted via BC Bid to help to increase community resiliency to wildfire, increase ecosystem resiliency and to support local contractors in communities across the province.	crown_land_wildfire_risk_reduction_planning_guide_2020_2021.pdf (gov.bc.ca)
BC Wildfire Risk Management Plan (in progress)	The Wildfire Risk Management Plans are developed by landscape unit (i.e. Timber Supply area, Natural Resource District or Natural Resource Region) which detail strategies for managing wildfire risk in given landscape units.	Internal MOF document
Climate Action and Sustainability Plan	Climate action, sustainability, or resiliency plans address actions to reduce greenhouse gas emissions, improve air and water quality, and implement a range of social, environmental, and economic issues that are critical to long-term health, vibrancy, and well-being of a community. Actions of climate plans and CWRPs can be aligned to achieve multiple and mutual goals, such as increasing green infrastructure projects.	toen160222.pdf (gov.bc.ca) ClimateBC_Map (climatewna.com) Data Portal | Pacific Climate Impacts Consortium cpas_2021.pdf (gov.bc.ca)
Xaxli'p Community Forest Agreement and Forest Stewardship Plan	The Xaxli'p Community Forest Agreement (CFA) application was approved by the Ministry of Forests in January 2010. The application includes a statement of guiding principles and goals, the CFA Management Plan, and information about the CFA land base, community involvement, and the Xaxli'p Community Forest Corporation administrative structure. The subsequent Forest Stewardship Plan developed for the Xaxli'p CFA area provides strategies and results for conserving and protecting timber and non-timber resources.	
Forest Stewardship Plans	A forest stewardship plan (FSP) is a map-based, landscape-level plan of potential forest development activities that are intended to take place in the plan	Forest Stewardship Plans - Province

	area. Forest agreement holders must prepare, and have approved by government, a forest stewardship plan before harvesting or road building activities can begin. The forest stewardship plan has a term of five years and may be renewed for additional terms. Licensees in the general area include Aspen Planers, Interwest Timber and BCTS (Kamloops Business Area)	of British Columbia (gov.bc.ca)
Woodlot License Holders	Woodlot W0364 overlaps with the Yalakom WUI and W0365 overlaps with the Texas Creek WUI. Woodlot licence holders should consider integrating wildfire reduction planning components, such as reduced volumes or densities in key areas, increased inter crop tree spacing, reduction of ladder fuels and strategic road placement which can be integrated into fire suppression planning within the WUI areas.	

SECTION 2: Local Area Description

2.1 Local Area of Interest (AoI)

The Electoral Area B is the northeastern-most area in the Squamish-Lillooet Regional District (SLRD), located in the transitional coast-to-interior and rain shadow region of the Coast Mountains, an area with complex topography, an arid and windy climate, and dry, open forests. It encompasses 361,464 hectares of land base within the Fraser Canyon, Bridge River and Fountain Valleys, Seton Lake, Pavilion Lake and Marble Canyon and includes the District of Lillooet, Seton Portage as well as the Upper St'át'imc First Nation communities of Sekw'el'was, T'ít'q'et, Tsal'alh, Ts'kw'aylaxw, Xaxli'p and Xwisten. Seton Portage and Yalakom Valley are located northwest of Lillooet and accessed by the Lillooet Pioneer Highway 40 approximately 1.5 hours and 40 minutes respectively from the town centre. Pavilion Lake is located 40 minutes northeast of Lillooet via Highway 99. Fountain Valley is located 30 minutes east of Lillooet, also accessed through Highway 99 and then via Fountain Valley Road. Texas Creek is a rural farming and ranching community located southeast of Lillooet along Texas Creek Road. The entire Electoral Area B is largely located within the unceded territory of the St'át'imc, which has supported hunting, gathering and cultural traditions for thousands of years.

The current landscape throughout the SLRD Electoral Area B is primarily influenced by its location along the Fraser Canyon stretching north-south, and the Seton-Anderson Lake valley, Carpenter Lake-Bridge River valley and Marble Canyon stretching east-west. The narrow valleys can experience high and unpredictable winds blowing in from the west, out from the east, down from the north or up from the south, or combinations of the different directions that are experienced during the approach of a weather system or during severe thunderstorms. This is of great concern if a wildfire were to ignite in any of the areas. The extensive areas Mountain Pine Beetle-killed pine is another significant concern due to the dry fuels present in the dead stands of trees. During the summer months the area will also experience extended periods of little to no precipitation and sustained temperatures in the 25-30 degree Celsius range resulting in very dry conditions. These factors combined can lead to the potential for rapid spread of a severe wildfire - a hazardous scenario in the event a wildfire enters or is ignited in the valley.

The SLRD Electoral B is located entirely within the Lillooet Timber Supply area. The area has varied landscapes including dry grasslands, coniferous forests and alpine tundra that supports a wide variety of wildlife, bird and fish species. This includes 10 red-listed species (Endangered or Threatened), and 30

blue-listed species (Species of Concern). These wide-ranging landscapes have diverse forest types dominated by lodgepole pine, Douglas-fir and spruce-leading stands, with other species including ponderosa pine, white bark pine, subalpine fir (balsam), western redcedar and hemlock. The general landscape and topography are characterized by broad valleys and ridges, numerous lakes and rivers, subalpine/alpine meadows and mountain peaks which draws in outdoor and recreational enthusiasts alike. (MOF FAIB, 2022).

The rural communities in the SLRD B electoral area are each unique and, in some cases, remote, with limited services and lengthy emergency response times. Residents are required to be generally self-sustained and work closely together in times of crisis. The main service centre for the SLRD Area B communities is Lillooet, which houses amenities such as food, gas, lodging, protective and health services, along with a fire department and the Lillooet BCWS base. Search and rescue services are provided through the Lillooet and District Rescue Society. Response times for the SLRD area B communities can range from 10-20 minutes to the Texas Creek area to 1.5-2 hours for the Seton Portage and Yalakom areas.

The SLRD Area B communities of Pavilion Lake and Fountain Lake are comprised of primarily recreational properties, with a small number of residents that permanently reside in each of the communities year-round. Seton Portage, Texas Creek, Yalakom and Fountain Valley north and south are populated primarily by permanent residents. During the summer months, the recreational areas population expands as many of the property owners return to their properties for the summer months.

SLRD Electoral Area B:

Population: 1,624 including First Nation communities (2021 Canada Census)

Electoral Area Size: 3,468 square kilometres

Figure 1: SLRD Electoral Area B Community Locations

The 1,986 square kilometre Area of Interest (AoI) for this Community Wildfire Resiliency Plan includes a subset of Electoral Area B that encompasses the communities and adjacent critical infrastructure such as communications towers (Appendix 3). The AoI also includes a portion of Wildfire Development Permit Area 2 established by the SLRD through Bylaw 1073 – Electoral Area B Official Community Plan, Bylaw No. 1073, 2008 (Consolidated November 2022). The boundaries of the Development Permit Area (DPA) are the same as the Electoral Area B administration boundary.

2.2 Wildland Urban Interface (WUI) and Community Descriptions

The Wildland Urban Interface (WUI) is generally defined 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. The WUI areas, as defined by the Community Resiliency Investment program and used for analysis in this plan were created by applying a buffer to a maximum of one kilometre from the structure density class greater than 6. This represents a reasonable distance that embers can travel from a wildfire to ignite a structure. A total of eight WUI areas were identified for the SLRD Area B communities.

Table 2: SLRD Area B WUI Areas

WUI	Total WUI area (ha)	Private land (ha)	Municipal land (ha)	First Nation reserve land (ha)	Crown land (ha)	Water (ha)
Fountain Valley (South) Kirby Flats	567	186	0	57	322	2
Fountain Valley Fountain Lake	659	15	0	107	490	47
Fountain Valley (North) Frantzen Road	844	148	0	0	696	0
Pavilion Lake	1,170	84	0	0	860	226
Bridge Power Generation	474	4	1	121	210	138
Seton Portage	897	170	1	290	295	141
Texas Creek	4,118	1,846	0	384	1,613	275
Yalakom Valley	980	622	0	0	355	3

Fountain Valley (South) – Kirby Flats WUI Area

The Kirby Flats WUI area is located at the south end of Fountain Valley approximately 5 km up Fountain Valley Road from Highway 12, and approximately 7 km from Fountain Lake. The small WUI area encompasses a cluster of larger private land parcels including 12 residences, the majority of which are full-time. This WUI area falls almost entirely within the Xaxli'p Community Forest Agreement area and has a 500 kV transmission power line and large right-of-way running through it in a north-south direction mid-slope on the east side of the valley above the properties. Primary access is by Fountain Valley Road, with the secondary access Kirby Flats Road connecting the properties to Highway 12 along the transmission line right-of-way.

Fountain Valley - Fountain Lake WUI Area

Photo Credit: Ed Senger

The Fountain Lake WUI area is located at the mid-point of Fountain Valley on Fountain Valley Road, approximately 12 km from Highway 99 to the north and 12 km from Highway 12 to the south. The WUI area encompasses the primary water feature of Fountain Lake and the cluster of 28 small recreational properties and homes situated along the east side and southwest side of the lake. The Kwotlenemo (Fountain) Lake forest recreation site is also situated alongside the lake. The WUI encompasses a portion of Xaxli'p IR 5 Quatlenemo (with several homes) at the north end, and Xaxli'p IR 6 Chilhil at the south end. This WUI area falls entirely within the Xaxli'p Community Forest Agreement area and has a 500 kV transmission power line and large right-of-way running through it in a north-south direction mid-slope on the east side of the valley above the properties. Primary access is by Fountain Valley Road; properties on the south and west side of the lake as well as the access to the dam in the northwest corner that manages water flow into Fountain Creek are by a secondary gravel "loop" road that wraps around the lake.

Fountain Valley (North) – Frantzen Road WUI Area

The Frantzen Road WUI area is located along Fountain Valley Road approximately 7 km from Highway 99. The WUI area includes 10 full-time homes on a mixture of mid to large sized rural parcels; one property includes an irrigated field for hay production and livestock. Xaxli'p IR 8 Fountain Creek (with several homes) and a portion of Xaxli'p IR 4 Fountain are also situated within this WUI area. Primary access is by Fountain Valley Road, with Frantzen Road accessing several of the properties to the east. Rusty Creek Road is also found within the WUI area, which accesses a single remote property outside the WUI to the east up Rusty Creek. This WUI area falls entirely within the Xaxli'p Community Forest Agreement area and has a 500 kV transmission power line and large right-of-way running through it in a north-south direction mid-slope on the east side of the valley.

Pavilion Lake WUI Area

Photo Credit: GALLERY – Pavilion Lake

The Pavilion Lake WUI area is located in Marble Canyon along Highway 99 North approximately 45 km Lillooet and 43 km from Cache Creek. The WUI area encompasses the primary feature of Pavilion Lake in the narrow valley, and the approximately 60 homes and cabins situated on small recreational parcels on the lake. The properties are predominantly found in three groupings on the east side of the lake, the largest being on Smith Road at the north end; a group in the central area and a small group and the very south end. There is a single cabin on a small island and another cabin on an individual parcel on the west side of the lake; both are by boat access only. Primary access to the community is by Highway 99, and almost the entire WUI area falls within Marble Canyon Provincial Park. A 138 kV transmission line and associated right-of-way runs through the WUI alongside the highway on the east side.

Bridge Power Generation WUI Area

Photo Credit: Lower Mainland and Coast (bchydro.com)

The BC Hydro Bridge River Power Generation site is located in between Seton Portage and Shalalth at the west end of Seton Lake. It is accessed by the Lillooet Pioneer Highway 40 to the Carpenter Lake (Terzaghi) Dam, then Mission Mountain Road over Mission Mountain to Seton Lake, then Seton Portage Road to the generation site. The WUI area encompasses the primary feature of the entire BC Hydro Bridge River Generation site including two hydroelectric power plants, 2 pairs of penstocks delivering water from Carpenter Lake, and the extensive power generation and high-voltage transmission critical infrastructure. Above the generation site, there is the Bridge River Townsite comprised of 10 4-plex townhouses that provide accommodations to the BC Hydro employees and contractors working at the site. The townsite has its own library and fire hall (with a new fire truck). The WUI area also includes a portion of Tsal'alh IR 1 Slosh at both the eastern and western ends. Primary access to the WUI is by Highway 40 and Mission Mtn Road; secondary access is by the Highline Road to the west along Anderson Lake connecting Seton Portage to D'Arcy, as well as the rail shuttle that runs to Lillooet along the CN Rail line.

Seton Portage WUI Area

Photo Credit: seton portage - Bing images

The Seton Portage WUI area is located at Seton Portage, a community situated on the floodplain between Seton and Anderson Lakes, approximately 25 km west of Lillooet. The community is comprised of three individual groupings of structures on residential-sized parcels. The main portion of town of approximately 40 homes and businesses includes the firehall, Lil'tem' Mountain Hotel, and Highline Pub/Spider Creek General Store. There is a cluster of 8 homes on parcels overlooking Anderson Lake at the start of the Highline Road, and another cluster of 20 homes and recreational properties located at the end of Portage Road and on Cresta Road in the southwest corner of the WUI area overlooking Anderson Lake. The WUI area also includes significant portions of Tsal'alh IR 1 Slosh and IR5A Seton Lake, and all of Tsal'alh IR 1 Whitecap Creek, IR5 Mission and IR 6 Necait, all with the exception of IR 5A have homes of Tsal'alh community members. There are multiple 500 kV transmission lines and large right-of-ways originating from the BC Hydro Bridge River Generation site running east-west on the mid-slope of the mountain on the north side of the valley. Primary access to the community is by Highway 40, Mission Mtn Road to Seton Portage Road from Lillooet. Secondary access is by the Highline Road along the north side of Anderson Lake to D'Arcy, or the rail shuttle that runs along the CN Rail line to Lillooet.

Texas Creek WUI Area

Photo Credit: Texas Creek Ranch Lillooet British Columbia Canada

The Texas Creek WUI area encompasses the rural farming and ranching community on the west side of the Fraser River south of Lillooet known as Texas Creek. There are approximately 84 residences in this community comprised of homes and farm/ranch businesses and outbuildings, including the Lillooet Golf Course and Cwyn Maur Ranch, Green Dirt Farms, One Love Farm, Spray Creek Ranch, Texas Creek Ranch and the Cliff and Gorge Winery. The WUI area includes a portion of Sekw'el'was IR 2 & 2A Pashilqua at the very north end, Lytton First Nation IR 6 Nesikep at the very south end, and all of T'it'q'et IR 1B Riley Creek, IR 2 Towinock and IR 3 Kilchult. There are also two woodlots in the WUI area, WL363 at the north end and WL1827 at the south end. This portion of the Texas Creek WUI area is accessed primarily by Texas Creek Road from Highway 99 and Lillooet. Secondary access is from Lytton across the reaction ferry and north along the west side (North Spencer) road. The Texas

Creek WUI Area also includes portions of Highway 12 on the east side of the Fraser River. There are 12 homes on rural farming/ranching properties, as well as a Telus communication building at the very south end of the WUI area.

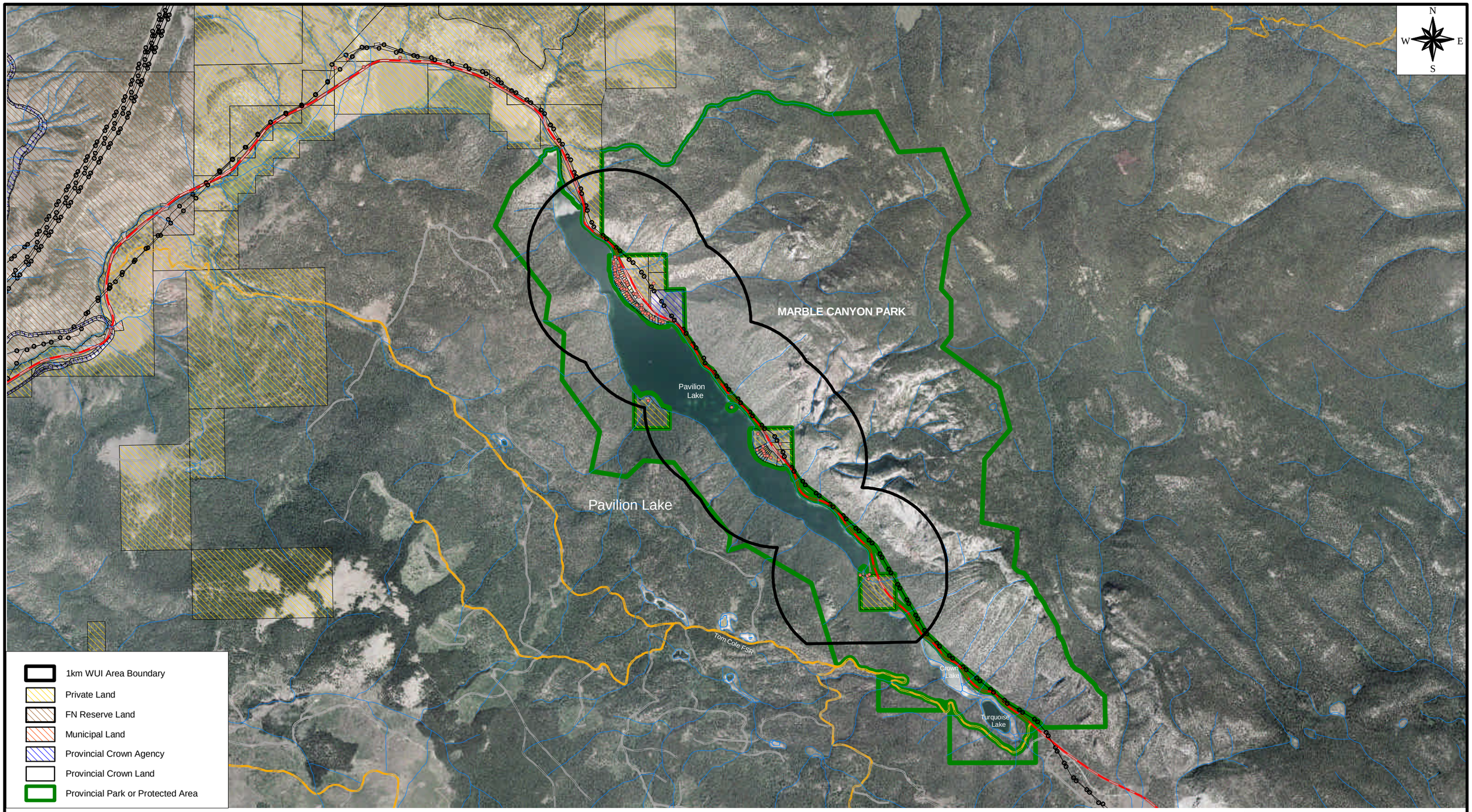
Yalakom Valley WUI Area

Photo Credit: Sharon French

The Yalakom Valley WUI Area encompasses approximately 48 homes on rural, farming and ranching properties on both sides of the Yalakom River valley located 24 km northwest of Lillooet. The homesteads have been developed using principles of sustainability and self-reliance with residents growing large gardens and producing a significant percentage of organic food locally. Many of the properties are also off-grid and rely on individual water or solar power generation. The WUI area is primarily accessed by the Lillooet-Pioneer Highway 40 from Lillooet to Yalakom Road, although a couple of the properties in the southwest corner are accessed from the Michelmoon Creek FSR. The WUI also overlaps a small portion of woodlot 364 at its northern boundary and Fred-Antoine Provincial Park on its eastern boundary.

Table 3: SLRD Area B Community Infrastructure Summary

Community	Residential	Critical/Essential Infrastructure	Fire Hydrants / Standpipes / Water Storage Units	Services and Businesses
Fountain Valley (North) – Frantzen Rd	10	0	0	0
Fountain Valley - Fountain Lake	28	0	0	0
Fountain Valley (South) Kirby Flats	12	0	0	0
Pavilion Lake	56	1	0	0
Bridge Power Generation	12	12	8 (Hydrants)	9
Seton Portage	69	1	5 (Water Storage Units)	3
Texas Creek	89	1	0	4
Yalakom Valley	48	0	1 (Standpipe)	2



Structure
Primary Roads
Secondary Roads
Forest Service Road
BC Hydro Transmission Line
Streams

WILDLAND-URBAN INTERFACE MAP

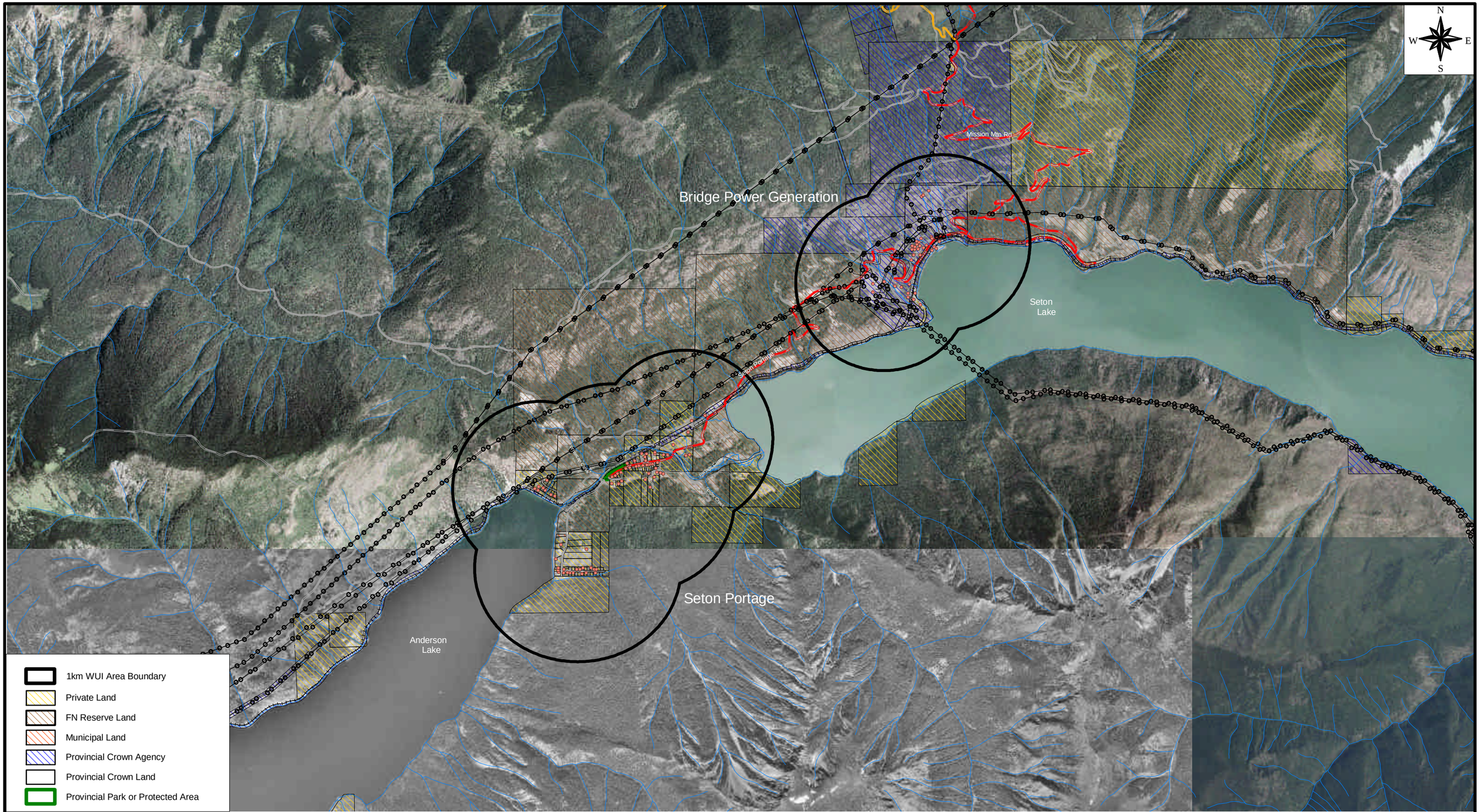
Squamish-Lillooet Regional District - Electoral Area B CWRP
Pavilion Lake

1:40,000

0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 **Kilometers**

Mapping Project: SLRD Area B_CWRP
Datum: NAD83
Map Projection: NAD83 UTM Zone 10
Drawn By: E.Senger
Production Date: March 21, 2023

Landscope Consulting Corporation



Structure
Primary Roads
Secondary Roads
Forest Service Road
BC Hydro Transmission Line
Streams

WILDLAND-URBAN INTERFACE MAP

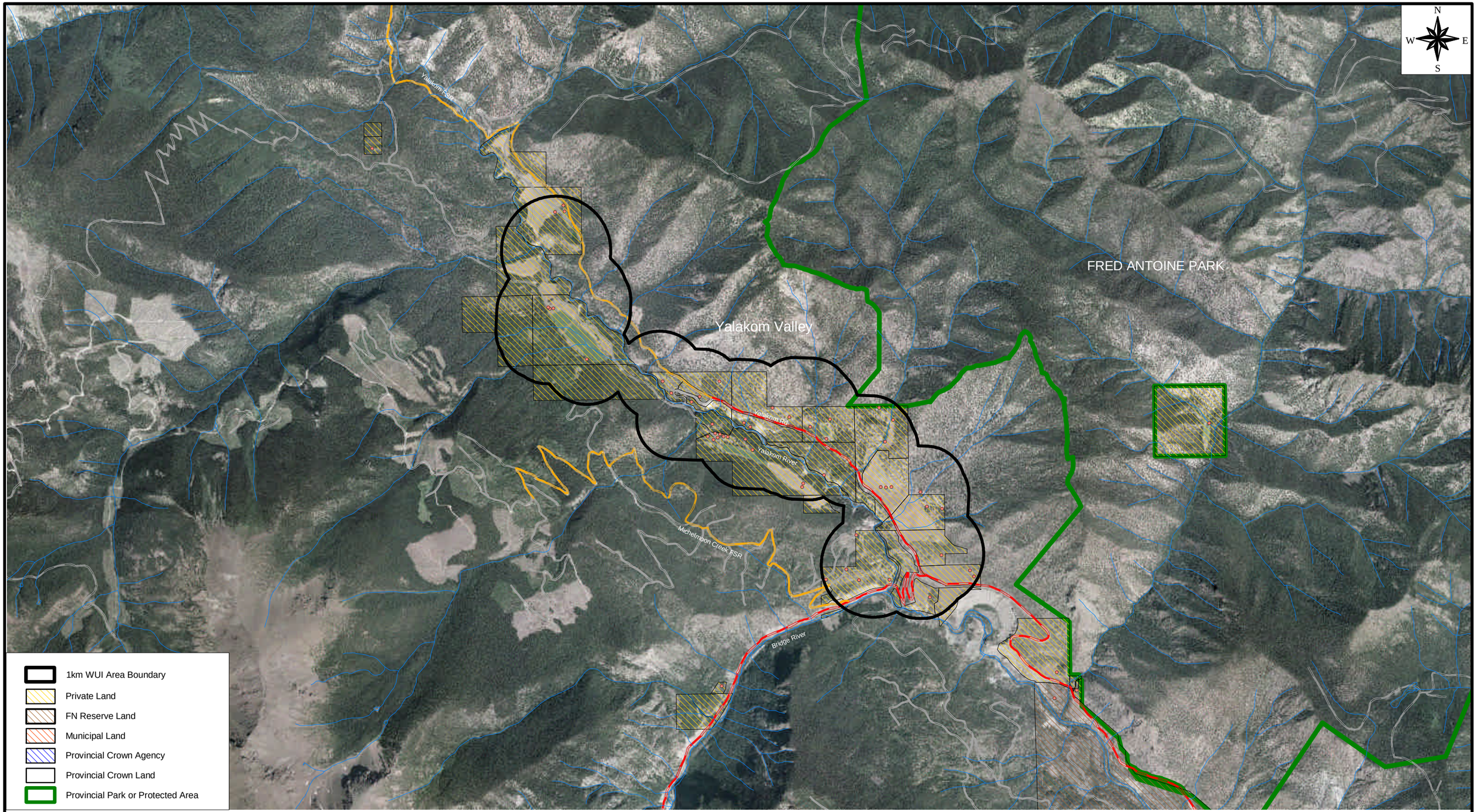
Squamish-Lillooet Regional District - Electoral Area B CWRP
Seton Portage & Bridge Power Generation

1:40,000

0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 **Kilometers**

Mapping Project: SLRD Area B_CWRP
Datum: NAD83
Map Projection: NAD83 UTM Zone 10
Drawn By: E.Senger
Production Date: March 21, 2023

Landscope Consulting Corporation



Structure
Primary Roads
Secondary Roads
Forest Service Road
BC Hydro Transmission Line
Streams

WILDLAND-URBAN INTERFACE MAP

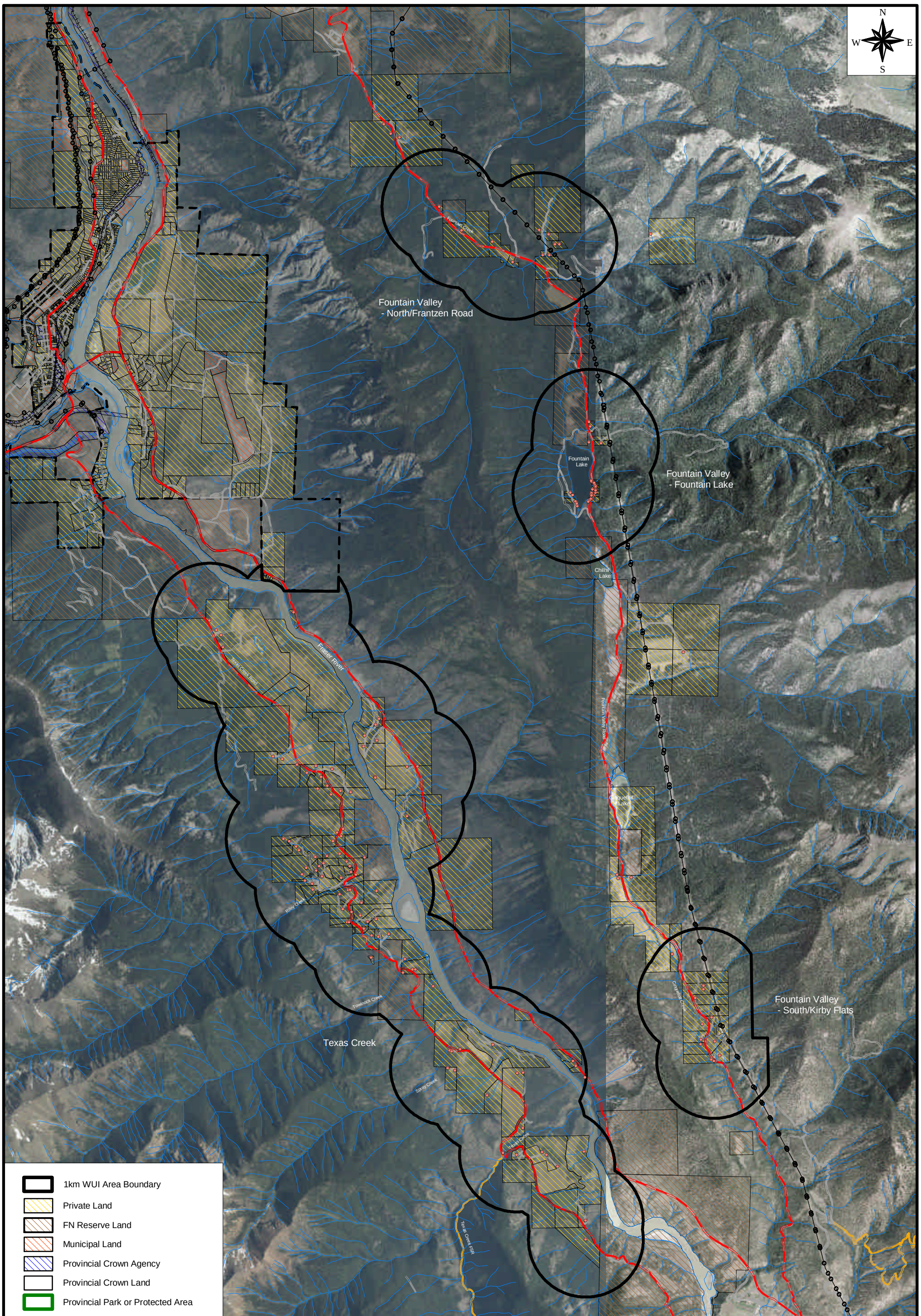
Squamish-Lillooet Regional District - Electoral Area B CWRP
Yalakom Valley

1:40,000

0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 Kilometers

Mapping Project: SLRD Area B_CWRP
Datum: NAD83
Map Projection: NAD83 UTM Zone 10
Drawn By: E.Senger
Production Date: March 21, 2023

Landscope Consulting Corporation



Structure
Primary Roads
Secondary Roads
Forest Service Road
BC Hydro Transmission Line
Streams

WILDLAND URBAN INTERFACE MAP

Squamish-Lillooet Regional District - Electoral Area B CWRP
Fountain Valley & Texas Creek

1:60,000

0.5 0 0.5 1 1.5 2 2.5 Kilometers

Mapping Project: SLRD Area B_CWRP
Datum: NAD83
Map Projection: NAD83 UTM Zone 10
Drawn By: E.Senger
Production Date: March 21, 2023

Landscope Consulting Corporation

2.3 Local Fire Department and Response Capacity

SLRD Bylaw 480 (1992) established a fire protection area for the Seton Portage community. In August 2019, Bylaw 480 (1992) was amended to clarify the structure of the existing service delivery method. Currently, the SLRD has signed a Fire Protection Agreement with Tsal'alh Fire Department for Seton Portage. An updated Fire Services Review for the SLRD Area B Fire Services is occurring in 2023.

Photo Credit: Ian Routley

The Xaxli'p Fire Department is operational and responds to fires on Xaxli'p reserve lands only. Tsk'way'laxw has a functioning fire department but is mandated for response on reserve only. Yalakom Valley does not have a structured fire department, but the residents have gathered a network of privately owned pumps, hoses and other firefighting equipment that is strategically placed at private properties within the community. Pavilion Lake has a fire trailer that is equipped with some initial attack equipment which is also stored on a private property. A number of Pavilion Lake residents actively coordinate activities within the community during an emergency event. Texas Creek also has a fire trailer with initial attack equipment along with some structure protection units which is also stored at a private residence.

In 2022 the SLRD provided funds towards the purchase of a Structure Protection Unit trailer which is owned by the District of Lillooet. The SPU trailer can be dispatched to wildfires within the District of Lillooet and SLRD Area B, with the option to dispatch it further away if needed. The trailer is not on contract with the Office of the Fire Commissioner which means that it is stationed in Lillooet and intended for use in the Lillooet area (i.e., it will not be dispatched to locations outside of Lillooet without permission from District). Once dispatched, the Lillooet Fire Department will set up the structure protection units on the homes. There is also a defined area (close to the District of Lillooet) within the SLRD for one parcel of land that has 10 homes and outbuildings that receive fire protection services from Lillooet Fire Department.

SECTION 3: Values at Risk (VAR)

Wildfire has the potential to impact values within a community which include human life, property, critical infrastructure, high environmental and cultural values, and resource values. Updating VAR data is critical for effective mitigation planning. The intent of this section is to identify and understand where values are located within the WUI in order to effectively determine the wildfire risk and identify mitigation activities. This data should be reviewed minimally on an annual basis and can be updated through the Critical Infrastructure assessment process or during the updating of the Local Authority Emergency Response Plan.

3.1 Human Life and Safety

An evacuation is the process of moving persons and/or domestic animals from an area that may pose a threat to life and limb, to an area of safety. Depending on the nature and scope of the threat, an evacuation may involve a single building, a group of buildings or an entire community. Ordering residents to evacuate is one of the most difficult decisions a Local Authority is likely to make. Timing is critical. Safety is the most important consideration when ordering an evacuation and should only be done after careful consideration of all the factors involved. The majority of evacuee movement will take place via roadways, however, consideration should also be given to alternative methods (air, boat, rail) especially in locations with single or limited exit routes. When determining evacuation routes, a number of key considerations should include, but are not limited to:

- Number and geographic distribution of evacuees
- Available transportation resources
- Capacities and vulnerabilities of transportation infrastructure and network
- Potential for congestion, bottle necks
- Areas vulnerable to damage
- Available facilities, e.g., fuel supplies
- Vehicle breakdown contingencies
- Access control and security of evacuated area

3.1.1 Evacuation Routes and Access

Wildfire can move quickly and unpredictably. When an evacuation order is authorized; it means that evacuating the area is mandatory and the impacted population must leave the specified area immediately. The evacuation order should provide pertinent details such as designated evacuation routes, identification of closed routes, and the location of ESS Reception Centres. It takes time for people to evacuate an area and safe egress can be blocked by the fire itself or by vehicle congestion or accidents.

As detailed in the 2018 SLRD Area B Community Emergency Plans, the primary evacuation routes leading out of the communities are as follows:

Fountain Valley - Along Fountain Valley Road then Highway 99 to Lillooet or Cache Creek, or alternatively Fountain Valley Road to Highway 12 to Lillooet or Lytton.

Pavilion Lake - Along Highway 99 to Cache Creek or Lillooet, with a muster point at Bryson Pit if required.

Seton Portage - Route one - South via the Highline Road towards Pemberton. The Highline Road is 4WD drive access only, and often impassable in the winter and early spring. Route two: East towards Lillooet via Mission Mountain Road. The existing CN rail line could also be evaluated for use as a potential mode of transportation during an evacuation. Seton Portage Fire Hall parking lot is the muster point for a wildfire event.

Texas Creek - Route one – Texas Creek Road to Lillooet. Route two – South to Lytton via the west side road and reaction ferry.

Yalakom Valley - Along the Lillooet Pioneer Road 40 to Lillooet, or via the Lillooet Pioneer Road 40 to Gold Bridge then to Pemberton via the Hurley Forest Service Road. If required, the community muster point will be located in a large field close to the junction of the Yalakom, Bridge River and Lillooet-Pioneer Roads (known as Moha). The field is kept watered during the summer so it can be used as a fuel free zone in a wildfire emergency (Yalakom ERP, updated 2022).

Evacuation route planning and evacuation tabletop exercises were identified by the SLRD Area B residents as a high priority for implementation. The considerations listed above should be evaluated not

only for the main routes out of the communities, but also used to evaluate the effectiveness of the egress routes leading out from each community to the main evacuation corridors to ensure a safe and timely evacuation. This is of particular importance for the Yalakom Valley with only one identified egress/access route in and out of the community. Executing the logistics of an evacuation as part of a preparedness exercise will help to identify any gaps in the process, as well as provide wildfire readiness familiarity to residents prior to each wildfire season.

The preparedness planning exercises, along with increased coordination and information exchange with applicable authorities including BCWS, MOF, forest licensees and MoTI regarding road statuses during the wildfire season will ensure that residents and area visitors receive current and updated evacuation route information throughout the wildfire season. This will provide assurance that identified evacuation routes will be accessible and functional during an emergency event.

3.2 Critical Infrastructure

Critical infrastructure (CI) is identified as assets owned by the Provincial government, local government, public institution (such as health authority or school district), private organization (such as a communication company cellular tower or forest company radio repeater), First Nation or Treaty First Nation that are essential to the health, safety, security or economic wellbeing of the community and the effective functioning of the organizations. Assets may be identified in a Local Authority Emergency Plan Hazard, Risk & Vulnerability and/or through a Critical Infrastructure assessment.

Only one SLRD-owned critical infrastructure asset was identified (Seton Portage Fire Hall), as the Area B communities are primarily comprised of residential dwellings. There are business and services that typically provide day to day routine services, such as gas stations and grocery stores that were identified as a filling an essential service role during and after emergency events. Gas stations provide fuel to vehicles during an evacuation, and grocery stores can provide food and water during a shelter in place situation. It is imperative that these identified essential services in the communities are also protected from the impacts of wildfire as much as possible so they are able to remain functional during times of emergency for residents. They would also serve a pivotal role during recovery efforts. Table 4 provides an overview of current essential and critical community infrastructure and services that warrant consideration during emergency planning.

Table 4: Essential and Critical Community Infrastructure and Services

Pavilion Lake		
Type	**Name**	**Agency / Owner**
Communication	Telecommunications Building	Telus
Fire	Fire Equipment Trailer	SLRD funded – privately maintained
Fire	Fire Equipment Boxes (2)	SLRD funded – privately maintained
Water	Water Storage Tank	Privately owned
Seton Portage		
Type	**Name**	**Agency / Owner**
Fire	Seton Portage Fire Hall	SLRD

Electricity	Lil'tem Mountain Hotel power house	BC Hydro
Accommodations	Lil'tem Mountain Hotel	Privately Owned
Food	Highline Pub	Privately Owned
Water	Water Storage Tanks (5)	Seton Valley Volunteer Firefighters Society
Texas Creek		
Type	**Name**	**Agency / Owner**
Communication	Telecommunications Building	Telus
Fire	Fire Equipment Trailer	SLRD funded – privately maintained

There was a water treatment/pumphouse identified approximately 450 metre northwest of the Fountain Valley (North) – Frantzen Road WUI boundary. This building was not included as critical infrastructure for the Fountain Valley (North) – Frantzen Road WUI.

3.3 Electrical Power

The majority of residents in Area B receive their electrical power through BC Hydro services and infrastructure, although there are many residents who have off grid power sources in the Yalakom Valley. Electricity is supplied to residents through a distribution line with wooden pole supports.

BC Hydro's Bridge River 1&2 generating stations, plus other associated power generating infrastructure is located between two parcels of Tsa'alh Slosh IR #1 on Seton Lake at Seton Portage. This infrastructure is part of the lower mainland and coast hydroelectric system grid that supplies approximately 9% of BC Hydro's total power capacity. There are approximately 39 structures that are located in the Bridge Power Generation WUI that are affiliated with this power generating system. BC Hydro has its own fire truck and equipment stationed at the generation site and has a contractual agreement with the local volunteer fire department to utilize the truck and equipment to respond to emergencies and protect their electrical infrastructure. BC Hydro has implemented a number of strategies to reduce the likelihood of wildfire impacting electrical infrastructure and power supply to communities. Annual patrols are completed by ground and helicopter along the high-voltage transmission line right-of-ways to assess vegetation conditions and clearances to the lines, and vegetation management treatments including brushing and mowing are then prioritized in their annual vegetation maintenance plan for those areas identified to be at risk. Their existing vegetation management plan includes the use of herbicides to control surface vegetation growth around the various infrastructure. There is also a fire services agreement between BC Hydro and BC Wildfire Service for transmission infrastructure protection during wildfire events.

3.4 Communications

Cellular reception is generally not available in the SLRD Area B WUI's except for select areas in close proximity to Lillooet. Landline and internet access is provided to residents primarily through Telus services. There are two Telus communication buildings (one at Pavilion Lake and one at Texas Creek) that house critical communication infrastructure which provides service to those communities (the communication building in Fountain Valley is not within the WUI areas). Some residents in the Yalakom Valley have limited internet and landline service, provided through satellite service providers. No cell

service is available in the area. The Yalakom Valley residents have an inter-community communication system using handheld portable radio units programmed on a unique repeater channel. Currently, all residents in the SLRD Area B receive emergency notifications through the SLRD's emergency notification website or app via the internet.

3.5 Community Water Sources and Infrastructure

There are two designated community watersheds that overlap with the SLRD Area B WUI areas. Omin Community watershed overlaps with the Bridge Generation WUI area and the Fountain Creek Community watershed provides water to the Fountain Valley (North) – Frantzen Road and Fountain Valley – Fountain Lake WUI areas. There were no SLRD-owned water or sewer facilities noted that provide water or sewer service to residents in these WUI's, as most residents have their own source private water and sewer systems. If fuel reduction activities are proposed within a community watershed area, best management practices will be incorporated wherever possible to meet the objectives of the watershed designation.

3.6 Cultural Values

Indigenous cultural heritage resources include any recorded or known archaeological sites, traditional use sites or features, historic buildings and artifacts, heritage trails, or any other objects or places of historical, cultural, or archaeological significance to a community, Indigenous people or to British Columbia. Important cultural heritage can also include intangible resources such as spiritual and ceremonial sites or areas.

Archaeological sites in British Columbia that date to 1846 or earlier are protected from alteration of any kind by the Heritage Conservation Act (HCA). The provisions of the HCA apply to archaeological sites located on both public and private land, known and unknown, and are binding on government. It is extremely important that agencies involved in the implementation of fire suppression or wildfire preparedness initiatives that may include ground disturbing activities such as mechanical fire guard construction or tree feeling, collaborate with Indigenous communities to identify and mitigate for archaeological and cultural values at all project stages. It is also extremely important to engage with Indigenous communities at the very early planning stages of fuel reduction projects to identify and mitigate for culturally significant features prior to treatment work commencing.

3.7 Ecological Values

There are a number of important ecological considerations that have been identified within the AoI, including notable species, Species at Risk and other features that require inclusion during land-based planning activities. Noted considerations include:

- Coastal Tailed Frog (Ascaphus truei)
- "Great Basin" Gopher Snake (Pituophis catenifer deserticola)
- Flammulated Owl (Otus flammeolus)
- "Interior" Western Screech-Owl (Otus kennicottii macfarlanei)
- Spotted Owl (Strix occidentalis)
- Spotted Bat (Euderma maculatum)
- Grizzly Bear (Ursus arctos)
- White Bark Pine
- Several fish bearing streams
- Vascular Plants
- Sheep and Goat habitat

- Critical habitat identified for White Bark Pine
- Steep slopes and natural erosion processes resulting in land movement
- Invasive plant species identification and mitigation
- Fish bearing streams
- Water quality impacts

3.8 Other Resource Values

Other resource values and sectors that should be considered during planning activities within the WUI include agriculture, tourism, historical buildings and places, mining, forestry and recreation.

SECTION 4: Wildfire Risk Framework and Assessment

Current wildfire trends in both in B.C. and Canada are showing increased impacts to multiple values from wildfire events: increased threats to communities and infrastructure; increased losses of natural resources including mid term timber supply; increased losses to cultural heritage including impacts to wildlife, gathering and hunting grounds; short and long term impacts to riparian areas and community watersheds, and; increased wildfire suppression costs. The following table summarizes wildfire statistics for the past 10 years, demonstrating a generalized upward trend in the number of total fires recorded, total hectares burnt and fire suppression costs. These statistics do not include the 2021 fire season, which was one of the most challenging fire seasons recorded in recent history.

Table 5: Ten-year average statistics of wildfire activity in BC

Year	Total Fires	Total Hectares	Total Cost (millions)	Person-caused	Person-caused (%)	Lightning-caused	Lightning-caused (%)
2020	670	14,536	$193.7	395	(59%)	275	(41%)
2019	825	21,138	$182.5	450	(55%)	375	(45%)
2018	2,117	1,354,284	$615.0	628	(30%)	1,489	(70%)
2017	1,353	1,216,053	$649.0	580	(43%)	773	(57%)
2016	1,050	100,366	$129.0	564	(54%)	486	(46%)
2015	1,858	280,605	$277.0	621	(33%)	1,237	(67%)
2014	1,481	369,168	$297.9	664	(45%)	817	(55%)
2013	1,861	18,298	$122.2	564	(30%)	1,297	(70%)
2012	1,649	102,122	$133.6	708	(43%)	941	(57%)
2011	653	12,604	$53.5	444	(68%)	209	(32%)
2010	1,672	337,149	$212.2	680	(41%)	992	(59%)
10 year average	**1,352**	**348,917**	**$265.3**	**562**	**(42%)**	**790**	**(58%)**

(Wildfire Averages - Province of British Columbia (gov.bc.ca)

Communities can be threatened by wildfires in two basic scenarios: The first is a landscape level (large) wildfire starting outside of and moving into the community, and the second is a wildfire starting within the community and quickly threatening adjacent structures. The volatility and aggressive wildfire behaviour

being observed in recent years is being driven by the effects of climate change and increased fuel loading on the forested land base. With expanding residential and commercial development comes an expanded wildland urban interface area that must be pre-emptively managed to reduce potential impacts from future wildfires. Assessing the wildfire risk to communities takes into consideration the likelihood and consequences of an unwanted wildfire. The risk is measured as the product of the likelihood and the consequences of a wildfire. Assessing the overall risk factors supports the establishment of priority wildfire threat mitigation activities such as fuel reduction treatments and locally driven opportunities to increase community resiliency.

4.1 Fire Regime

The SLRD Area B WUI's are located in the Natural Disturbance Type (NDT) 4 Zone, which indicates that this area should naturally experience frequent, low intensity, stand-maintaining fires. Surface fire return intervals for the Interior Douglas Fir (IDF) and Ponderosa Pine (PP) biogeoclimatic zones historically ranged from 4 to 50 years; with stand-initiating crown fires occurring at intervals ranging from at least 150 to 250 years or more in the IDF. Fountain Valley, Pavilion Lake, Bridge Power Generation and Seton Portage WUI's are located completely in the IDF biogeoclimatic zone, whereas the Yalakom and Texas Creek WUIs also include a portion of the Ponderosa Pine (PP) biogeoclimatic zone.

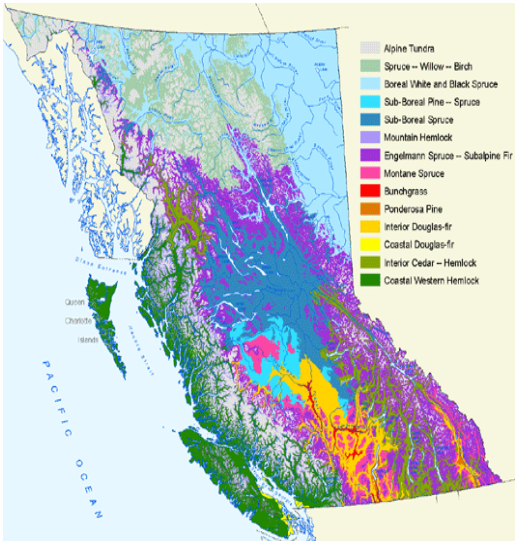


Figure 2: British Columbia Biogeoclimatic Zones

SLRD Area B WUI Areas	IDF (NDT4)		PP (NDT4)	
	ha	%	ha	%
Fountain Valley (North) - Frantzen Rd.	844	100		
Fountain Valley - Fountain Lake	659	100		
Fountain Valley (South) - Kirby Flats	567	100		
Pavilion Lake	1170	100		
Bridge Power Generation	474	100		
Seton Portage	897	100		
Texas Creek	2319	56	1800	44
Yalakom Valley	656	67	324	33

Table 6: SLRD Area B WUI BEC and NDT Zones

Fire exclusion, forest health and timber harvesting practices have significantly altered the forest ecosystems in the NDT3 and NDT4. Enhanced fire suppression efforts have allowed mature pine stands to grow past ecological rotation age, providing vast areas with a suitable host for the Mountain Pine

Beetle (MPB). This has contributed to the MPB outbreaks that swept through the area in the 1980's (primarily impacting Lodgepole Pine forests) and again in the 2000s (which included significant areas of Ponderosa Pine along the valley bottoms). Areas of beetle-killed Lodgepole Pine including those in the Pavilion-Marble Canyon and Yalakom Valley have been salvage harvested and replanted with Lodgepole Pine, creating a forest mosaic not unlike that resulting from small wildfire events. Douglas-fir leading-stands along the mid and upper slopes were also extensively defoliated by the Western Spruce Budworm in 2006 through 2008.

As observed from the provincial aerial overview surveys over the last five years, the area continues to experience light to moderate infestations of Mountain Pine Beetle and Douglas-fir Beetle, as well as localized mortality from drought.

4.2 Climate Change

As a whole, British Columbia has become warmer and wetter over the last century. The most notable changes are warmer winters, more frequent extreme rainfall events, drier conditions in the summer and decreasing snowpacks. Due to the existing effects of greenhouse gas emissions, climate scientists agree these warming trends will continue. Over the past century, B.C.'s average annual temperature has increased by 1.2°C, with winter temperatures rising the most. Province-wide average annual precipitation has already increased by an average of 12% (ranging from 10 to 21% by region) from 1900 to 2013, with more heavy, sporadic rainfall events in the spring, and increases in extreme wet and extreme dry conditions in summer (MOE, Climate change strategy 2021).

Figure 3: Climate Projections and Impacts in BC

The most profound changes to BC's ecosystems in this century are expected to be the result of more frequent and severe natural disturbances. In the Southern Interior, the area influenced by natural disturbances could double over the next century, with forest and grassland drought, fire and insects expected to be primary disturbance agents.

The increased prevalence of disturbance will vary by climatic sub-regions, elevation and forest type, with the biggest changes projected for dry forested ecosystems at low elevations. Drought will increase in all but the coolest, wettest ecozones; drought is expected to increase mortality in many tree species, including lodgepole pine, Douglas-fir, spruce, subalpine fir and trembling aspen.

Fires are projected to be larger, more intense and more frequent, with the risk of large wildfires being particularly high in dry ecozones with lodgepole pine. Fire intensity will increase with more intermittent to full crown fires and the frequency of such fires will increase; in the Thompson-Okanagan, the area experiencing fires every 50 years or less may expand from 34% to over 90% by 2085. Fire refugia (areas where organisms can survive the unfavourable conditions) are expected to decrease; in the Thompson-

Okanagan, refugia may decrease from 41% to 2% of the landscape by 2085 (Ministry of Forests, Lands and Natural Resource Operations, 2016).

Natural disturbance dynamics will also likely change including increased fire and drought in southern and coastal BC, increased storms and windthrow on the coast, and more frequent and extensive tree mortality due to bark beetles, defoliators and diseases across BC. The establishment and expansion of invasive species will increase. Hydrological regimes will shift due to increased evaporation, altered vegetation communities, increased storm frequency and magnitude, decreased snow accumulation, seasonal changes to precipitation, and accelerated ice melt followed by diminished glacier extent (Ministry of Forests, Lands and Natural Resource Operations, 2016).

As a result, wildfires are generally predicted to increase in frequency, become more intense and more difficult to control which will likely result in increased tree mortality, detrimental impacts to soils and hydrology, and increased threat to the community and interface areas.

4.3 Provincial Strategic Threat Analysis (PSTA)

One of the key elements contained in the BC Fuel Reduction Strategy is the province-wide analysis, through applied GIS, of the major factors that contribute to the potential threat of wildfires. These factors include ignition potential, fire occurrence history, forest fuels and fire intensity, and the potential for a fire to crown and spot a distance away from the head of the main fire. This analysis and associated mapping is known as the Provincial Strategic Threat Analysis (PSTA). By combining the PSTA data outputs with local topographic and weather-related factors along with wildland-urban interface (WUI) attributes including location and density of structures in a community, all contribute to identifying at-risk areas. In this context, “values” refer to natural resources or man-made structures or features that have a measurable or intrinsic worth and could be negatively impacted by wildfires.

The results of the PSTA analysis offers local governments, private landowners, industry and other stakeholders an opportunity to review the threat ratings in their areas of interest, assess how much fire prevention work has been done in those areas (e.g. FireSmart activities or fuel management treatments) and determine what additional steps they could take to safeguard their interests and make their communities more fire-resilient.

Wildfire threat is directly related to the likelihood of hazardous fuel igniting and fire spreading into the community either directly or through ember transport. The PSTA provides information to help evaluate the three conditions necessary for a wildfire to threaten a community:

1. the ignition and potential spread of the fire based on historic fire occurrence patterns. (Fire History and Density)

2. the resulting fire generates sufficient intensity (Head Fire Intensity) and spreads rapidly, and

3. the fire spreads into and/or transports embers into the community (Spotting Impact)

4.3.1 Fire History and Density

The potential for very large, destructive and landscape-altering fires is related to the historical fire and fire response patterns within a given area. Fire history (the location and origin of fires larger than four hectares) is the first input entered into the PSTA and is represented at the provincial scale by fire start density (the ignition and fire spread potential based on historic fire occurrence patterns). The fire density component is analyzed using fires with final sizes greater than 4.0 hectares; these are given a weight of one (1) in the analysis, while large fires (> 500 ha) were given a weight of 5 in order to reflect the much greater cost and damage usually associated with larger fires. The final output is the weighted number of

fires mapped at a radius of 10 kilometres. This is shown on the fire history and start density map in Appendix 3 for the SLRD Area B area of interest.

Table 7, using the NRCAN fire history spatial dataset summarizes the fire history within the SLRD Area B WUI areas for both spot (<1ha) and larger perimeter (>1ha) fires.

Table 7: SLRD Area B WUI Fire History

WUI	Years recorded	Total fires recorded	# of fires (< 1 ha)	# of fires (> 1 ha)	# of person starts	# of lighting starts	Comments
Fountain Valley (North) Frantzen Road	1926-2020	8	6	2	8	0	The 1926 fire boundary is mapped at (2,784 ha)
Fountain Valley Fountain Lake	1926-2020	27	25	2	27	0	The 1926 fire boundary is mapped at (2,784 ha) and the 1951 fire at 53.6 ha.
Fountain Valley (South) Kirby Flats	1980-2020	3	0	3	3	0	All >1ha fires recorded were all under 3 ha.
Pavilion Lake	1950-2020	15	13	2	12	3	The largest fire in the WUI is mapped at 138.5 ha in 2012.
Bridge Power Generation	1920-2020	7	4	3	5	2	Most recent fire mapped at 11.7 ha in 2015
Seton Portage	1920-2020	30	27	3	25	5	The 2009 Seton Portage fire was mapped at 1381.0 ha
Texas Creek	1926-2020	67	62	5	59	8	The largest fire noted burnt 3773.0 ha in 1926.
Yalakom Valley	1936-2020	8	6	2	7	1	Largest fire size was 5.1 ha

Recent fires, such as the 2009 Seton Portage, Mount McLean and the Hell Creek fires and the 2021 McKay Creek wildfire, demonstrated the volatile behaviour that a fire can exhibit under dry and windy conditions. The Mt. McLean, Seton Portage and Hell Creek fires burned 3,696 hectares, 1,381 hectares and 2,042 ha respectively, resulting in the evacuation of the entire communities of Lillooet, Sekw'el'was, Xwisten, T'ít'q'et, Tsal'alh and the Yalakom Valley. The 2021 McKay Creek Fire reached 44,964 ha in size which resulted in evacuation alerts and evacuation orders being issued for properties in the Bridge River, Yalakom Valley West Pavilion, Pavilion areas. Both Seton Portage/Shalalth and the SLRD Area A communities were also put on evacuation alert from the McKay Creek fire due to the potential of the fire to cut off the Highway 40 primary access route these communities use.

As shown in the table in Appendix 4a, the fire start density is predominantly low across the Fountain Lake WUI Area with weighted fire start values in the 5.1 - 17.1 range. The Seton Portage and Bridge Power Generation areas display a high fire start density with weighted values in the 45.1 - 82 range due to the more numerous and larger fires that have occurred in the area, specifically those in 2002 and 2009. The

rest of the WUI areas show a moderate fire start density with weighted values predominantly in the 17 – 45 range but fire activity overall is observed to be higher in the Anderson-Seton Lake to Lillooet corridor. The output of this analysis is shown on the fire start density map in Appendix 3 for the SLRD Area B area of interest.

4.3.2 Head Fire Intensity

The Head Fire Intensity represents the energy output of the flaming front of a wildfire, measured in kilowatts per metre (kW/m), and is related to fire spread rate and fuel consumption at the leading edge of a wildfire. The head fire intensity is also linked to flame height and is correlated to both fire suppression effort and danger to fire suppression personnel. The head fire intensity component is developed using the 90th percentile fire weather index (FWI) value for an analysis of data gathered from the BC Wildfire weather stations across the province, applied to the actual fuel types from the provincial fuel type layer.

As shown in the table in Appendix 4b, the head fire intensity is predicted to be low-moderate across the majority of the SLRD Area B WUI areas, with the majority of the area showing an energy output of less than 6,000 kW/m, with pockets of 10,000-30,000 kW/m. The output of this analysis is shown on the head fire intensity map in Appendix 3 for the SLRD Area B area of interest.

4.3.3 Spotting Impact

The physical movement of firebrands and embers (burning needles, bark flakes and small branchwood) from a fire to areas outside of the fire perimeter is known as spotting. Spotting is most often associated with high intensity crown fires burning in coniferous forest types. Spotting activity is known to be strongly affected by wind speed and fuel types, as well as instability of the atmosphere and resulting development of convection columns. During conditions of extreme fire behaviour, spot fires may ignite several kilometres downwind from the fire perimeter, contributing to the fire's rapid rate of expansion across the landscape. Spotting has also been recognized as a key characteristic of extreme fire behaviour that is often associated with destructive impacts to communities and structure losses.

The spotting potential, as detailed in the table in Appendix 4c, is shown to be moderate-high across all of the SLRD Area B WUI areas. The WUI areas with higher coniferous components of C-3, C-7 and M-1/2 fuel types are considered to have a higher spotting potential than those WUI areas with significant components of O-1a/b open grass and D-1/2 deciduous aspen fuel types. All eight WUI areas have a forested land base predominantly in the coniferous C-3 and C-7 fuel types thus resulting in a higher spotting potential. The predicted spotting activity for the SLRD Area B area of interest is shown on the spotting impact map in Appendix 3.

4.4 Wildfire Threat

The final wildfire threat analysis involves the combination of the three component data layers (fire start density, head fire intensity and spotting impact) using a weighted averaging process of values assigned as 30% fire density, 60% head fire intensity and 10% spotting impact. The weighted values are added together to produce a final fire threat analysis value that takes into account fire occurrence history, predicted fire intensity under extreme conditions, and spotting impact. Areas with a final wildfire threat value of zero consist of areas that had no record of wildfire, were typed as non-fuel (such as alpine rock, glaciers and water bodies), and were too distant to be at risk of spotting from nearby fuels.

Areas rated in the High-Extreme wildfire fire threat class are locations where the fire intensity, frequency and spotting risks can be severe enough to potentially cause catastrophic losses to values at risk. These areas are considered to be particularly prone to wildfires, be susceptible to crown fires and are most likely to be affected by spotting of the fire. As a result, these areas should be considered high priority for some form of fuel reduction effort where it is feasible to do so, most importantly areas within the WUI zone of communities.

Table 8: SLRD Area B WUI Wildfire Threat

WUI Area	Wildfire Threat											
	No Data		Water		Low		Moderate		High		Extreme	
	ha	%	ha	%	ha	%	ha	%	ha	%	ha	%
Fountain Valley (South) – Kirby Flats	153	27					73	13	341	60		
Fountain Valley – Fountain Lake	14	2	39	6	35	5	61	9	506	77	4	1
Fountain Valley (North) – Frantzen Road	193	23					72	8	335	40	245	29
Pavilion Lake	85	7	232	20	72	6	458	39	310	26	13	1
Bridge Power Generation												
Seton Portage	168	19	141	16			131	15	61	7	396	44
Texas Creek	1847	45	281	7			373	9	1582	38	36	1
Yalakom Valley	640	65	3	1			66	7	253	26	18	2

The majority of the land base within the eight WUI areas falls within the Moderate to High wildfire threat, ranging from 22% of the land base at Seton Portage to 86% at Fountain Lake in Fountain Valley. Notably, 29% of the land base in the Fountain Valley – Frantzen Road WUI area and 44% of the land base in the Seton Portage WUI area was observed to fall within the Extreme wildfire threat. The remaining portions of the WUI areas fell within the Low wildfire threat, No Threat (water), or were classified as private land where no data was available.

The predicted wildfire threat for the SLRD Area B AoI and WUI areas is shown on the wildfire risk map in Appendix 3.

4.5 Provincial Level WUI Risk Class Assessment

The WUI risk class assessment completed by the BC Wildfire Service is driven by structure location (not by administrative boundaries) in relation to wildfire threat. This creates WUI polygons that may include multiple jurisdictions that are linked by the continuation of structure density. Structure densities are used to define the human structure interface boundary of the wildland urban interface (WUI) for fire and risk management planning purposes. The WUI identifies the zone of transition between unoccupied land and human development. A 2 km buffer distance is then applied to represent a reasonable maximum distance that embers can travel from a wildfire to ignite a structure.

Currently, the province only has data available to support fire threat analysis on Provincial Crown land. There are large tracts of private land that exists within the WUI where no data is available. The amount of private land is an important component in the risk analysis due to the lack of data to inform fire risk identification across jurisdictional boundaries. Therefore, the WUI buffer was expanded to 2.75 km around structure groups with a density of >25 for the analysis in order to create the WUI polygons. Once defined, the WUI polygon layer is combined with the PSTA wildfire threat layer (Crown land) to create a coarse scale spatial pattern of risk area using certain criteria such as density and threat ratings. The level of risk ("risk class") reflects the analysis of weighted PSTA threat components within the individual WUI Risk Class polygons. Five risk class ratings are then applied to the WUI polygons, with "1" being a higher

relative risk and “5” being the lowest relative risk. The associated risk class ratings for WUI areas will assist in the determination of the most effective risk management options as part of overall wildfire resiliency planning efforts that include an assessment of local threat conditions and wildfire mitigation activities. The ratings are also used to demonstrate wildfire risk and support the rationale for proposed risk reduction activities in applications for funding including the Community Resiliency Investment program.

The SLRD Area B provincial WUI Risk Class Polygons identified in the Area of Interest are summarized below and shown on the wildfire risk map in Appendix 3. Both the Fountain Lake and Yalakom Valley communities are noticeably absent from being included within a provincial risk class polygon, as the structure density of the residential areas can be considered >25. It is anticipated that the risk class rating for these two communities would also be consistent with Pavilion Lake and Texas Creek with a rating of 1.

Table 9: SLRD Area B Provincial WUI Risk Class Polygons and Ratings

WUI Area	Risk Class Polygon Name	Risk Class Rating
Bridge Power Generation	Shalalth 185	1
Seton Portage	Shalalth 185	1
Texas Creek	Lillooet 186 Riley Creek 184	1
Pavilion Lake	Pavilion 189	1

4.6 Local Wildfire Threat Assessments

Identifying stand structure attributes and local fuel hazard information through the Wildfire Threat Assessment (WTA) worksheet data collection assists in the identification of fuel types, the proximity of the fuels to the community, local fire spread patterns and topographical features, which aid in establishing the local wildfire threat and subsequent risk reduction actions and priorities. Field data was gathered through field reconnaissance and wildfire threat/fuel assessment work completed at 113 plot locations within the SLRD Electoral Area B covering the eight 1km WUI Area communities during September and October 2022. The plot locations are shown on the CWRP wildfire risk map in Appendix 3.

Key information gathered from the WTA Worksheets is used to develop the local wildfire threat and risk ratings. The wildfire risk components include; proximity (proximity of fuel treatment area to value/interface), fire spread patterns (predominant wildfire spread direction), slope position of value and slope percent components. The ‘local fuel hazard’ as defined through the Fuel Assessment Site Level Scoring process of the WTA is also part of the final wildfire risk class assignment and includes the collection of the following data:

- Depth of organic layer
- Surface fuel composition
- Dead and down material continuity (<7cm)
- Ladder fuel composition
- Ladder fuel horizontal continuity
- Understory stems/ha
- Overstory composition/crown base height
- Crown closure
- Fuel Strata Gap (m)

- Overstory stems/ha
- Dead and dying % of dominant and co-dominant stems

Each of these categories on the wildfire threat – fuel assessment worksheets are assigned a numerical value and summed to produce a fuel assessment rating for each established plot. The final wildfire risk class (E/H/M/L) is based on the local wildfire risk score and the local fuel hazard as determined through the Fuel Assessment (Site Level) final score. These plot ratings, along with the PSTA, fuel types, local topographic features and site level attributes such as wind direction and fire spread pattern are then incorporated into the evaluation and subsequent development of areas proposed for fuel modification treatments. For each proposed treatment area recommended, a wildfire threat - priority setting worksheet was also completed to assist with the prioritization of the treatment areas overall.

The Wildfire Threat Assessment score and rating for each of the established plot locations can be found in appendix 5. Overall, the majority of the wildfire threat ratings determined at the plot locations were observed to be consistent with the PSTA wildfire threat in the same location across the eight WUI areas (Moderate to High), certainly in those locations where no previous fuel treatment work has been completed. Plot locations within previously-treated polygons showed lower ratings, emphasizing the effectiveness of and importance in considering fuel modification treatments for the areas of higher wildfire threat within the WUI.

4.7 SLRD Area B Wildfire Environments

There are three major factors of the wildfire environment that influence wildfire behaviour: fuel, topography and weather. These factors are known as the Fire Behaviour Triangle, which are shown in Figure 4.

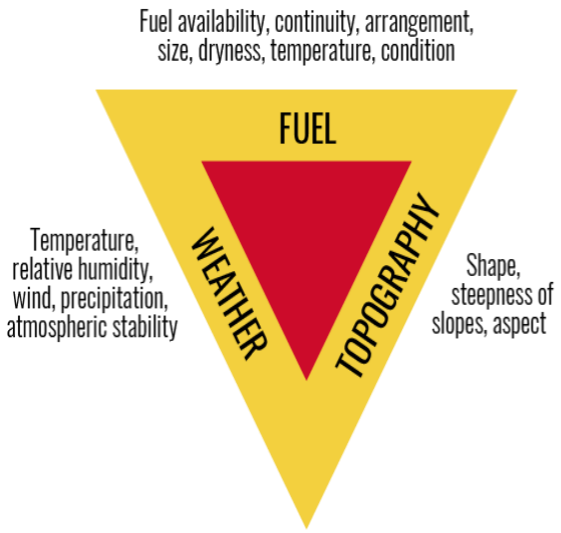


Figure 4: Wildfire Behavior Factors

4.7.1 Forest Fuels

Fuels in a wildfire context is defined as any organic matter, living or dead, in the ground, on the ground, or in the air that can ignite and burn. This can include dry grass, dead leaves and tree needles, brush and small trees. Light fuels ignite quickly and cause rapid spread of the fire. Heavier fuels are typically logs, stumps, branch wood and deep duff layers. The fuels take longer to ignite, spread slower, burn longer and throw off large volumes of heat when dry. Fuel continuity is also an important factor in the behaviour of fire because it indicates how quickly and where a fire may spread. A wide range of horizontal and vertical fuel continuity conditions is typically found in most forested areas. When fuels are scattered or separated by natural barriers such as rock, outcropping, streams, or areas of bare ground, the fire will be irregular and spread more slowly. A common method used in fire suppression is to break the continuity of the fuel by separating burning fuels from unburned fuels. When fuels are closely spaced and intertwined vertically, fire is able to spread rapidly upwards into the upper tree crowns as these fuels will be pre-heated prior to ignition. When fuels are spaced far apart vertically, the heat is less able to ignite the fuels above.

Since fuel is the only fire behaviour driver that can be modified by people and is a critical input of the PSTA Fire Threat Analysis, considerable time has gone into classifying British Columbia's ecosystems according to the Canadian Forest Fire Behaviour Prediction (FBP) fuel types. For each of the different fuel classifications, there has been a prediction generated of fire behaviour in each of these types of

forests. For the purposes of fire behaviour prediction, the FBP system categorizes fuel into 17 distinct types, which are detailed in Appendix 2.

The amount, type and continuity of fuel and its moisture content directly influence fire behaviour. The fuel load determines the potential amount of heat that can be released during a burn, whereas the type and distribution of fuel elements affects their combustibility. Fine fuels (diameter <6 mm) burn more readily than coarse ones. Fuel characteristics differ among ecosystems, resulting in differences in fire behaviour and hence in damage to plants. To manage fire, it is therefore important to understand the variability in fire behaviour in different ecosystems (Gambiza, Campbell, Moe & Frost, 2005).

4.7.1.1 Fountain Valley North -Frantzen Road WUI

The current forested stand structure within the Frantzen Road WUI area is dominated by Douglas-fir with a minor component of Ponderosa Pine and open understories that are dominated by herbs and woody shrubs, including Common Snowberry, Saskatoon, Tall Oregon-Grape, and Kinnikinnick. Trembling Aspen can be found in large groves along the flats and depressions in the valley typically on the southern side of Fountain Lake Road. The forested land within the WUI area continues to show the impact from past Western Spruce Budworm activity and scattered but ongoing root disease.

Table 10: Fountain Valley North - Frantzen WUI Fuel Types and Crown Fire/Spotting Potential

Fuel Type	FPB/CFDDRS Fuel Type Description	WUI Fuel Type Description	Area (ha) of Fuel Type in WUI	Area (%) of Fuel Type in WUI	Crown Fire/ Spotting Potential
C-3	Mature Jack or Lodgepole Pine	100% mature conifer dominated stand, primarily Lodgepole Pine or Douglas Fir.	20	2	Moderate
C-7	Ponderosa Pine – Douglas-fir	Uneven-aged stands of Ponderosa Pine, Lodgepole Pine, and Douglas-fir in various proportions with a potential minor Trembling Aspen component.	601	71	Moderate
D-1/2	Green/Leafless Aspen	Pure Trembling Aspen stands with a well-developed medium to tall shrub layer consisting of Red Osier Dogwood and Willow spp.	17	2	Very Low
M-1/2	Green/Leafless Mixed wood	Stand mixtures consisting of coniferous and deciduous tree species in varying proportions, including spruce, fir, aspen, birch, and cottonwood.	14	2	Very Low
O1-a/b	Matted or Standing Grass	Moderate to continuous grass cover, with scattered trees or shrub clumps.	117	14	Low
N	Non-fuel	Sand bars, rock, gravel pits, developed areas, etc. that have little or no combustible fuels present.	72	9	Very Low

4.7.1.2 Fountain Valley – Fountain Lake WUI

The current forest stand structure within the Fountain Lake WUI area is forested with uneven aged Douglas-fir stands with Trembling Aspen growing near riparian zones, along roadsides, or in stand

openings. The south and west aspects are dry to zonal and typically have well-spaced overstories with dense suppressed fir understories. Pinegrass, Oregon Grape, and Rocky Mountain Juniper are commonly found as shrubs and surface fuels. The north and eastern aspects across from the lake are more even-aged forest types and zonal with high amounts of suppressed Douglas-fir stems, blowdown, and dead fine fuels. The Douglas-fir forests show the impact from the previous Western Spruce Budworm and root disease activity, as well as Mountain Pine Beetle-kill in the pockets of pine across from the lake.

Prior to the implementation of the aggressive wildfire suppression, fire played a major role in the dry Douglas-fir forested ecosystems within Fountain Valley and around Fountain Lake. Frequent, low to moderate-intensity fires maintained an open forest of scattered large trees with a sparse understory vegetation layer of fire-adapted species and grasses. Over time, the open forest has become occupied by dense stands of young trees with moisture needs far greater than the available amount of moisture on the site. As a result, the dense stands of young trees grow slowly and are in poorer health. The majority of old growth trees in the valley were also high-grade logged in the early part of the 20th century. The combination of these two factors has resulted in a forest stand structure that is overstocked and stressed.

Table 11: Fountain Valley – Fountain Lake WUI Fuel Types and Crown Fire/Spotting Potential

Fuel Type	FPB/CFDDRS Fuel Type Description	WUI Fuel Type Description	Area (ha) of Fuel Type in WUI	Area (%) of Fuel Type in WUI	Crown Fire/ Spotting Potential
C-7	Ponderosa Pine – Douglas-fir	Uneven-aged stands of Ponderosa Pine, Lodgepole Pine, and Douglas-fir in various proportions with a potential minor Trembling Aspen component.	506	78	Moderate
D-1/2	Green/Leafless Aspen	Pure Trembling Aspen stands with a well-developed medium to tall shrub layer consisting of Red Osier Dogwood and Willow spp.	15	2	Very Low
O1-a/b	Matted or Standing Grass	Moderate to continuous grass cover, with scattered trees or shrub clumps.	63	9	Low
N	Non-fuel	Sand bars, rock, gravel pits, developed areas, etc. that have little or no combustible fuels present.	36	5	Very Low
W	Water	Fountain Lake, and wetlands.	39	6	Very Low

4.7.1.3 Fountain Valley South – Kirby Flats WUI

The Kirby Flats Road WUI found at the southernmost end of Fountain Valley and differs from the other WUIs in the valley as it occurs within a transitional ecotype between the Interior Douglas Fir and Ponderosa Pine biogeoclimatic zones. The stands are dominated by Douglas-fir but also have a prominent Ponderosa Pine component. The south and western aspects are very open and dry with Saskatoon Berry and Blue Bunch Wheat Grass; the north and east aspects reflect a similar structure as the other two Fountain Valley WUIs dry/zonal stands. The summer months are warm and dry, and there are often substantial moisture deficits throughout the growing season. In this area the Douglas-fir component of the forest was heavily-defoliated during the previous Western Spruce Budworm outbreak in 2006 to 2008.

Table 12: Fountain Valley South – Kirby Flats WUI Fuel Types and Crown Fire/Spotting Potential

Fuel Type	FPB/CFDDRS Fuel Type Description	WUI Fuel Type Description	Area (ha) of Fuel Type in WUI	Area (%) of Fuel Type in WUI	Crown Fire/ Spotting Potential
C-7	Ponderosa Pine – Douglas-fir	Uneven-aged stands of Ponderosa Pine, Lodgepole Pine, and Douglas-fir in various proportions with a potential minor Trembling Aspen component.	424	75	Moderate
O1-a/b	Matted or Standing Grass	Moderate to continuous grass cover, with scattered trees or shrub clumps.	141	25	Low

4.7.1.4 Pavilion Lake WUI

The current forest stand structure in the Pavilion Lake WUI Area varies from dry, open south-facing slopes consisting of bunchgrass, Saskatoon, a heavy component of juniper, and a scattered layer of mature Ponderosa Pine and Douglas-fir. The north-facing slopes on the opposite side of the lake are primarily mature Douglas-fir stands with a thrifty understory of suppressed stems. Along the valley bottom, Douglas-fir and Ponderosa Pine are found with a deciduous component of Cottonwood and Trembling Aspen along the creeks, lakes, and in the wetlands and spring-fed areas. The fir forest on the valley bottom along the north side of the lake continues to show the impact from the Douglas-fir Tussock Moth outbreak of 2011 and 2012, while the forest along the south side of the lake was heavily impacted by the Western Spruce Budworm infestation in 2006-2008. Areas of Douglas-fir mortality from the Tussock moth remain, with the trees now beginning to fail and fall down resulting in an increased surface fuel loading and risk of more significant wildfire behaviour.

The forested area at the south end of Pavilion Lake to Crown Lake also shows the impact from the wildfire that burned 138.5 hectares in May 2012. The fire remained mostly a surface fire on the valley bottom, but some areas along the steep north-facing slope experienced a severe surface-to-crown fire, where many standing dead or downed Douglas-fir are still evident. The area has yet to fully recover from the fire and does not have high regrowth of germinating trees or brush.

Table 13: Pavilion Lake WUI Fuel Types and Crown Fire/Spotting Potential

Fuel Type	FPB/CFDDRS Fuel Type Description	WUI Fuel Type Description	Area (ha) of Fuel Type in WUI	Area (%) of Fuel Type in WUI	Crown Fire/ Spotting Potential
C-2	Boreal Spruce	Pure, moderately well-stocked interior Hybrid Spruce, White Spruce, and Engelmann Spruce stands.	11	1	High
C-7	Ponderosa Pine – Douglas-fir	Uneven-aged stands of Ponderosa Pine, Lodgepole Pine, and Douglas-fir in various proportions with a potential minor Trembling Aspen component.	398	35	Moderate
O1-a/b	Matted or Standing Grass	Moderate to continuous grass cover, with scattered trees or shrub clumps.	334	28	Low

S-2	Spruce or Balsam Slash	Spruce or Balsam slash found within old cut blocks.	105	9	Low
N	Non-fuel	Sand bars, rock, gravel pits, developed areas, etc. that have little or no combustible fuels present.	90	8	Very Low
W	Water	Pavilion Lake, Crown Lake and wetlands.	228	19	Very Low

4.7.1.5 Bridge Power Generation WUI

The current forest stand structure within the Bridge Power Generation WUI Area consists of dry and open stands of Ponderosa Pine and Douglas-fir. These stands have a major component of suppressed Douglas-fir stems, brush and high levels of surface fuel loading from pine needles. On the north-facing slopes, Big Leaf Maple grows along with Douglas Maple and Saskatoon in large clusters. There are many large openings and rocky slopes around the power generation infrastructure that is devoid of trees and shrubs.

Table 14: Bridge Power Generation Fuel Types and Crown Fire/Spotting Potential

Fuel Type	FPB/CFDDRS Fuel Type Description	WUI Fuel Type Description	Area (ha) of Fuel Type in WUI	Area (%) of Fuel Type in WUI	Crown Fire/ Spotting Potential
C-7	Ponderosa Pine – Douglas-fir	Uneven-aged stands of Ponderosa Pine, Lodgepole Pine, and Douglas-fir in various proportions with a potential minor Trembling Aspen component.	157	33	Moderate
O1-a/b	Matted or Standing Grass	Moderate to continuous grass cover, with scattered trees or shrub clumps.	36	8	Low
N	Non-fuel	Sand bars, rock, gravel pits, developed areas, etc. that have little or no combustible fuels present.	143	30	Very Low
W	Water	Seton Lake, and wetlands.	138	29	Very Low

4.7.1.6 Seton Portage WUI

The current forest stand structure within the Seton Portage WUI Area is predominantly hot and dry with more open-growing south-facing slopes consisting of uneven aged Ponderosa Pine and Douglas-fir with an understory of Saskatoon, Ocean Spray, and Pinegrass. Along the shoreline and floodplains of Seton Lake and Anderson Lake, the stands consist more of Trembling Aspen, Big Leaf Maple, and Cottonwood. The north-facing slopes consist primarily of immature and mature Douglas-fir with a minor component of Ponderosa Pine and Western Red Cedar.

The forest to the south of Seton Portage also shows the heavy impact from the wildfire that burned over 1,381 hectares in August 2009. The wildfire resulted in areas of lower intensity surface fire and higher intensity surface-to-crown fire, leaving a mosaic of forest types within the fire perimeter. In the high intensity burn areas, an extremely dense wall of juvenile pine and brush species is now regenerating.

Table 15: Seton Portage Fuel Types and Crown Fire/Spotting Potential

Fuel Type	FPB/CFDDRS Fuel Type Description	WUI Fuel Type Description	Area (ha) of Fuel Type in WUI	Area (%) of Fuel Type in WUI	Crown Fire/ Spotting Potential
C-7	Ponderosa Pine – Douglas-fir	Uneven-aged stands of Ponderosa Pine, Lodgepole Pine, and Douglas-fir in various proportions with a potential minor Trembling Aspen component.	393	44	Moderate
M-1/2	Green/Leafless Mixed wood	Stand mixtures consisting of coniferous and deciduous tree species in varying proportions, including spruce, fir, aspen, birch, and cottonwood.	9	1	Very Low
O1-a/b	Matted or Standing Grass	Moderate to continuous grass cover, with scattered trees or shrub clumps.	64	7	Low
S-2	Spruce or Balsam Slash	Spruce or Balsam slash found within old cut blocks.	106	12	Low
N	Non-fuel	Sand bars, rock, gravel pits, developed areas, etc. that have little or no combustible fuels present.	182	20	Very Low
W	Water	Anderson Lake, and wetlands.	141	16	Very Low

4.7.1.7 Texas Creek WUI

The Texas Creek WUI Area is divided into two sections by the Fraser River: the dry southern aspect along Highway 12 of the Ponderosa Pine biogeoclimatic zone and the more zonal eastern aspect of the Interior Douglas-fir biogeoclimatic zone. The south and west areas along Highway 12 are very dry and open with stands consisting primarily of Ponderosa Pine, Saskatoon, Big Sage, Blue Bunch Wheatgrass, and Arrow Leaved Balsam Root. On the east and north-facing slopes along Texas Creek Road the stands are comprised of primarily mature Douglas-fir and a minor component of Ponderosa Pine, with a thrifty understory of the same species along with areas of dense brush, shrubs and some deciduous trees.

On the west side of the WUI area, the forest was impacted from previous minor Western Spruce Budworm and Douglas-fir Beetle infestations, while the mature Ponderosa Pine along Highway 12 was significantly impacted from the Mountain Pine Beetle outbreak in 2008 to 2010. There are sections of Ponderosa Pine mortality that remain, with much of the dead pine having fallen down and increasing the surface fuel loading.

Table 16: Texas Creek WUI Fuel Types and Crown Fire/Spotting Potential

Fuel Type	FPB/CFDDRS Fuel Type Description	WUI Fuel Type Description	Area (ha) of Fuel Type in WUI	Area (%) of Fuel Type in WUI	Crown Fire/ Spotting Potential
C-3	Mature Jack or Lodgepole Pine	100% mature conifer dominated stand, primarily Lodgepole Pine or Douglas Fir.	33	1	Moderate

C-7	Ponderosa Pine – Douglas-fir	Uneven-aged stands of Ponderosa Pine, Lodgepole Pine, and Douglas-fir in various proportions with a potential minor Trembling Aspen component.	1864	45	Moderate
D-1/2	Green/Leafless Aspen	Pure Trembling Aspen stands with a well-developed medium to tall shrub layer consisting of Red Osier Dogwood and Willow spp.	39	1	Very Low
O1-a/b	Matted or Standing Grass	Moderate to continuous grass cover, with scattered trees or shrub clumps.	1131	27	Low
N	Non-fuel	Sand bars, rock, gravel pits, developed areas, etc. that have little or no combustible fuels present.	766	19	Very Low
W	Water	Fraser River, Texas Creek, Phair Lake, Spray Creek, and wetlands.	270	7	Very Low

4.7.1.8 Yalakom Valley WUI

The Yalakom Valley WUI Area is divided by Buck Creek, placing it into two different fuel type groups: an eastern dry forest type and a western zonal forest type. The eastern dry forest type varies between Ponderosa Pine and Douglas-fir dominated stands depending on the primary aspect. The pine-dominated stands are open with sparse overstory and little to no understory ladder fuels, with primary surface fuels consisting of Blue Bunch Wheatgrass and Rocky Mountain Juniper. The fir-dominated stands are more densely grown in with over and understory stems. The western zonal forest type is more shaded, with the forest dominated by more even-aged Douglas-fir stands. High concentrations of dead fine fuels dominate the forest floor with dense brush species growing within openings where trees have fallen down. There are few suppressed stems present.

The Ponderosa Pine component of the forest within the eastern portion of the WUI area continues to show the impact from the Mountain Pine Beetle outbreak of 2008 to 2010, with areas of dead pine blowdown. The Douglas-fir throughout the valley was also impacted from the Western Spruce Budworm in 2006 and 2007.

Table 17: Yalakom Valley WUI Fuel Types and Crown Fire/Spotting Potential

Fuel Type	FPB/CFDDRS Fuel Type Description	WUI Fuel Type Description	Area (ha) of Fuel Type in WUI	Area (%) of Fuel Type in WUI	Crown Fire/ Spotting Potential
C-3	Mature Jack or Lodgepole Pine	100% mature conifer dominated stand, primarily Lodgepole Pine or Douglas Fir.	32	3	Moderate
C-7	Ponderosa Pine – Douglas-fir	Uneven-aged stands of Ponderosa Pine, Lodgepole Pine, and Douglas-fir in various proportions with a potential minor Trembling Aspen component.	629	64	Moderate
D-1/2	Green/Leafless Aspen	Pure Trembling Aspen stands with a well-developed medium to tall shrub layer consisting of Red Osier Dogwood and	49	5	Very Low

		Willow spp.			
O1-a/b	Matted or Standing Grass	Moderate to continuous grass cover, with scattered trees or shrub clumps.	60	6	Low
N	Non-fuel	Sand bars, rock, gravel pits, developed areas, etc. that have little or no combustible fuels present.	214	22	Very Low

4.7.2 Topography

Topography, or the 'lay of the land' is an important factor in how the rate and direction of fire spreads. Topography is typically broken into three categories: slope, aspect and terrain. Terrain includes features such as hills, mountains, lakes, rivers, and other natural topographic characteristics. Each of these items can significantly influence where wind flows as it will always try to follow the path of least resistance. The places winds flow will influence where fire travels. Bodies of water like lakes and rivers can also serve to limit the spread of surface fires by providing a natural break in flammable fuels. Values that are located downslope and in the path of prevailing wind directions are at greatest risk.

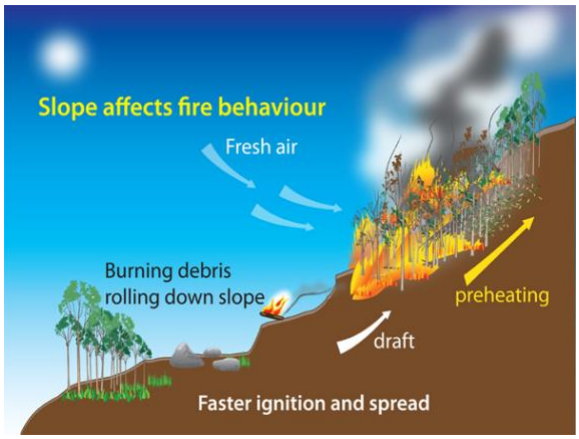


Figure 5: Slope Effects on Fire Behaviour

Slope is the steepness of the land and has the greatest influence on a fire's trajectory and rate of spread. Fire generally moves faster uphill than downhill, with fire spreading faster on steeper slopes. On the uphill side, flames are closer to the fuel, and the fuels become drier and ignite more quickly than if on the level ground. Wind currents typically flow uphill and this tends to push the heat from flames into new fuels. Although typical fire behaviour is to spread uphill, an additional concern on steep slopes is that burning embers and 'chunks' of burning fuel may roll downhill into unburned fuels below, increasing the spread and starting new fires. The range of slopes observed across the SLRD Area B area of interest is shown on the Slope Class map in Appendix 3. Slope position relates to the ability of a wildfire to gain momentum during an uphill run and affects the potential impact to the value. A value at the bottom of the slope is equivalent to a value on flat ground; a value on the upper 1/3 of the slope would be impacted by faster rates of spread than that of a value located on flat ground.

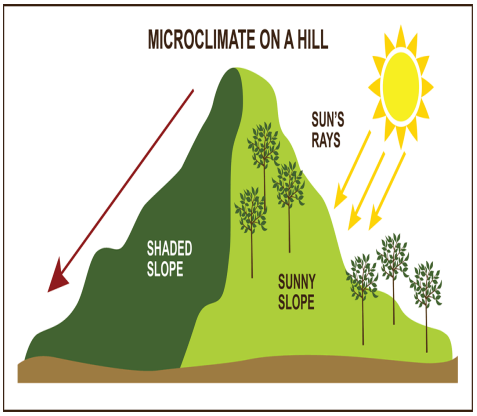


Figure 6: Solar Radiation and Aspect

Aspect is the direction the land faces - north, south, east or west and can influence fire behaviour in several ways. North facing slopes tend receive more shade, have heavier fuel loading levels, higher humidity and fuel moistures. North facing aspects will also typically have less intense fire activity than a south facing slope. Southern aspects receive more direct heat from the sun, generally are hotter and have drier vegetation and soils and support more flashy fuels such as grasses and shrubs. These combined factors make southern aspects more susceptible to fires than that of northern slopes. In the northern hemisphere, eastern facing slopes experience earlier heating and cooling patterns as the sun moves from east to west, whereas west facing slopes will have later heating and cooling times.

4.7.2.1 Fountain Valley North – Frantzen Road WUI

The homes and structures found along Fountain Lake Road and Frantzen Road all reside on the flat valley bottom or mid slope benchland to the east. While the slopes near the homes are mild ranging from 5-30%, the slopes above going up the mountains of the valley gradually increase from 30-75%. The homes found on Frantzen Road are on a south to west aspect and experience the most sun while the homes along Fountain Lake Road face a more northerly direction and are shaded.

Table 18: Fountain Valley North – Frantzen Road WUI Slope Classes

Slope Class	Area (ha) of Slope Class	Area (%) of Slope Class	Fire Behaviour Implications
<20%	270	32	Very little flame and fuel interaction caused by slope, normal rate of spread.
21-30%	191	23	Flame tilt begins to preheat fuel, increase rate of spread.
31-45%	147	17	Flame tilt preheats fuel and begins to bathe flames into fuel, high rate of spread.
46-60%	80	9	Flame tilt preheats fuel and bathes flames into fuel, very high rate of spread.
>60%	157	19	Flame tilt preheats fuel and bathes flames into fuel well upslope, extreme rate of spread.

Rusty Creek is the only major stream found within the WUI flowing east to west and crossing underneath Fountain Lake Road. Potential areas that could be integrated into overall fire suppression planning are the large grassland fields found near some of the homes, deciduous riparian areas around Rusty Creek, as well as the large transmission line right of way that cuts across Frantzen Road to the southwest.

4.7.2.2 Fountain Valley – Fountain Lake WUI

The homes and cabins found at Fountain Lake are on the flat valley bottom with slopes of 5-20%. The terrain is generally flat to rolling. Slopes do begin to steepen above the homes to the east and across the lake to the west to around 30-60%. Though the majority of the homes are found on a west aspect, they are heavily shaded by a dense overstory of mature Douglas-fir.

Table 19: Fountain Valley – Fountain Lake WUI Slope Classes

Slope Class	Area (ha) of Slope Class	Area (%) of Slope Class	Fire Behaviour Implications
<20%	203	32	Very little flame and fuel interaction caused by slope, normal rate of spread.
21-30%	96	15	Flame tilt begins to preheat fuel, increase rate of spread.
31-45%	138	22	Flame tilt preheats fuel and begins to bathe flames into fuel, high rate of spread.
46-60%	135	21	Flame tilt preheats fuel and bathes flames into fuel, very high rate of spread.

>60%	69	11	Flame tilt preheats fuel and bathes flames into fuel well upslope, extreme rate of spread.

Fountain Lake is the major water body of the WUI area oriented in a north-south direction. It is approximately 400 m wide and almost a kilometre long. Potential areas that could be integrated into overall fire suppression planning are the lake and associated deciduous riparian areas found along the shoreline, as well as the large transmission line right of way above the homes to the east running south to north.

4.7.2.3 Fountain Valley South – Kirby Flats Road WUI

The homes and structures found along Kirby Flats Road all reside along the valley bottom. The slope around the homes varies from 5-20% gradually increasing to 25-70% on the mountainside above and on the slopes below down to the creek. The predominant aspect for this area is west although all aspects are present in the valley.

Table 20: Fountain Valley South – Kirby Flats WUI Slope Classes

Slope Class	Area (ha) of Slope Class	Area (%) of Slope Class	Fire Behaviour Implications
<20%	138	25	Very little flame and fuel interaction caused by slope, normal rate of spread.
21-30%	84	15	Flame tilt begins to preheat fuel, increase rate of spread.
31-45%	148	26	Flame tilt preheats fuel and begins to bathe flames into fuel, high rate of spread.
46-60%	100	18	Flame tilt preheats fuel and bathes flames into fuel, very high rate of spread.
>60%	94	17	Flame tilt preheats fuel and bathes flames into fuel well upslope, extreme rate of spread.

Cinquefoil Creek is the only major stream found within the WUI flowing north to south below Fountain Lake Road. There are generally few fuel-free areas in this WUI to be used as potential anchor points apart from the deciduous riparian areas along Cinquefoil Creek or the large transmission line right of way found running southeast to southwest above the homes.

4.7.2.4 Pavilion Lake WUI

The homes and structures at Pavilion Lake are found along the valley bottom on the east side of the lake. While the slopes near the homes are mild, the slopes across the highway to the east gradually increase to 40-90% depending on elevation and have a very high percentage of course fragment content. These slopes also experience the most sun and have very dry surface fuels. The far south side of the lake below the highway is milder in terrain along the valley bottom, with slopes becoming very steep along the west side of the lake. The predominant aspect around the homes is south to west facing.

Table 21: Pavilion Lake WUI Slope Classes

Slope Class	Area (ha) of Slope Class	Area (%) of Slope Class	Fire Behaviour Implications
<20%	168	18	Very little flame and fuel interaction caused by slope, normal rate of spread.
21-30%	69	7	Flame tilt begins to preheat fuel, increase rate of spread.
31-45%	96	10	Flame tilt preheats fuel and begins to bathe flames into fuel, high rate of spread.
46-60%	138	15	Flame tilt preheats fuel and bathes flames into fuel, very high rate of spread.
>60%	472	50	Flame tilt preheats fuel and bathes flames into fuel well upslope, extreme rate of spread.

Pavilion Lake and Crown Lake are two major water bodies that were considered during the design of the fuel reduction treatment areas within the WUI area, as was Highway 99 and the transmission line right of way running above. These features can all be considered in fire suppression planning.

4.7.2.5 Bridge Power Generation WUI

The homes and structures found at the Bridge Power Generation site are situated along the valley bottom above Seton Lake. The terrain in this area is flat to rolling with periodic benches with slopes of 10-20%. Above the community and where the penstocks are located, slopes increase to >60% with the predominant aspect being south to east facing.

Table 22: Bridge Power Generation WUI Slope Classes

Slope Class	Area (ha) of Slope Class	Area (%) of Slope Class	Fire Behaviour Implications
<20%	91	25	Very little flame and fuel interaction caused by slope, normal rate of spread.
21-30%	60	17	Flame tilt begins to preheat fuel, increase rate of spread.
31-45%	61	17	Flame tilt preheats fuel and begins to bathe flames into fuel, high rate of spread.
46-60%	69	19	Flame tilt preheats fuel and bathes flames into fuel, very high rate of spread.
>60%	78	22	Flame tilt preheats fuel and bathes flames into fuel well upslope, extreme rate of spread.

Potential fire suppression anchor points around the Bridge Power Generation community areas include the nearby lake features and large fuel free openings on the slopes and rocky cliff faces.

4.7.2.6 Seton Portage WUI

The homes and structures of Seton Portage are found along the valley bottom between Seton and Anderson lakes with flat to rolling terrain. The slopes around the homes are mild ranging from 5-20% increasing to >60% moving up the mountainside to the north and south. The predominant aspect for this area is a northwest to southeast facing on either side of the community.

Table 23: Seton Portage WUI Slope Classes

Slope Class	Area (ha) of Slope Class	Area (%) of Slope Class	Fire Behaviour Implications
<20%	281	36	Very little flame and fuel interaction caused by slope, normal rate of spread.
21-30%	96	12	Flame tilt begins to preheat fuel, increase rate of spread.
31-45%	131	17	Flame tilt preheats fuel and begins to bathe flames into fuel, high rate of spread.
46-60%	118	15	Flame tilt preheats fuel and bathes flames into fuel, very high rate of spread.
>60%	151	19	Flame tilt preheats fuel and bathes flames into fuel well upslope, extreme rate of spread.

Anderson Lake and Seton Lake are the major water bodies found on either side of the community and along with Spider Creek, Whitecap Creek, the Highline Road, floodplains, and large transmission power line right of ways running above the community could also be considered as anchor points for fuel treatment and fire suppression planning.

4.7.2.7 Texas Creek WUI

The residential areas along Texas Creek Road and Highway 12 are located on a mid-slope benchland above the Fraser River. Terrain is mountainous and varied ranging from flat benchlands to steep continuous slopes. On average, slopes are gentler along the benchlands around 5-25% while the more mountainous slopes above and down to the Fraser River increase to 70-90%. The homes and structures on the Texas Creek Road are influenced by an eastern aspect while the homes found on the Highway 12 side of the WUI area are influenced by a more western/southern aspect.

Table 24: Texas Creek WUI Slope Classes

Slope Class	Area (ha) of Slope Class	Area (%) of Slope Class	Fire Behaviour Implications
<20%	1215	31	Very little flame and fuel interaction caused by slope, normal rate of spread.
21-30%	575	15	Flame tilt begins to preheat fuel, increase rate of spread.
31-45%	687	18	Flame tilt preheats fuel and begins to bathe flames into fuel, high rate of spread.
46-60%	576	15	Flame tilt preheats fuel and bathes flames into fuel, very high rate of

			spread.
>60%	870	22	Flame tilt preheats fuel and bathes flames into fuel well upslope, extreme rate of spread.

A number of major streams and water bodies are found in this WUI area including the Fraser River, Phair Lake, Texas Creek, Spray Creek and Riley Creek. Potential fuel treatment and fire suppression anchor points include lake and other water features, large agricultural fields, open talus slopes, bluffs and grassy areas, and major roads.

4.7.2.8 Yalakom Valley WUI

The homes and structures within the Yalakom Valley WUI area are found along a mid-slope benchland along the Yalakom River. On the east side of the valley, the topography is flat to rolling near the homes, sloping upwards 50-75% towards rocky bluffs to the east. This side of the valley experiences the most direct sunlight and is very dry. On the west side of the valley, slopes are more gentle ranging from 20-40%. All aspects are found within the WUI area but are dominated by north and south-facing.

Table 25: Yalakom Valley WUI Slope Classes

Slope Class	Area (ha) of Slope Class	Area (%) of Slope Class	Fire Behaviour Implications
<20%	295	30	Very little flame and fuel interaction caused by slope, normal rate of spread.
21-30%	185	19	Flame tilt begins to preheat fuel, increase rate of spread.
31-45%	215	22	Flame tilt preheats fuel and begins to bathe flames into fuel, high rate of spread.
46-60%	169	17	Flame tilt preheats fuel and bathes flames into fuel, very high rate of spread.
>60%	115	12	Flame tilt preheats fuel and bathes flames into fuel well upslope, extreme rate of spread.

Other than the Yalakom River, Buck Creek is the other major stream within the WUI area. The Yalakom Valley Road, Michelmoon Creek FSR, rocky bluffs and open grassy areas, and farmland and irrigated fields surrounding the community can be considered as anchor points for fuel treatment areas and fire suppression planning.

4.7.3 Fire Weather

Fires spread in hot, dry, and windy conditions. Warmer temperatures and lower relative humidity make the fuels more receptive to ignition by reducing the fuel moisture content. Wind supplies oxygen to fire, preheating the fuels in the path of the fire and transporting embers well ahead of the actual fire front. Wind speeds also affect flame heights and rates of spread. When hot, dry, and windy conditions occur simultaneously, wildfires can spread very quickly. Fire weather information such as wind speed, wind direction, temperature, relative humidity, and precipitation are all factors incorporated into fire prevention, preparedness and suppression decisions.

The BC Wildfire Service operates approximately 260 weather stations across the province that generate weather reports for specific weather indices including wind speed, precipitation, wind direction, Fine Fuel Moisture Content (FFMC) and Buildup Index (BUI) on an hourly basis. The closest BCWS weather

station for the SLRD B communities is the “Lillooet” weather station 1029, located at the airport strip east of Lillooet. Although the Lillooet weather station is the closest station being used for analysis purposes, the data is not necessarily representative of all the respective SLRD communities local fire weather conditions. For communities that are at a different elevation and have differing valley orientations and weather patterns such as Pavilion Lake in Marble Canyon and the Yalakom Valley, local knowledge was used to supplement the fire weather and behaviour evaluations for these areas.

4.7.3.1 ISI Roses

Diagrams generated from wind speed and direction data collected through BCWS weather stations are termed Initial Spread Index (ISI) roses. The ISI Rose for the Lillooet weather station 1029 shows that the general prevailing wind direction is gusting from a west to south-west direction. During the peak wildfire season months, the prevailing winds approach the communities predominantly from the west and south, with wind speeds also noted to increase during this period. The highest windspeeds were recorded during the spring and summer months, generally between April through August. Wind speed and direction are primarily influenced by topographical features in the area, such as water bodies, river features, steep slopes and narrow gullies.

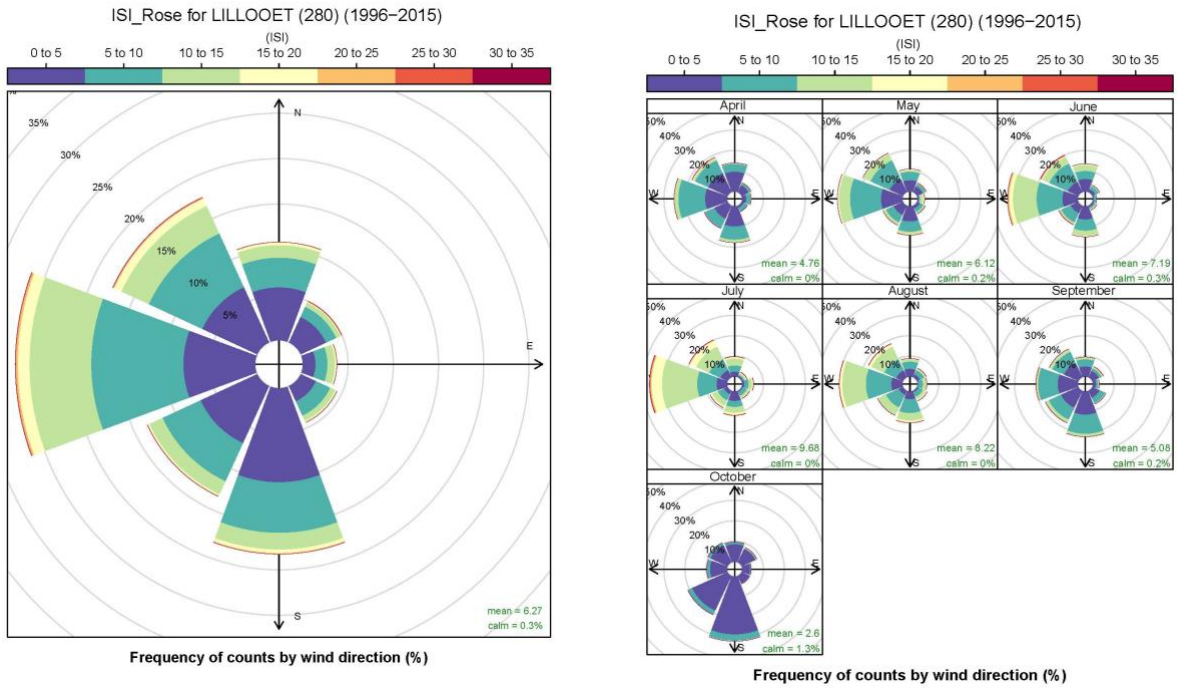
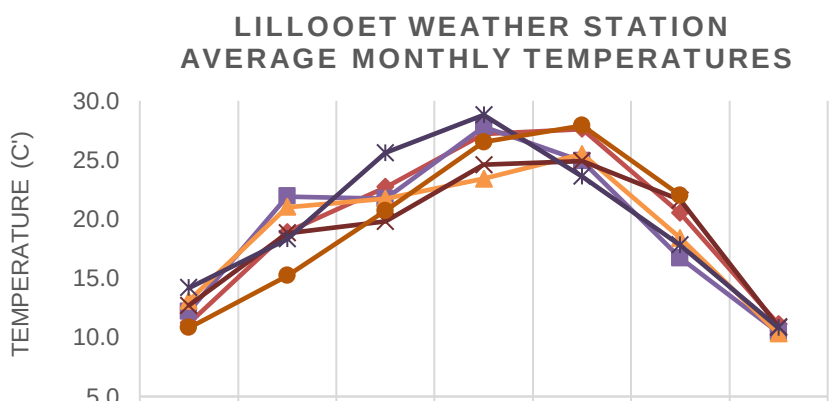


Figure 7: Lillooet Weather Station 1029 ISI Rose

4.7.3.2 Temperature

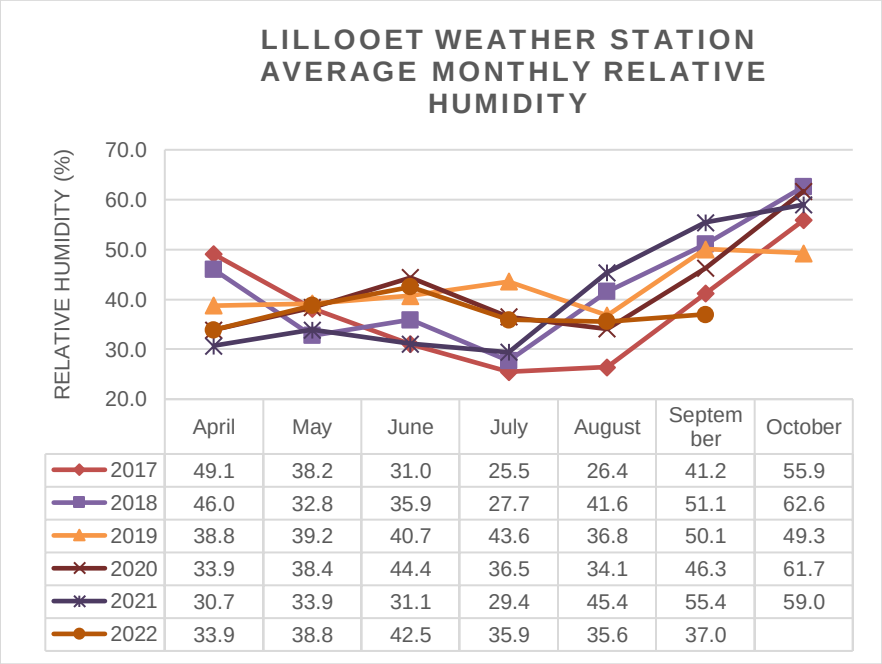
Average monthly temperatures June through August from 2017 - 2021 for the Lillooet weather station 1029 ranged between 10.8 and 28.8 degrees Celsius. It is noted that the years with the highest recorded monthly temperatures (2017, 2018 and 2021) during peak wildfire months directly correlates with notable wildfire seasons. Typically, the warmest temperatures are experienced during July-August. In 2021, the highest average temperature of 28.8 degrees was recorded in the month of July. Trends are showing that higher temperatures are extending later into the wildfire season months.



	April	May	June	July	August	Sept	October
2017	11.2	18.9	22.7	27.2	27.6	20.5	11.1
2018	12.2	21.9	21.7	27.8	24.9	16.7	10.4
2019	13.1	21.0	21.7	23.4	25.5	18.4	10.3
2020	12.7	18.8	19.8	24.6	24.9	21.6	10.9
2021	14.2	18.3	25.6	28.8	23.6	17.8	10.8
2022	10.8	15.2	20.7	26.5	27.9	22.0	

Figure 8: Lillooet Weather Station Average Temperature (2017-2022)

4.7.3.3 Relative Humidity



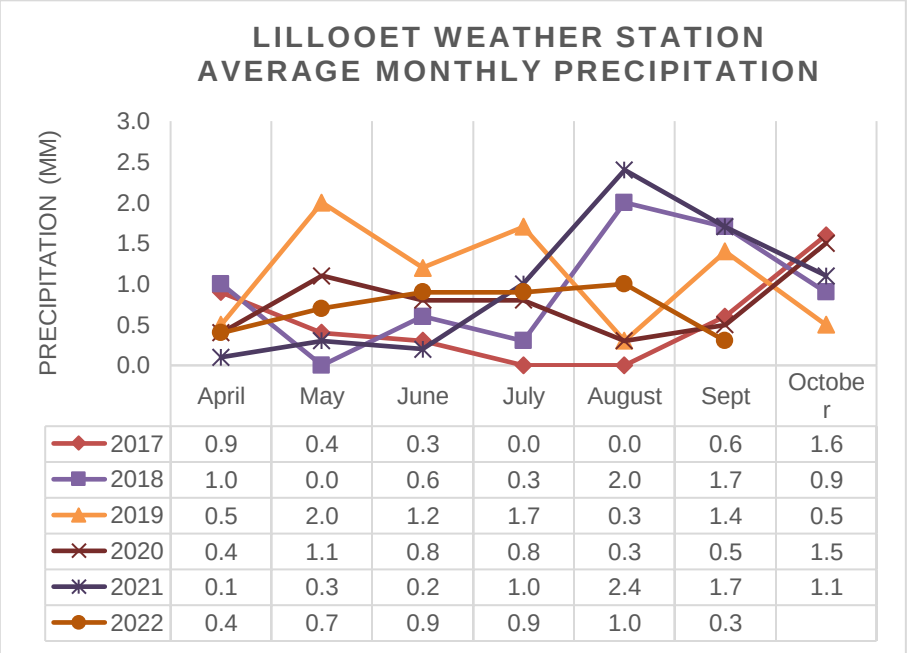
	April	May	June	July	August	September	October
2017	49.1	38.2	31.0	25.5	26.4	41.2	55.9
2018	46.0	32.8	35.9	27.7	41.6	51.1	62.6
2019	38.8	39.2	40.7	43.6	36.8	50.1	49.3
2020	33.9	38.4	44.4	36.5	34.1	46.3	61.7
2021	30.7	33.9	31.1	29.4	45.4	55.4	59.0
2022	33.9	38.8	42.5	35.9	35.6	37.0	

Figure 9: Lillooet Weather Station Average Relative Humidity (2017-2022)

Average relative humidity levels for the Lillooet weather station ranged between 27.9% and 48.1% during the peak fire season months of June through August. There is a direct correlation noted between years with drastically reduced relative humidity levels and notable wildfire seasons (2017, 2018 and 2021). Trends indicate that relative humidity levels are fairly consistent throughout the wildfire season, with the lowest levels typically seen during the month of July. The lowest level of relative humidity recorded was July 2017 with an average RH of 25.5%.

4.7.3.4 Precipitation

Average precipitation for the Lillooet weather station ranged between 0.0 mm and 2.4 mm during the peak fire season months of June through August. There again is a direct correlation noted between years with drastically reduced precipitation levels and notable wildfire seasons (2017, 2018 and 2021). 2017 experienced the lowest precipitation recorded with July and August recording no, or trace amounts of precipitation for three consecutive months. Trends indicate that the general area does not receive a lot of prescriptions during the summer months. This is reflective of the existing arid vegetation type and dry climatic conditions. Most of the annual precipitation is received in the fall/winter months.



	April	May	June	July	August	Sept	October
2017	0.9	0.4	0.3	0.0	0.0	0.6	1.6
2018	1.0	0.0	0.6	0.3	2.0	1.7	0.9
2019	0.5	2.0	1.2	1.7	0.3	1.4	0.5
2020	0.4	1.1	0.8	0.8	0.3	0.5	1.5
2021	0.1	0.3	0.2	1.0	2.4	1.7	1.1
2022	0.4	0.7	0.9	0.9	1.0	0.3	

Figure 10: Lillooet Weather Station Average Precipitation (2017-2022)

4.8 Fire Danger Rating

Wildfire threat exposure to a community varies throughout the fire season depending on varying levels of the fire weather components. The data outlined in the preceding sections is analyzed daily by BC Wildfire Service and communicated out as a numerical value termed the Fire Danger Rating. The Fire Danger rating (the risk of a wildfire starting) is updated daily at 1400 hours and is grouped within the following Fire Danger classes throughout the fire season.

Fire Danger Class 1 and 2 – Very low to low danger rating. Fires may start easily and spread quickly but there will be minimal involvement of deeper fuel layers or larger fuels.

Fire Danger Class 3 – Moderate danger rating. Forest fuels are drying and there is an increased risk of surface fires starting. Carry out any forest activities with caution.

Fire Danger Class 4 – High danger rating. Forest fuels are very dry and the fire risk is serious. New fires may start easily, burn vigorously, and challenge fire suppression efforts. Extreme caution must be used in any forest activities. Open burning and industrial activities may be restricted.

Fire Danger Class 5 – Extreme danger rating. Extremely dry forest fuels and the fire risk is very serious. New fires will start easily,

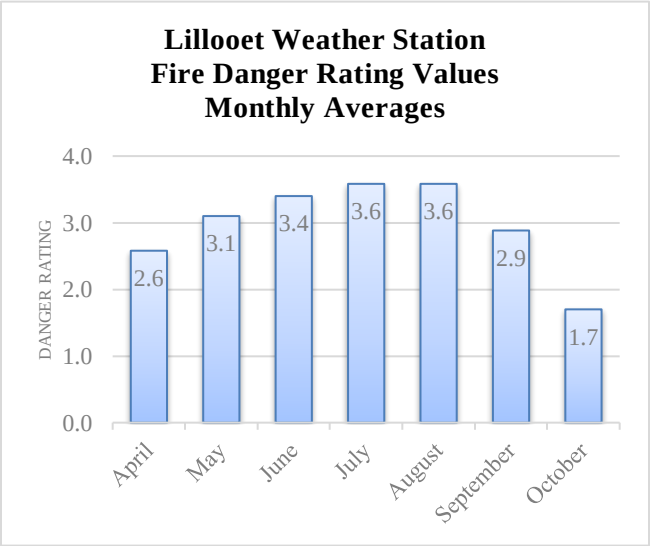


Figure 11: Lillooet Weather Station Danger Rating Monthly Average Values (2017-2022)

spread rapidly, and challenge fire suppression efforts. General forest activities may be restricted, including open burning, industrial activities and campfires.

The daily danger rating values from the Lillooet weather station from 2017-2022 were averaged and summarized. The values indicate that the general area is typically in an elevated fire danger rating, even during the spring months and reach a moderate (high) fire danger rating during the peak wildfire season time. It is not uncommon in some summer months for the fire danger rating to reach high and extreme danger classes in this area.

As the fire danger ratings increase throughout the wildfire season, the level of community emergency preparedness and awareness should also correspondingly increase. Table 26 provides an example of EOC and community readiness levels, along with associated tasks that should be incrementally implemented in tandem with increasing fire danger rating levels.

Table 26: Wildfire Response Preparedness Condition Guide

Prep-Con LEVEL	ACTION GUIDELINES
I LOW	• All Community staff on normal shifts. • Staff will update fire danger signs.
II MODERATE	• All Community staff on normal shifts
III HIGH	• All Community staff on normal shifts. • Daily detection patrols by staff. • Regional fire situation evaluated. • Daily fire behaviour advisory issued. • Wildland fire-trained Community staff and EOC staff notified of Prep- Con level. • Establish weekly communications with local wildland fire agency contacts • Hourly rain profile for all weather stations after lightning storms. • Duty Park Technician/ KFRS members will update fire danger signs.
IV EXTREME	• Rain profile (see III). • Daily detection patrols by Staff. • Daily fire behaviour advisory issued. • Regional fire situation evaluated. • EOC staff considered for standby. • Wildfire Incident Command Team members considered for standby/extended shifts. • Designated Community staff: water tender and heavy machinery operators, arborists may be considered for standby/extended shifts. • Consider initiating Natural Area closures to align with regional situation. • Provide regular updates to media services members/Community staff on fire situation. • Update public website as new information changes.
V 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. • Mobilize Wildfire Incident Command Team under the direction of the Fire Chief.

	• Implement Evacuation Alerts and Orders based on fire behaviour prediction and under the direction of the Fire Chief.

Daily updated fire danger class ratings during the wildfire season can be found at [WFWX - Fire Weather Danger Class Report (gov.bc.ca)]

4.9 Hazard Risk Vulnerability Assessment

The purpose of a Hazard Risk Vulnerability Assessment (HVRA) is to help emergency planners and communities identify all potential risks, to make risk-based choices to address identified vulnerabilities, plan to mitigate the identified hazards and prepare for response and recovery efforts. Risk-based means making informed choices based on the frequency of hazards and acceptable consequences. The HVRA process considers the likelihood of an unwanted hazard event occurring (probability) and the corresponding damage to communities as a result of the event (consequence). Risk is measured as the product of likelihood and consequence, but multiple inputs are required in order to effectively quantify risk, including severity, value type, and vulnerability. The identification of risk levels will help inform priorities for increased community resiliency efforts.

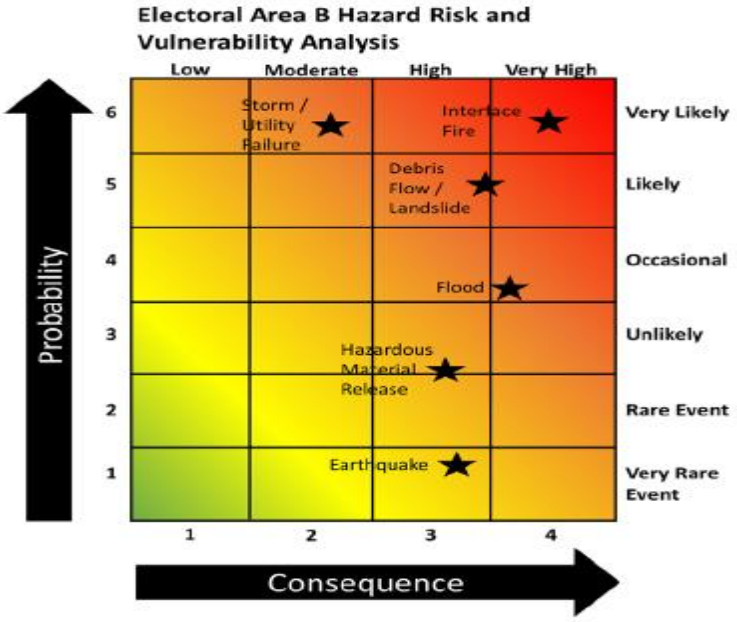


Figure 12: SLRD Area B Hazard, Risk and Vulnerability Profile

The Hazard, Risk and Evacuation hazard profile for all SLRD Area B communities shown in Figure 13 identifies interface fires as having a very likely probability of occurrence along with a very high consequence rating. Specific communities within the electoral area may experience hazard risk events with more frequency and less consequence due to local geography and weather conditions (SLRD CRA, 2021).

SECTION 5: Recommendations for Mitigating Wildfire Risk

Mitigating wildfire risk is a proactive approach to reducing potential impacts and subsequent losses from devastating wildfires. Understanding and assessing all of the risks that apply to a given community is a key consideration when determining actions that organizations can undertake to mitigate and manage the wildfire risk within and adjacent to their respective jurisdictions.

Comprehensive community wildfire resiliency planning involves evaluating the risks and implementing a robust program that incorporates a variety of different mitigation options to reduce the identified risks. Activities including enhanced emergency planning, policy and legislation development, increased interagency cooperation and training, forest fuel and vegetation reduction programs within and surrounding communities, as well as communicating, educating and promoting FireSmart activities that homeowners can implement will proactively increase wildfire resiliency not only for individual residents, but the communities as a whole.

5.1 FireSmart Disciplines

FireSmart Canada is a national program that was founded over 20 years ago to address common wildfire concerns in WUI areas. FireSmart Canada works closely with the provincial and territorial chapters to implement FireSmart programming and services from coast to coast. FireSmart BC is the provincial program created to increase wildfire resilience among homeowners, communities, emergency responders, and all levels of government in BC (FireSmart BC, n.d.). The FireSmart program provides tools to help increase wildfire preparedness for residents, their homes, neighbourhoods, critical infrastructure and natural resources from wildfire. It is a holistic approach that encourages efforts from grassroots to high-level organizations. At the grassroots level, FireSmart principles are based on the actions of residents and neighbourhoods helping each other reduce wildfire risk to their homes. At an organizational level, it may include direction such as developing legislation or improving emergency response procedures for wildfire events. FireSmart information is based on scientific research which has studied past wildfire disasters, wildfire dynamics and emergency response.

The wildfire risk reduction recommendations presented in this CWRP follow the disciplines outlined in the provincial FireSmart program and have been compiled into the following sections: (Disciplines | FireSmart BC):

1) Local Community FireSmart Initiatives
2) Education and Communication
3) Legislation, Planning and Development
4) Inter-Agency Cooperation
5) Emergency Planning
6) Cross-training
7) Vegetation Management

The FireSmart Coordinator role is a critical position to assist with the overall implementation of local FireSmart initiatives. The FireSmart Coordinator is an integral link to establishing a collaborative working relationship between the SLRD and individuals and organizations at the local level. Having this positive working relationship will help foster support for neighbourhoods to continue the highly successful Community FireSmart and Resiliency Committees, participate in programs for Home Ignition Zone Assessments and rebates, and receive FireSmart Neighbourhood Recognition, all of which are identified activities to improve overall wildfire resiliency in the area.

Section 5.1 FireSmart Coordination						
Action Item	**Recommended Activity**	**Description**	**Timing**	**Priority**	**Responsibility**	**Output**
1	Continue to employ a dedicated FireSmart Coordinator to oversee the FireSmart program within the SLRD. Access funding through the CRI program to hire a full-time FireSmart Coordinator.	To work with the SLRD Electoral Area B communities to implement identified wildfire resiliency objectives and goals.	Ongoing	High	SLRD Emergency Program	Continued funded FireSmart Coordinator role

5.2 SLRD Completed FireSmart Engagement and Initiatives

As a governing body, the SLRD plays a key role in establishing, supporting and promoting wildfire resiliency within communities. While FireSmart as a whole focuses primarily on individual residents taking charge of wildfire resiliency, it's important that the SLRD supports and inspires homeowners with the application of the various FireSmart program areas. The SLRD has been very proactive in implementing various wildfire resiliency and FireSmart initiatives which are highlighted in Table 26.

Table 26: SLRD Wildfire Resiliency Initiative Highlights

Wildfire Resiliency Initiatives	Community	Result
Hiring the SLRD FireSmart Administrator	All electoral areas	1 FireSmart Administrator hired
Identifying local FireSmart Champions	All electoral areas	10 Champions identified (3 in Area B)
FireSmart Rebate Program	10 pilot communities within all SLRD Electoral Areas. Texas Creek Road and Pavilion Lake were selected for Area B.	146 homeowners participated (18 in Area B)
Critical Infrastructure Assessments	Lillooet area (including Areas A and B)	One CI Assessment was completed for the Lillooet Landfill.
Residential FireSmart Services for homeowners age 65+	SLRD Areas A, B, and C; District of Lillooet	102 homeowners participated (15 participants in Area B)
FireSmart Education Days	10 pilot communities within all SLRD Electoral Areas. Texas Creek Road was selected in Area B.	Approximately 20 people attended the Texas Creek Road event.
Community FireSmart Resiliency Committees	All electoral areas.	Area B residents participated 8 CFRC meetings in 2021/22
Lillooet & Area Community Wildfire Roundtable	SLRD Area A + B	Two Roundtable meetings were held in

		2022
EOC Live Exercise (Drill)	SLRD in collaboration with District of Lillooet and Northern St'at'imc communities	1 live exercise completed
Forest fuel mitigation	SLRD Area B	163 ha completed 213 ha in prescription
FireSmart BC Conference 2022	All electoral areas	2 SLRD staff attended
Public Outreach	All electoral areas	Ongoing distribution of educational materials through social media and print materials. Five virtual FireSmart seminars were delivered to targeted communities in the SLRD in 2021.

5.3 Local Level FireSmart Initiatives

There are a number of initiatives that can be undertaken to reduce the risk of a wildfire impacting homes and structures. This section outlines examples of activities that both residents and communities can undertake based on unique factors including local wildfire threat, fuel type (forests and grasslands) and structure types and locations.

At the most local scale, homeowners can assess their individual residences for wildfire risks using the FireSmart BC Homeowner's Manual or have a Home Ignition Zone Assessment completed by a qualified Local FireSmart Representative (LFR). These assessments will identify present risks and provide suggestions for mitigative activities that can be completed to reduce the risks of wildfire impacting their homes. Some examples of pre-emptive activities include moving combustible items out from underneath decks and carports, moving wood piles at least 10 metres away from the house, replacing combustible siding with non-combustible options such as fibre cement siding, and ensuring that the 1.5 metre zone around the home is completely free of combustible vegetation and items. Homeowners should work with neighbours on shared concerns such as cedar hedges along property lines.

Local neighbourhood champions are integral to the successful implementation of neighbourhood activities. The SLRD should continue to identify and support interested community members in assuming a lead role for the implementation of wildfire resiliency efforts in their neighbourhoods. These individuals would work closely with the SLRD FireSmart Coordinator who would assist with the implementation, tracking and logistics of events. The SLRD FireSmart Coordinator would also provide support for the neighbourhood champion to organize and attend CFRC meetings as well as any regionally-based roundtables. Incentives provided to neighbourhood champions may increase the willingness and ability to participate and assume this type of role.

Neighbourhood-level activities or events involve the residents coming together to participate in a variety of locally-based activities which can include Community FireSmart Resiliency Committees (CFRC), wildfire community preparedness days, community cleanup days, communication and outreach events, neighbourhood level action planning, and rebate programs. The SLRD should provide support for established Community FireSmart Resiliency Committees to come together regularly to review their neighbourhood action plans, discuss emergency preparedness and to plan for upcoming events. This can be done by assisting with meeting coordination and providing funds for venue rentals and meals.

The SLRD has been successful in implementing neighbourhood level events including community cleanup days and various educational events, as noted above. These events have been well attended and should be continued. Future topics could include evacuation routes, emergency preparedness and landscaping techniques. These events can also be used as opportunities to provide organizations such as fire departments and/or the BCWS to incorporate a training component while delivering educational material. Examples of training activities could include structural protection unit mobilization and setup, pump and rooftop sprinkler demonstrations, pile burning techniques and safety precautions, home assessment demonstrations and proper thinning/pruning techniques.

The culmination of the above noted effort is to receive FireSmart Canada Neighbourhood Recognition. This is achievable for all neighbourhoods through an application to FireSmart Canada. The FireSmart Canada Neighbourhood Recognition program requires the following activities to be completed for recognition (FireSmart Canada Neighbourhood Recognition Program (FCNRP) | FireSmart BC):

- Enlisting a Local FireSmart Representative to complete a neighbourhood assessment and create a plan that identifies locally agreed-upon solutions that the neighbourhood can implement
- Sponsoring a local Neighbourhood or Community FireSmart Resiliency Committee, which maintains the FireSmart Neighbourhood Plan and tracks its progress or status
- Conducting FireSmart events each year that are dedicated to a local FireSmart project
- Investing a minimum of $2 per capita annually in local FireSmart neighbourhood effort
- Submitting an annual report to FireSmart Canada that documents continuing compliance with the program.

To assist with the logistics and scope of the neighbourhood recognition programming, it is suggested that neighbourhoods consist of 20-50 homes. The proposed neighbourhoods that could be considered for use as the SLRD Area B community FireSmart neighbourhoods are listed in Table 27 and shown in Appendix 6. Some of the suggested neighbourhoods identified exceed the number of recommended structure groupings but were developed to be flexible and can be refined through the specific needs and requirements of residents.

Table 27: SLRD Area B proposed FireSmart Neighbourhoods (FSN)

Proposed FireSmart Neighbourhood ID	Area Name	Number of Structures	Number of Critical Infrastructure
FSN 1	Franzten Road	10	0
FSN 2	Fountain Lake	28	0
FSN 3	Kirby Flats	12	0
FSN 4	Pavilion Lake	62	4
FSN 5	Seton Portage	69	2
FSN 6	Riley Creek/Hwy12 - North	54	0
FSN 7	Riley Creek/Hwy12 - South	43	1
FSN 8	Yalakom Valley	50	0

Section 5.3 Local Level FireSmart Initiatives						
Action Item	**Recommended Activity**	**Description**	**Timing**	**Priority**	**Responsibility**	**Output**
2	Continue to encourage and support community-level CFRC committee meetings.	To provide an opportunity for collaboration between neighbourhoods and other organizations or communities, and to support neighbourhoods working towards FireSmart Canada Neighbourhood Recognition.	Ongoing	High	SLRD FireSmart Coordinator Neighbourhood Champions Local FireSmart Representatives (LFR's)	Funding to support meeting logistics
3	Encourage and support individuals in the communities to become Neighbourhood Champions.	Identify key individuals within each community to work with the SLRD FireSmart Coordinator to implement initiatives in their local neighbourhoods.	Ongoing	High	SLRD FireSmart Coordinator Neighbourhood Champions	One Champion per neighbourhood
4	Complete neighbourhood wildfire assessments for all identified neighbourhoods.	Complete the Neighbourhood Wildfire Hazard Assessment Form to further identify risks within the identified neighbourhood areas.	Short Term (Within 1 year)	High	SLRD FireSmart Coordinator Qualified LFR	Completion of wildfire hazard assessments for all identified neighbourhoods
5	Continue to offer Home Ignition Zone Assessments for all residences in the WUI areas.	Increase homeowner education about current wildfire risks and how to reduce them using the FireSmart principles.	Ongoing	High	SLRD FireSmart Coordinator and Qualified LFR	Completion of HIZ assessments for all interested homeowners
6	Continue to work with the local Neighbourhood Champions to implement information/education sessions in the SLRD Area B communities.	Continued education and information distribution through events such as Community clean-up or FireSmart preparedness	Ongoing	High	SLRD FireSmart Coordinator Community participants/ LFRs BC Wildfire Service	At least two community events held annually for the SLRD communities

		day and Local emergency preparedness days.				
7	Support interested neighbourhoods in achieving recognition through the FireSmart Canada Neighbourhood Recognition Program.	SLRD FireSmart Coordinator to provide support to local Neighbourhood Champions with CFRC coordination, creating neighbourhood plans, hosting events and submitting documents to FireSmart Canada.	Short Term (Within 1 year)	Moderate	SLRD FireSmart Coordinator Neighbourhood Champions	At least one neighbourhood engaged in and working towards FireSmart Canada Neighbourhood recognition in 2024
8	Re-establish the rebate program.	Create an annual program that provides rebates to homeowners for completion of recommended FireSmart activities. This will provide an incentive for residents to reduce the wildfire risks on their properties.	Short Term (Within 1 year)	High	SLRD FireSmart Coordinator Qualified LFR	A fully funded rebate program for 2023/24 and future years.

5.4 Education and Communication

Education | FireSmart BC

Public education is a critical foundation of FireSmart. In order for a community to become resilient in the face of wildfire, all members of the community need to understand the wildfire risks and their role in reducing those risks. As people learn the importance of taking initiatives to minimize wildfire risks around their homes, they inspire their neighbours, which creates a ripple effect of wildfire resiliency. Education can happen on many levels, from one-on-one training to social media campaigns.

Most permanent residents are aware of wildfire risks and are motivated to implement wildfire safety measures to protect their properties. This area receives a high number of tourists each year (mountain biking, motorized off-road vehicles, hunting and camping) as well as an increase in population and activity during the summer months when families vacation at their recreational properties. During the community engagement sessions, emphasis was placed on needing further education and communication that focused primarily on tourists, seasonal residents, and newcomers to the area as they may not be aware of activities to undertake to increase wildfire resiliency which results in an increased risk to year-round residents. The timing of increased communications should be focused in the spring and early summer months in order to target recreational property owners and visitors that are planning to frequent the area during the summer months. Collaborating with external agencies such as BC Parks and BCWS will also

increase the distribution of FireSmart principles and wildfire readiness information to additional demographics within the electoral area.

The following table highlights the target audiences, delivery formats and topics that CFRC participants identified were important and the methods that could be considered to reach the widest audience.

Table 28: Education and Communication Audience, Format and Topics

Target Audiences	Education Delivery Formats	Education Topic Areas
General public Community members Existing and new/potential homeowners, which would include year-round residents and seasonal residents. Tourists Backcountry recreationists Businesses Farmers and ranchers	Open houses Information booths FireSmart demonstration projects Public presentations and information sessions (in-person and virtual) Mail outs Social media postings Videos posted on the SLRD website Door to door distribution of flyers and fact sheets Community information sessions Hands-on FireSmart 'community clean-up days Radio and newspaper advertisements Kiosks and/or billboards Public signage in key areas such as trailheads or information centres. Increased outreach and education during wildfire events	Wildfire mitigation, preparedness and readiness Emergency preparedness Household emergency planning Proper backyard burning techniques FireSmart landscaping Locations to dispose of vegetation removed from yards Evacuation routes and procedures Demonstration videos including proper and safe fuel reduction techniques Backcountry FireSmart practices Available communication methods in the area including emergency alert apps Campfire bans Wildfire prevention messaging Road restrictions Backcountry closures Key emergency contact numbers

A formal communications strategy should be completed to detail timelines and delivery methods to ensure that education and communication happen on a regular and consistent basis.

Farmers and ranchers should also be engaged to determine the level of interest for completing an agriculture specific wildfire plan. This plan incorporates the complexity of evacuations that involve livestock and farm infrastructure during a wildfire event. SLRD can engage farmers and ranchers by providing education and planning support that is tailored to their specific needs. An agriculture-specific wildfire plan can help producers pre-emptively make decisions, consider options and gather specific information that may be difficult to obtain during a crisis. This plan will help inform family members, staff, neighbours, and first responders how they can help during a wildfire emergency and ultimately will help reduce the potential for harm to agricultural operations, assets, crops and livestock. Vegetation management techniques, such as prescribed burning in grasslands or fields, can also be discussed with ranchers. This would assist with reducing areas of elevated surface fuel loading on larger land parcels.

Section 5.4 Education and Communication						
Action Item	**Recommended Activity**	**Description**	**Timing**	**Priority**	**Responsibility**	**Output**
9	Increased public messaging during the spring months and throughout the wildfire season.	Increased public messaging reminding people of the importance of implementing FireSmart principles and about emergency preparedness and readiness.	Short Term (Within 1 year)	High	SLRD FireSmart Coordinator Neighbourhood Champions SLRD Communications Department	Increased messaging frequency and targeted topic selection to coincide with appropriate preparedness activities
10	Develop a formal communication strategy for information distribution throughout the wildfire season.	Improved coordination of SLRD messaging resulting in increased awareness for residents and tourists in the SLRD. This includes defining audiences, identifying key messages, creating a plan for outreach methods, and developing a timeline for messaging.	Short Term (Within 1 year)	High	SLRD FireSmart Coordinator and Communications Department	Communication strategy/plan
11	Engage with local ranchers and farmers to determine the interest in developing a Farm and Ranch Wildfire Plan with a Local FireSmart Representative specializing in agriculture.	Assist farmers with information for wildfire preparedness planning, including completing a Farm and Ranch Wildfire Plan that includes developing an evacuation plan for livestock.	Short Term (Within 1 year)	High	SLRD FireSmart Coordinator Qualified LFR	Engage with local ranchers and complete at least one Farm and Ranch Wildfire Plan in 2023/24
12	Engage with Rec Sites and Trails BC and BC Parks to establish signage and/or display boards for key locations such as trailheads and kiosks that contains critical emergency information that the public should be aware of during wildfire season.	To provide the public with key information regarding evacuation routes, protocols and contacts in the event of a wildfire.	Short Term (Within 1 year)	High	SLRD FireSmart Coordinator Rec Sites and Trails / BC Parks	Designate or create at least one dedicated location to display public information.

13	Continue to build upon successful FireSmart public education outreach initiatives that have been previously implemented.	Continued FireSmart and wildfire resiliency awareness through public events. Examples of successfully completed outreach activities are open houses, farmers market info booths, and virtual FireSmart seminars.	Ongoing	High	SLRD FireSmart Coordinator Local LFRs BC Wildfire Service	Hold at least 2 public education outreach initiatives annually.

5.5 Legislation, Planning and Development

(Legislation & Planning | FireSmart BC) (Development Considerations | FireSmart BC)

Legislation, planning and development standards are an effective way for regional governments to improve the wildfire resiliency of their communities. Many of the services offered by a regional district require integration with wildfire resiliency initiatives, including housing development, emergency response, and community water systems. Existing legislation that may be applicable to implementing components of the CWRP are:

- BC Building Act and Building Code
- BC Emergency Program Act
- BC Local Government Act
- Open Burning and Smoke Control Regulations (OBSCR)
- BC Wildfire Act
- BC Forest and Range Practices Act (FRPA)
- BC Foresters Act
- Canada Federal Fisheries Act and Species at Risk Act

Through good planning, communities can improve the chances that new or existing developments will successfully withstand the impacts of wildfires. Considering factors such as land use, structure density and road locations early in a development process can greatly improve the survivability of structures and neighbourhoods as well as facilitate better emergency response and first responder safety.

The Official Community Plan (OCP) for Area B provides direction for land use and development that reflects the long-term vision and goals of the local communities. Within the OCP, Development Permit Area (DPA) (Wildfire Protection) regulates construction to ensure that wildfire resiliency measures are in place. DPA includes all properties within Area B. Through regular OCP updates, there is opportunity to include additional or improved wildfire resiliency measures in DPA such as provisions for the design of new developments, lower-flammability landscaping and fire-resistant building materials for new builds or renovations.

During a wildfire emergency, a critical piece of knowledge for emergency responders is how much water is readily available for fire suppression, how long it is available for and where to access additional sources if required. This information is of particular importance if residential rooftop water sprinklers are being considered for implementation, or there are other known draws on water systems during an emergency, such as refilling water storage units or refilling mobile water tanks. Residents in Area B have private water systems and there were no community water systems identified to be available for use by firefighters. Water storage tanks have been installed in Seton Portage, and it would be appropriate to

evaluate and install water storage tanks in other neighbourhoods or communities that may require additional fire suppression water storage solutions. Water storage options, such as underground cisterns, should be pre-emptively evaluated and considered during the design phase of housing developments or new subdivisions. An experienced fire suppression specialist should be consulted to help determine appropriate locations and requirements for alternative water storage systems, if required.

Climatic trends are predicting an increase to both the frequency and intensity of wildfires in the future. An important component of community wildfire resiliency, emergency preparedness and recovery planning is understanding the wildfire risk and potential impacts a wildfire could have on community and domestic use watersheds. As seen with the 2021 wildfires, community watersheds which supplied multiple community and municipal water systems were greatly impacted. These watersheds may now experience long-term instability and compounding consequences such as terrain stability issues, channel blockages, and sediment loading which could potentially affect the future water quality and quantity for residents, especially during the freshet months. Engaging and developing monitoring programs with organizations such as the Ministry of Forests, Ministry of Environment and Climate Change Strategy and/or post-secondary institutions to further understand the climatic changes occurring in watersheds within the electoral area would help identify, monitor, and track changing trends. This information would inform pre-emptive measures that could be explored for implementation to reduce potential impacts of wildfire to watersheds. Suggested areas that could be considered for integration in a monitoring program include the following:

- Climatic factors including temperature, precipitation, winds, snowpack levels, glacial melt and extreme weather events
- Disturbance trends including fire weather index, mass earth movements, insect and disease prevalence by seral stage, and soil moisture.
- Hydrology trends including stream flow by watershed, water temperature, channel stability, forest cover, erosion, and suspended sediment.
- Biodiversity trends including regime shifts, seral stage, habitat supply, species health, connectivity, invasive species and distribution shifts.

Section 5.5 Legislation, Planning and Development						
Action Item	**Recommended Activity**	**Description**	**Timing**	**Priority**	**Responsibility**	**Output**
14	Conduct Critical Infrastructure assessments for all critical infrastructure, including those outside the WUI areas, but within the AoI.	Complete all CI assessments and recommended mitigative actions, with the exception of the CI identified in the Bridge Power Generation WUI.	Short Term (Within 1 year)	High	SLRD FireSmart Coordinator Qualified LFR	Completed CI assessments
15	Review pertinent sections of the OCP and embed FireSmart principles where applicable.	Include FireSmart principles in the OCP to strengthen requirements for wildfire resiliency during new home development, renovations, and/or landscaping. This could include researching economic and environmental impacts and	Mid Term (1-3 years)	High	SLRD FireSmart Coordinator SLRD Planning Department	Strengthened requirements of FireSmart principles in the OCP for Area B.

		feasibility of strengthening development and landscaping requirements for new home builds and renovations to meet current FireSmart standards.				
16	Conduct a review to assess the adequacy of water storage for fire suppression activities within each SLRD area B community.	To understand the current capacity of water delivery systems and storage (if present) in relation to fire suppression requirements and determine if improvements are needed.	Mid Term (1-3 years)	High	SLRD Planning Department SLRD Fire Chief	Report on community water storage and delivery capacity for fire suppression.
17	Continue to 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).	Improved emergency response ability for new areas considered for development.	Ongoing	Moderate	SLRD Planning / SLRD Emergency Program	Updated bylaws and policies.
18	That the SLRD engage with organizations such as MOF, MOECCS and post-secondary institutions to further investigate and understand climatic changes that may be occurring within the electoral area. This data would help inform a pre-emptive wildfire hazard and risk analysis that could be completed for community and domestic use watersheds.	To provide SLRD with predictive information to allow planners to proactively develop and implement a mitigation plan to address identified potential impacts that could occur as a result of a wildfire event. This information would assist in understanding the short and mid-term implications a wildfire could have on the integrity of a watershed, including but not limited to water quantity and quality, terrain stability, riparian and wildlife considerations.	Mid to Long Term (3-5 years)	Moderate	SLRD/MOF/ MOECCS Post-secondary Institutions	Include this topic at an upcoming interagency or Lillooet Area Community Wildfire Roundtable meeting

5.6 Interagency Cooperation

(Interagency Cooperation | FireSmart BC)

Achieving wildfire resilience requires collaboration at all levels, from individual homeowners to local and regional government administrators, elected officials, local fire departments, and provincial government representatives. The collaboration of these groups is essential in successful emergency preparedness, prevention, response and recovery from wildfire events.

One of the most important relationships that must be fostered to increase the success of wildfire resiliency is between the SLRD and the Indigenous Nations and communities whose territories and areas of interest overlap with the electoral area administration boundary. Relationships must be formed at both the grassroots and at the government-to-government tables, as many local indigenous communities reside immediately adjacent to the SLRD communities. It is crucial to have shared and aligned emergency preparedness objectives. The SLRD should expand their ongoing engagement efforts through extending invitations to Indigenous Nations to planning tables and providing appropriate compensation for participation. It would also be beneficial for SLRD emergency program staff to participate in Indigenous cultural safety awareness training to provide additional tools in working towards more effective partnerships with local First Nations in emergency response and wildfire prevention.

The SLRD already has established relationships with many of the stakeholders involved in wildfire response for the communities in Area B, including BC Wildfire Service, Ministry of Forests - Cascades Natural Resource District, Emergency Management BC, and other key players. During the development of the CWRP, Community FireSmart Resiliency Committees (CFRCs) and the Lillooet Area Community Wildfire Roundtable (LACWR) inter-agency meetings were held, which provided a platform for collaborative discussions. Meetings were held both virtually and in person. These meetings were integral in gathering local interests, concerns, input and suggestions into the development of this plan. These meetings also helped create and foster relationships to collectively share information and to explore a coordinated approach to emergency planning moving forward. The Northern St'at'imc communities and governments participated in both the local-level CFRC meetings as well as at the high-level community roundtable meetings.

Through discussions at both the CFRC and LACWR meetings, several opportunities and suggestions were identified to improve the working relationship and communication with other organizations who have a pivotal wildfire resiliency role within the electoral area:

- Additional engagement and collaboration is required with forest licensees, MoF, MoTI and BC Hydro regarding the status, maintenance and upkeep of existing fire guards and secondary roads that are existing or potential community evacuation egress routes.
- Coordinate with the MoF, local forest licensees and woodlot owners to ensure that wildfire resiliency and fuel loading considerations are incorporated into any site-specific plans developed within the SLRD Area B WUI areas.
- Develop and strengthen relationships between the SLRD, BCWS and the communities in Area B to provide an increased presence in the area by BCWS staff during the wildfire season, and for improved collaboration when delivering community FireSmart projects.
- Planning is required for the protection of critical infrastructure outside of the WUI areas, including enhanced protection measures for provincial repeater/cell towers and internet infrastructure.
- Explore fuel reduction opportunities with BC Parks and Rec Sites and Trails BC which have jurisdiction over Yalakom Provincial Park, Fred-Antoine Park, Marble Canyon Provincial Park, Forest Recreation sites including those in Fountain Valley and along Highway 99, and several other popular hiking trails and campgrounds in the local area. This area is a major tourist destination for hiking, biking, camping and horseback riding.

- Engage with the MoF, BCWS and the neighbourhood champions on an annual basis to review and assess if any areas within the WUI have experienced increased fuel loading and/or wildfire threat including sources such as residual forest harvesting waste or excess firewood debris.
- Participants identified the following topics as suggested agenda items for discussion and collaboration at upcoming inter-agency meetings:
  - Completed and ongoing FireSmart programs and initiatives
  - Collaborative programing opportunities
  - Collaboration between small, neighbourhood-level CFRCs
  - Relationship building between SLRD communities and Indigenous communities, fire departments and organizations
  - Stakeholder updates
  - Evacuation routes
  - Communications with neighbouring regional districts for cross-boundary emergency planning (ex: TNRD)
  - Completed and planned emergency preparedness exercises
  - Communication protocols
  - ERP presentation and reviews
  - Training opportunities
  - Continuous improvement feedback (fire season debriefs/lessons learned)

Section 5.6 Interagency Cooperation						
Action Item	**Recommended Activity**	**Description**	**Timing**	**Priority**	**Responsibility**	**Output**
19	SLRD to continue to build relationships with liaisons for the Indigenous communities and organizations.	To strengthen working relationships between Indigenous communities and the SLRD through increased collaboration.	Short Term	High	SLRD Emergency Program SLRD Board	Creation of a joint emergency planning working group
20	Provide honoraria when inviting members of Indigenous communities to participate in SLRD-led inter-agency meetings.	To encourage inclusion and provide compensation for participation.	Short Term (Within 1 year)	High	SLRD Emergency Program	Secure funding
21	That SLRD staff participate in Indigenous cultural safety awareness training.	To provide a deeper understanding of Indigenous history and culture and to foster more effective partnerships with local First Nations in emergency response and wildfire prevention.	Short Term (Within 1 year)	Moderate	SLRD Staff	Complete training
22	Continue to organize/support/participate in inter-agency	Continued coordination and collaboration with	Ongoing	High	SLRD FireSmart Coordinator SLRD Emergency	Participation in all LACWR

	meetings and Lillooet Area Community Wildfire Roundtable LACWR) meetings with key emergency response organizations including, but not limited to DoL, BCWS, MOF, BC Hydro, MOTI, EMBC, BC Parks, Rec Sites and Trails BC, local First Nation organizations, and community fire departments.	organizations involved in wildfire response and preparedness initiatives within the electoral area.			Program	meetings and secure funding to host two local inter-agency meetings per year.
23	Encourage BCWS to have more presence in and around the communities during active wildfire season, and to increase the amount of fire ban signage (when applicable).	This will help to improve information exchange with tourists/visitors frequenting the back country, stronger enforcement of campfire bans, and increased presence for monitoring the area for fire starts.	Short Term (Within 1 year)	High	SLRD FireSmart Coordinator BCWS	Include this topic in an upcoming interagency meeting.
24	Collaborate and engage with organizations such as MOF, forest licensees and local woodlot owners to ensure that a coordinated approach to future wildfire resiliency measures are incorporated into any land-based activities proposed in WUI areas.	To create a consistent and coordinated approach to wildfire resiliency and fuel reduction initiatives within the WUI area around communities, including addressing potential excess fuel buildup in the WUI area around the communities.	Short Term (Within 1 year)	Moderate	SLRD FireSmart Coordinator Neighbourhood Champions	Complete an introductory meeting with identified stakeholders . Identify high-risk areas.
25	Engage with BC Parks and Rec Sites and Trails BC to explore options for fuel reduction opportunities along well used recreational sites and trails, especially trails that are located in close proximity to the communities.	To explore collaborative opportunities for fuel reduction initiatives along potential fire ignition corridors. These features could also be considered for use as fuel breaks around communities.	Mid Term (1-3 years)	Moderate	SLRD FireSmart Coordinator Neighbourhood Champions	Complete an introductory meeting with identified stakeholders . Identify high-risk areas.

5.7 Emergency Planning

(Emergency Planning | FireSmart BC)

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. Encouraging emergency planning by combining local knowledge with expertise in wildfire management helps communities become better prepared in responding to and recovering from a wildfire. The SLRD has recently expanded its emergency programming in response to increased natural disasters and has identified a need for enhanced planning and emergency response. These expanded initiatives, particularly in relation to improved working relationships and organizational collaboration were positively noted during the community engagement sessions.

The remoteness of some of the Area B communities creates specific challenges with regard to emergency planning and response, including limited phone and internet access in some areas, non-paved, narrow and seasonal evacuation routes, long distances to service centres and delayed response times. These challenges highlight the need for enhanced comprehensive emergency planning and preparedness. Emergency preparedness in remote communities can be improved by providing the necessary skills, equipment, information and training to local residents in each community, who know the area best, and particularly to those individuals that are already involved in existing local response efforts.

The local emergency response plans should be updated with specific information that is applicable to each community's requirements, needs, systems and infrastructure. Maps of all pre-identified evacuation routes should be included in the emergency response plans to provide information to residents, responders and visitors during the peak wildfire season months. Identifying at least two egress routes out of the local communities, as well as out of the main Upper Bridge River Valley are critical components for a safe and efficient evacuation. Support should be provided to local fire services personnel and/or local first responders to carry out pre-wildfire season evacuation route inspections of all identified roads, to ensure the routes will be functional during the wildfire season. Evacuation routes and procedures should also be developed for non-wildfire season periods when egress routes may be compromised due to weather or other natural events.

An emergency communication protocol should be developed with the communities and included in each specific ERP. Because of the diverse communication systems and infrastructure within the communities, it is important to understand the existing systems, as well as the limitations, and what the communities are currently using for means of communication during emergency situations. For example, the Yalakom Valley uses handheld radios and a wifi messenger app to communicate between residents because there is no landline or cellular phone service in the area. It was identified that a communication liaison within each community should be delegated and have this information documented in the ERP. The communication liaison provides a critical link between neighbourhood residents and emergency response organizations.

Emergency response plans should be reviewed prior to the wildfire season every 1-2 years with residents in the community and other emergency response organizations, and updates completed if necessary. In areas where several ERP's maps overlap (Seton Portage, Tsal'alh and BC Hydro), it is recommended that a collaborate review session be held annually with residents of all surrounding communities so there is a common understanding provided around the various roles and responsibilities of each organization during a wildfire event. In addition to updating the content in the ERP document, it is also important to evaluate and test the information and processes using pre-designed emergency exercises, such as workshops, tabletop exercises, or functional exercises which can help test specific components of the response plan. Identifying gaps and providing additional training to responders and residents will help reduce confusion and fear during a real-life event.

The participants at the CFRC meetings felt that improvements could be made in communications between the SLRD and the adjacent Thompson-Nicola Regional District during wildfire events. Residents

who live near the border of these two regional districts noted that there was some confusion around evacuation alerts and information about wildfires. In order to improve communication and collaboration between SLRD and TNRD, it's recommended that the two regional districts meet at least once per year to discuss emergency response, with the goal of reducing conflicting information and confusion, and improving evacuation processes.

Backup power system requirements for all critical infrastructure in Area B should be evaluated and implemented. All residents in Area B that have private water and sewer systems may have privately owned backup systems. Having a secondary backup electrical source will ensure that critical services are able to continue functioning even if the main electrical power sources have been compromised by an emergency event. SLRD should engage with any of the local businesses that have been identified as providing an essential service during an emergency to encourage them to explore the requirements and installation of a back-up system for their infrastructure. Having operational services is important if a shelter in place event is ever required for the community.

A recommendation was made during the community engagement sessions to purchase additional mobile fire response units (both fire suppression equipment units and SPU trailers) and situate them in strategic areas within the WUI areas. These mobile units would greatly improve first responders response time, and the ability to strategically and rapidly deploy suppression equipment as required. Equipment training, mobilization and setup training would be required. The locations of where the mobile units would be situated would be included in a Community Structure Protection Plan, which would then be shared with BCWS and other emergency responders. This would ensure the coordinated deployment of SPU units between local responders and BC Wildfire if required. This plan would also include details about current water storage capacity, such as the storage tanks currently located in Seton Portage or other existing water sources or storage facilities that may exist for suppression use . The Community Structure Protection Plan would provide local situational awareness information for emergency responders with limited understanding of the area, geography and local conditions.

Section 5.7 Emergency Planning						
Action Item	**Recommended Activity**	**Description**	**Timing**	**Priority**	**Responsibility**	**Output**
26	Update community Emergency Response Plans. Ensure each plan is specific to each community's needs and requirements. Increase the frequency of reviewing the plan with the community to annually or to a maximum of every two years.	To provide ongoing or updated emergency preparedness information to community members for emergency events.	Short Term (Within 1 year)	High	SLRD Emergency Program	Hold one meeting annually with each specific community to review and update the ERP. Integrate details from the draft 2022 Yalakom ERP into the SLRD Yalakom ERP.
27	Develop a comprehensive communication protocol for emergency events specific to each community's needs and communication infrastructure requirements.	To improve effective communication during emergency events.	Short Term (Within 1 year)	High	SLRD Communities SLRD Emergency Program	Communication Protocol
28	Support and	This will improve	Mid	High	SLRD	Identification of

	encourage the development of communication liaisons – residents who can be a point of contact for a neighbourhood or community.	the flow of communications during wildfires between emergency response organizations and communities in remote areas that have limited cell service and internet access.	Term		Emergency Program	one communication liaison per community.
29	Facilitate an annual ERP review and update session with BCH Generation and Transmission, Tsal'alh and Seton Portage to coordinate emergency preparedness and response between all organizations.	To ensure that communities and organizations are aware and briefed on all applicable ERP's in the area.	Short Term (Within 1 year)	High	SLRD Emergency Program	SLRD facilitated meeting between BCH, Tsal'alh and Seton Portage residents
30	Engage with the Thompson-Nicola Regional District to improve communications and emergency response for communities that cross electoral area administrative boundaries.	To improve communication and emergency response between SLRD and TNRD which will reduce conflicting information, confusion and improve evacuation processes.	Short Term	Moderate	SLRD Emergency Program	Complete 1 meeting between emergency program staff at TNRD and SLRD.
31	Provide support to local fire services personnel to carry out pre-wildfire season evacuation route inspections of all evacuation routes identified in the ERP.	To ensure that all identified evacuation routes are passable during an emergency event. This will involve coordination with other agencies responsible for the upkeep and maintenance of these routes if repairs are required.	Short Term (Within 1 year)	High	SLRD Emergency Program Tsal'alh Fire Department	Identify costs and secure funding to support and complete pre-wildfire season inspections
32	Develop and conduct various tabletop evacuation scenarios with SLRD communities.	That an all-hazard planning approach is taken to ensure that residents are functionally prepared for all types of	Mid Term (1-3 years)	Moderate to High	SLRD Emergency Program	Complete one tabletop evacuation scenario with the SLRD Area B communities by 2024-2025.

		emergency events and situations.				
33	Install backup power systems/generators for all SLRD critical infrastructure assets.	To ensure that critical services can continue to function even if the electrical grid system is compromised by a wildfire or other event.	Mid Term (1-3 years)	High	SLRD Planning/ SLRD Emergency Program	Secure funding
34	Engage with and encourage SLRD Area B businesses and/or other organizations that own infrastructure which has been identified as providing critical services during an emergency to also invest in backup power generators.	Backup power will provide business continuity during an emergency event even if the electrical system has been compromised. This is of particular importance during a shelter in place event due to the remote location of the communities.	Short Term (Within 1 year)	Moderate	SLRD FireSmart Coordinator SLRD Emergency Program	Hold one meeting with SLRD Area B businesses in 2023-2024.
35	Complete a Community Structure Protection Plan for each community and share with BCWS to facilitate rapid and coordinated deployment of SPU and fire suppression equipment units during a wildfire emergency.	The Community Structure Protection Plan will play a crucial pre-organizational role for wildfire preparedness by ensuring that adequate SPU and fire suppression resources are identified, are available and strategic placements determined prior to a wildfire event. This would also include the locations and capacity of water storage units.	Short Term (within 1 year)	High	SLRD Regional Fire Chief	Completed Report
36	Initiate the purchase of mobile fire suppression and structure protection units and situate them in strategic locations in WUI areas that are not currently covered under fire protection	These units would be included in the community Structure Protection Plan for the communities and provide additional first response suppression	Mid Term (1-3 years)	High	SLRD Emergency Program	Secure funding through CRI

	services.	equipment available for use by local responders during a wildfire event.				

5.8 Cross-Training

(Cross-training | FireSmart BC)

Cross training focuses on sharing the necessary knowledge needed to address structural and wildland fires. Courses focus on equipment, practical skills, fire behaviour, communications and various other firefighting techniques. FireSmart cross training enables specialized firefighters from one discipline to gain the basic skills of the other discipline. In order to improve response capabilities and increase community safety, cross-training can occur between structural firefighters, wildland firefighters, SLRD staff, First Nations administrations, and other key players in wildfire response. Cross training fosters better communication between jurisdictions and provides necessary skills to others that may be involved in emergency response, but who may not typically work in a wildfire or structural firefighting environment. Providing support and training for interested individuals in the communities to increase their knowledge around both the Emergency Operations Center (EOC) and Incident Command System (ICS) is also recommended. These are the standardized systems that are used during emergencies by emergency response organizations and providing training would greatly enhance the understanding and communication between residents and responding agencies.

Due to the isolated location of some of the Area B communities including Seton Portage and the Yalakom Valley, emergency response from outside agencies can sometimes take more than an hour to arrive on site. When a wildfire occurs in the Electoral Area B, local residents come together out of necessity as a collective to respond to a fire, often well before BCWS is able to arrive on site. This underscores the need for enhanced cross-training for residents and community organizations who are the default first responders in Area B. A key recommendation that was highlighted during the CFRC meetings was to identify funding to support and deliver basic wildfire response training for all current and interested first responders, including local individuals and community organizations regardless of whether they have formally organized into a fire brigade or department. Funding should include delivering a variety of courses, including basic wildfire suppression, safety training, equipment use, fire behaviour and structural firefighting modules. This training will help build community capacity and their ability to provide safe and efficient first response activities in the event of a fire. The following course outline is an example of a basic wildland fire suppression training program that has been delivered in other communities:

- Basic Power Saw Safety, Based on BC Forest Safety Council
- FireSmart Community Champion
- Grp S Structure Protection Group Supervisor
- Home Partners Program
- ICS 100 Incident Command System
- Local FireSmart Representative training
- S 100 Basic Fire Suppression & Safety Day 1 + 2
- S 185 Fire Entrapment Avoidance & Safety
- S 211 The Fire Environment for Fire Fighters & Dispatchers
- S 211 The Fire Environment for Fire Fighters & Dispatchers
- S 212 Fire Line Communications,
- S 213 Use of Bulldozers
- S 230 Introduction to Supervision (Crew Boss)
- S 231 Engine Boss
- S 235 Burn Off and Backfiring
- S 290 Principles of Fire Behaviour

- Task Force Leader
- Wildfire Risk Reduction Basics
- WSPP-115 Structure Protection Unit Crews and WSPP-FF1 Train the Trainer

Section 5.8 Cross Training						
Action Item	**Recommended Activity**	**Description**	**Timing**	**Priority**	**Responsibility**	**Output**
37	Fund, support and provide additional emergency response training and education, including basic EOC and ICS training for local first responders, neighbourhood champions and interested community members.	To increase community awareness and knowledge about the standardized Incident Command Systems that are used during emergencies.	Short Term (Within 1 year)	Moderate	SLRD Emergency Program	Fund and coordinate training sessions.
38	Fund and coordinate training for local community fire services personnel, first responders and interested community members to practise and improve on basic fire suppression techniques and tactics including joint training sessions with BCWS.	Due to the remoteness of some of the communities and lengthy response times, it is imperative to have locally trained first responders to provide initial fire suppression response safely and effectively for interface fires.	Short Term (Within 1 year)	High	SLRD Regional Fire Chief in conjunction with BCWS and/or other qualified training facilitators Local Fire Departments / Brigades	Fund and assist coordination of training sessions

5.9 Vegetation Management and Forest Fuel Reduction

(Vegetation Management | FireSmart BC)

The impacts of an extreme wildfire on a community can be mitigated through the implementation of vegetation management and forest fuel reduction at multiple scales. Vegetation management and fuel reduction strategies should be designed and implemented within each of the following zones – the Structure Ignition Zone (0-100 m from structure) and the Wildland Urban Interface Zone (100-1000 m from structures). Completing comprehensive fuel reduction or modification treatments in these zones will greatly enhance wildfire resiliency in and around communities. A general strategy is to complete vegetation management near homes and structures first and then move outwards into the WUI zone. The more aggressive vegetation reduction should occur within 30 metres of the home. The objectives of

vegetation management within these zones will vary based on site-specific factors such as topography, vegetation or fuel type, proximity to structures, and ecosystem values.

The Structure Ignition Zone (SIZ) includes proposed activities that are 0-100 m from a home or critical infrastructure. These areas are typically located on private, federal or municipal land jurisdictions, and can overlap multiple land jurisdictions. It is important to work closely and collaboratively with neighbouring landowners to achieve targeted vegetation reduction objectives in overlapping areas in this zone. Vegetation management and reduction recommendations for this zone are primarily focused on areas immediately adjacent to and surrounding structures and include tasks that property owners can undertake themselves. Recommendations for vegetation management around critical infrastructure may differ slightly then for those around homes. Critical infrastructure requirements will be assessed by a Local FireSmart Representative and tailored to each structure.

Fuel reduction in the Wildland Urban Interface (WUI) zone is typically completed in 100 metres to 1000 metres out from structures. In this zone, fuel reduction and vegetation management planning is often done at the landscape level, with an objective of reducing forest fuels to a level that will lower the probability of an extreme or “mega” fire threatening communities. Fuel reduction planning in this zone incorporates natural landscape features such as roads, water bodies or other natural non-combustible or fuel-free areas as tactical fire suppression anchor points in the design of proposed treatment areas. Vegetation reduction strategies in these areas can be accomplished through a number of techniques including hand treatments, mechanical fuel reduction techniques such as timber harvesting or commercial thinning, alternative silviculture practices such as realigning cut block boundaries, reduction of stocking standards in key areas, widening roads right-of-ways, or through the use of prescribed fire.

Fuel breaks can also be considered for areas outside of the 1 km WUI zone. These landscape-level fuel breaks would be designed to interrupt the movement of large, landscape-level wildfires and provide an opportunity for direct fire suppression efforts on a larger scale.

Section 5.9 Vegetation Management						
Action Item	**Recommended Activity**	**Description**	**Timing**	**Priority**	**Responsibility**	**Output**
39	Create a vegetation disposal site near the Pavilion Lake and Seton Portage communities. These need to be tenured sites for debris disposal.	Illegal dumping of vegetative debris will become less common. This will provide alternatives to burning on private properties where there are small lots adjacent to wildland areas (Pavilion Lake).	Mid Term (1-3 years)	Moderate	SLRD Emergency Program & Environmental Services Department	Identify and designate appropriate disposal sites for each community.
40	Fund and coordinate a seasonal roadside chipping program for residents.	Participants would bring vegetative debris to the roadside for chipping by an arborist company and provide alternative options for debris disposal for local residents. This would further encourage residents to	Short Term (Within 1 year)	Moderate	SLRD Emergency Program SLRD FireSmart Coordinator	Secure funding and contractors

		complete vegetation reduction in and around their properties.				
41	Advocate to the UBCM for funds that provide free vegetation removal programs for residents located on high-risk properties.	Homeowners will be able to reduce their wildfire risk regardless of financial status, physical ability, remoteness, and other barriers.	Mid Term (1-3 years)	High	SLRD Emergency Program	Restore similar activities that were included in the past CRI Stream 3 program.
42	Develop an annual vegetation management program to ensure that vegetation around all identified SLRD critical infrastructure (particularly in Zone 1) is kept maintained throughout the wildfire season. Areas around other public buildings should also be considered for inclusion.	This will reduce the possibility of a wildfire impacting critical infrastructure. A maintenance plan will outline the frequency and type of vegetation maintenance needed such as weed whacking, pruning, or watering. Implementation could be achieved through existing or new staff, including summer students or in conjunction with other organizations programming.	Short Term (Within 1 year)	High	SLRD Emergency Program	Maintenance plan development
43	That the SLRD work with WRR program staff to complete fuel reduction treatments (forest fuel reduction and prescribed burning) for the proposed treatment areas identified in the SLRD Area B WUI areas.	Reduction of high hazard fuels/vegetation adjacent to the communities.	Short Term (Within 1 year)	High	Cascades Natural Resource District WRR staff.	Identify priority areas and secure treatment funding.
44	Explore and assess opportunities for designing landscape-level fuel breaks outside of the 1 km WUI.	To identify opportunities to further reduce high hazard fuels.	Mid Term (1-3 years)	Moderate	SLRD Emergency Program Ministry of Forests WRR Program BC Wildfire Service Indigenous communities and organizations Forest licensees	Topic included on the meeting agenda for the Lillooet & Area Community Wildfire Roundtable.

5.9.1 Structure Ignition (SI) Zone Fuel Reduction and Vegetation Management

Vegetation management in the SI zone is completed within 100 metres of a home or structure (also called the WUI 100). In this zone, vegetation management is focused on reducing flammable plants in the first 30 m of the home (both landscaping plants and natural vegetation), clearing dry and dead materials from roofs and gutters, and disposing of the resulting vegetative debris. Work in the Structure Ignition Zone is focused on the areas closest to the home, then working outwards. The SI Zone is divided into four sub-zones to help homeowners focus and prioritize their efforts.

Non-combustible Zone (0 – 1.5 m from structures). This zone focuses on reducing the risk of windblown embers igniting materials on or near the structure. It is essential that all combustible items and vegetation are removed from this zone. Property owners should create a 1.5-meter-wide zone of concrete, gravel, dirt or short lawn immediately next to the structure, keep roofs and gutters clean, and avoid storing combustible items on or under decks (for example; firewood, tires, recycling, and furniture).

Figure 13: Structure Ignition Zone

Zone 1 (1.5 – 10 metres from structure): All coniferous trees and high flammability shrubs should be removed from this zone. Grasses should be regularly mowed and any dead vegetation removed. Deciduous tree may be planted if tree cover is desired. The following plants are examples of high-flammability plants that should be removed:

- Douglas-fir
- Ponderosa pine
- Cedar hedges
- Juniper
- Spruce
- Long, dry grasses, including decorative grasses

Zone 2 (10 – 30 metres from structure): Lawn, grasslands and fields should be regularly mowed in this zone. If there are conifer trees in this zone, select trees should be removed to ensure that there is 3 metres of space between the branches of each tree. Branches from the lower 2 metres of the trunks should be removed. Trees can be pruned up to 5 metres as long as no more than 30% of the live branches are removed. Dead wood, twigs and needles should be removed.

Zone 3 (30 – 100 m from structure). Work in this zone helps reduce the intensity of wildfires that are approaching from a distance. Property owners should selectively remove trees so that there is a 3-meter gap between the crowns of each tree. Lower branches of conifer trees should be removed from the lower 5 metres of the tree (to a maximum of 30% removal of live crown), and dead vegetation and needle buildup should be removed from the ground. Grasslands and fields in this zone should also be maintained

regularly through controlled burning, mowing, and/or irrigation to reduce fuel load and increase fuel moisture.

Reducing vegetation generates residual debris. This debris should be eliminated on site or brought to a location at least 100 metres from any home or structure. There is one designated debris disposal site for residents of Area B, which is located at the Lillooet Landfill. Due to the designated disposal site being a long distance from many homes, it has been common practice for residents to leave the debris in the home ignition zone, dump it illegally, or burn it on site. While some residents can safely burn the debris on their property, many homeowners, particularly seasonal residents, find this challenging due to small property sizes, burning restrictions, lack of experience and/or risk to their own property or surrounding properties. A possible solution to encourage increased debris disposal of away from structures is to create tenured disposal sites in select communities. Suggested communities are Pavilion Lake and Seton Portage. The debris at these sites would need to be regularly maintained through burning, chipping, composting or other means. To provide residents with additional support and education around the importance of removing debris, the SLRD could consider implementing a roadside chipping program and collaborating with BCWS or the Lillooet Fire Department to provide education to homeowners about safe burning practices or other methods such as composting.

Through past programming, the residents of Area B were introduced to the importance of vegetation removal in the Structure Ignition Zone through participation in SLRD-led FireSmart Home Ignition Zone assessments and vegetation removal programs. During the implementation of these initiatives, there was overall positive feedback received regarding the programming, although challenges such as mobility issues, aging populations, high costs to implement the recommendations, lack of debris disposal sites and access to professionals were communicated as barriers for community members to fully implement their vegetation reduction recommendations noted on their Home Ignition Zone assessments. It is recommended that the SLRD advocate to the UBCM to restore funding to implement programs similar to the CRI Stream 3 65+ program, which was extremely successful in helping address some of the barriers noted above that many residents faced.

Identified critical infrastructure in Area B should have a maintenance plan developed to ensure that vegetation in Zone 1 remains maintained or watered during the wildfire season months. This will help reduce the impacts to critical infrastructure from a wildfire.

5.9.2 Wildland Urban Interface (WUI) Zone Vegetation and Fuel Reduction

Vegetation management and fuel reduction strategies in the WUI zone are designed to alter the forest fuel conditions, that in the event of a wildfire the levels of fire behaviour, the likelihood of crown fire initiation, fire intensity and rate of spread will be reduced to a level that the wildfire will be less aggressive and destructive in areas of close proximity to communities.

Fuel reduction projects reduce the risk to the adjacent residences from severe wildfire by reducing the surface fuels (including the accumulation of dead and downed trees), removing the ladder fuels, and opening up the overstory forest canopy. Thinning/brushing and pruning treatments focus on reducing the crown closure and crown bulk density while greatly increasing the crown base height to levels that will inhibit a ground surface fire from reaching the crown, while still maintaining tree foliage for continued growth. Surface clean-up and debris disposal through piling and burning further reduces the fine fuel and excess large woody debris content throughout the treatment areas. The application of a low intensity under burn should also be considered to further reduce excess surface fuel that may remain post treatment.

Fuel reduction strategies are accomplished through tree felling, hazard tree removal, brushing, thinning, pruning, prescribed and cultural burning, along with debris disposal, and can be accomplished using hand or mechanical treatments. Treatment regimes generally include the activities listed below. Hand treatments are the generally preferred method to reduce fuels in close proximity to community as opposed to using heavy equipment. Mechanical fuel reduction treatments can include the integration of

commercial thinning and/or harvesting treatment opportunities, and generally focus on thinning the upper layers of the forest canopy, removing ladder fuels and disposing of the resulting debris.

Treatment area fieldwork and development of a Fuel Reduction Prescription

The boundaries of a proposed Treatment Unit are mapped and areas to be excluded such as cultural sites, wildlife trees, and riparian zones are identified. A Fuel Reduction Prescription is completed by a Registered Professional Forester that outlines the forest management activities to be undertaken and provides measurable objectives and targets to be achieved on a site-specific basis. Discussions with all First Nations, local governments, agencies, ministries and stakeholders potentially impacted by the proposed forest fuel reduction activities is done to solicit feedback and is incorporated into the prescription where required.

Hand Treatments

Thinning reduces the crown density and inter-tree connectivity within a stand. Brushing is done to remove identified brush and other ladder fuel from under the crown of leave trees. Dead and dying stems and vegetation are also removed with the exception of trees designated for wildlife retention. Pruning removes the lower branches of leave trees preventing a ground fire from spreading up into the crown of the tree through the severing of the continuity of ground ladder fuels to tree crowns. The resulting debris from operational treatment activities are managed through one or more of the following techniques: hand piling and burning, chipping and/or hauling, removal as posts, rails or firewood or removed off site.

Cultural Burning and Prescribed Fire

Indigenous people have used fire for thousands of years to create and maintain hunting grounds, cleansing the land of insect and disease, maintenance of wildlife habitat and to promote herb and berry production. Cultural burning practices are Indigenous-led and utilize a low intensity burn that is strategic, planned, controlled and requires comprehensive engagement and guidance from Elders and/or Fire Knowledge Holders. Since time immemorial, cultural burning practices have been carried out by Indigenous communities to enhance the health of the land and its peoples from cleaning trails, reducing fuels, maintaining ecosystem stewardship, including advancing cultural objectives for traditional diet/nutrition, medicinal and livelihood (Caverley, Cardinal Christianson, & Eustache, n.d.).

Prescribed fire is the planned and controlled application of fire to achieve desired objectives. It is an ecologically appropriate means for achieving a variety of land management objectives and has a long history in British Columbia. The regular burning of forests and grasslands plays a vital role in maintaining the health of “fire-maintained” ecosystems by encouraging the proliferation of the important native plant species while hindering the spread of invasive species, or introduction and encroachment of shrubs and tree species from other ecosystems.

Where suitable, the application of a low-intensity burn should be integrated into proposed treatments to further reduce the residual fine fuel content in treatment areas. Care must be taken to appropriately assess and design the burn to ensure that the application of fire will achieve the stated objectives and applied at the most ecologically appropriate time of year.

***Maintenance Treatments*.**

Once an area is successfully treated through the various operational activities outlined in the previous sections, it is equally important to monitor that area on a regular basis to ensure that the wildfire threat is not increasing due to juvenile stem ingrowth, windthrow and surface fuel accumulations. All activities described above can be considered as part of a maintenance program to address any increase in wildfire threat in previously treated areas.

Project Implementation.

Project implementation, monitoring, quality assurance and reporting of fuel treatment activities by experienced professionals and field technicians ensures that all work is implemented using safe work practices and completed to the standards detailed in the prescription or burn plan.

Timber Harvesting

The harvesting of mature timber is an optional treatment approach that may be considered as part of the overall fuel reduction objectives for a given area if it is operationally feasible and within a suitable forest type. If timber harvesting is considered, a qualified and experienced Professional Forester will prepare and execute a prescription specific to the treatment approach. For proposed timber harvesting within WUI areas, it is recommended that the SLRD engage with operational planners to ensure that community, environmental and wildfire risk reduction values are accounted for, including recreation, riparian, wildlife and post-harvest debris loading considerations.

At the WUI level, vegetation management and fuel reduction programs are administrated by and delivered through the Ministry of Forests Wildfire Risk Reduction (WRR) program - Cascades Natural Resource District for the SLRD Area B. Provincial WRR funding for crown land fuel mitigation projects flows to the Natural Resource Districts which select projects for implementation and distribute project funding. Through identification of treatment areas proposed in the CWRPs, the WRR program works with regional districts, Indigenous Nations, BC parks and other organizations to identify and develop projects to reduce wildfire threat on areas of crown land near communities that are of high priority for fuel treatments.

At the time of development of this CWRP, twelve (12) fuel treatment units identified in the 2016 Squamish-Lillooet Regional District's CWPP for Area B which were developed under an existing prescription through the 2018 Strategic Wildfire Prevention Initiative program remain and are immediately available for funding for operational treatment. These treatment units are listed in Table 29.

Table 29: Existing SWPI 2018 Treatment Units Under Prescription

CWRP WUI Area	TU#	Area (ha)	Local Fire Threat	Priority	Treatment Type/Objective
Pavilion Lake	PAV8A	0.8	High	High	Interface: surface, ladder and crown fuel reduction
Pavilion Lake	PAV8B	1.3	High	High	Interface: surface, ladder and crown fuel reduction
Pavilion Lake	PAV9	4.9	High	High	Interface: surface, ladder and crown fuel reduction
Pavilion Lake	PAV10	7.1	High	Moderate	Interface: surface, ladder and crown fuel reduction
Pavilion Lake	PAV11	4.5	High	Moderate	Interface: surface, ladder and crown fuel reduction
Pavilion Lake	PAV12A	7.5	High	High	Interface: surface, ladder and crown fuel reduction
Pavilion Lake	PAV12B	5.1	High	High	Interface: surface, ladder and crown fuel reduction

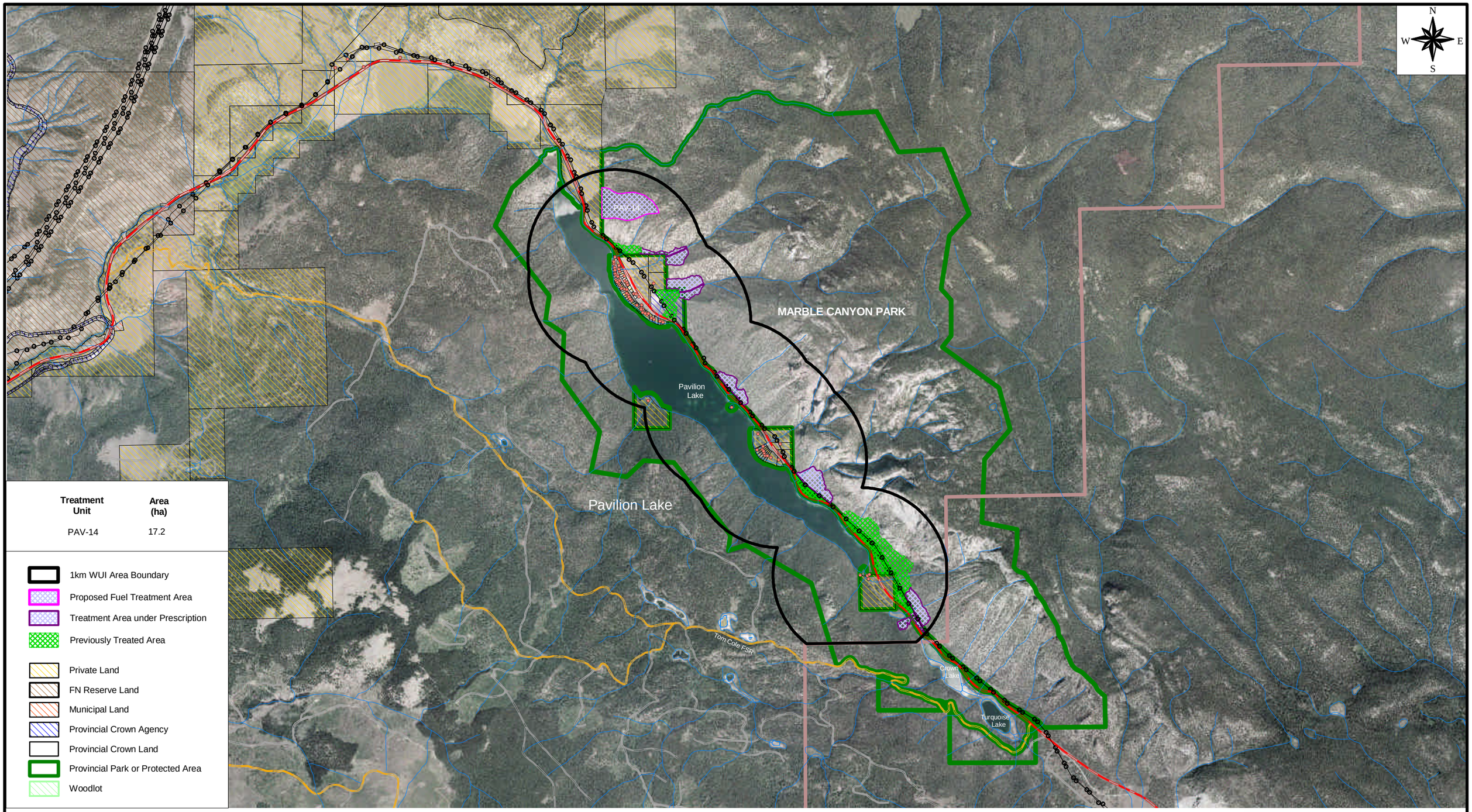
Texas Creek	TEX6A	38.9	High	High	Interface: surface, ladder and crown fuel reduction
Texas Creek	TEX7	24.5	High	High	Interface: surface, ladder and crown fuel reduction
Texas Creek	TEX8	4.0	High	Moderate	Interface: surface, ladder and crown fuel reduction
Texas Creek	TEX8A	1.5	High	High	Interface: surface, ladder and crown fuel reduction
Texas Creek	TEX9	11.7	High	High	Interface: surface, ladder and crown fuel reduction

Eighteen (18) new individual treatment units have been proposed for this Community Wildfire Resiliency Plan based on an in-depth analysis of wildfire risk factors and community values and are listed in and shown on the following table and maps. Data considered in the analysis includes Provincial Strategic Threat Analysis (PSTA) mapping, slope, aspect, wind direction, and fuel type. Fuel and wildfire threat information was verified through local area fieldwork. The location of treatment units also considers the proximity to homes and other values and linkages to previously treated areas or natural fuel breaks. Both the new treatment areas and existing SWPI2018 treatment areas under prescription are shown on the proposed treatment maps.

Table 30: CWRP Fuel Reduction Treatment Area Summary

CWRP WUI Area	TU#	Area (ha)	Local Fuel Threat	Priority	Treatment Type/Objective
Pavilion Lake	PAV14	17.2	Moderate	High	Interface: surface, ladder and crown fuel reduction
Texas Creek	TEX10	3.0	Moderate	High	Interface: surface, ladder and crown fuel reduction
Texas Creek	TEX11	20.6	Moderate-High	Moderate	Interface: surface, ladder and crown fuel reduction
Texas Creek	TEX12	1.9	Moderate	High	Interface: surface, ladder and crown fuel reduction
Yalakom Valley	YAL1	5.2	High	High	Interface: surface, ladder and crown fuel reduction
Yalakom Valley	YAL2	14.1	Moderate	High	Interface: surface, ladder and crown fuel reduction
Yalakom Valley	YAL3	15.1	Moderate	Moderate	Interface: surface, ladder and crown fuel reduction
Yalakom Valley	YAL4	36.4	Moderate-High	High	Interface: surface, ladder and crown fuel

					reduction
Yalakom Valley	YAL5A	9.2	High	Moderate	Interface: surface, ladder and crown fuel reduction
Yalakom Valley	YAL5B	5.0	High	Moderate	Interface: surface, ladder and crown fuel reduction
Fountain Valley (North) Frantzen Road	FV6A	20.4	High	High	Interface: surface, ladder and crown fuel reduction
Fountain Valley (North) Frantzen Road	FV8A	44.0	Moderate	Moderate	Interface: surface, ladder and crown fuel reduction
Fountain Valley (North) Frantzen Road	FV10A	16.4	Moderate	High	Interface: surface, ladder and crown fuel reduction
Fountain Valley (North) Frantzen Road	FV10B	3.6	Moderate	High	Interface: surface, ladder and crown fuel reduction
Fountain Valley (North) Frantzen Road	FV27	13.8	High	Moderate	Interface: surface, ladder and crown fuel reduction
Fountain Valley (North) Frantzen Road	FV27A	1.7	Low	Low	Interface: surface, ladder and crown fuel reduction
Fountain Valley Fountain Lake	FV18A	17.3	High	High	Interface: surface, ladder and crown fuel reduction
Fountain Valley (South) Kirby Flats	FV25	22.0	Moderate-High	Moderate	Interface: surface, ladder and crown fuel reduction



Treatment Unit	Area (ha)
PAV-14	17.2

- 1km WUI Area Boundary
- Proposed Fuel Treatment Area
- Treatment Area under Prescription
- Previously Treated Area
- Private Land
- FN Reserve Land
- Municipal Land
- Provincial Crown Agency
- Provincial Crown Land
- Provincial Park or Protected Area
- Woodlot

- Structure
- Primary Roads
- Secondary Roads
- Forest Service Road
- BC Hydro Transmission Line
- Streams

PROPOSED FUEL TREATMENT UNITS

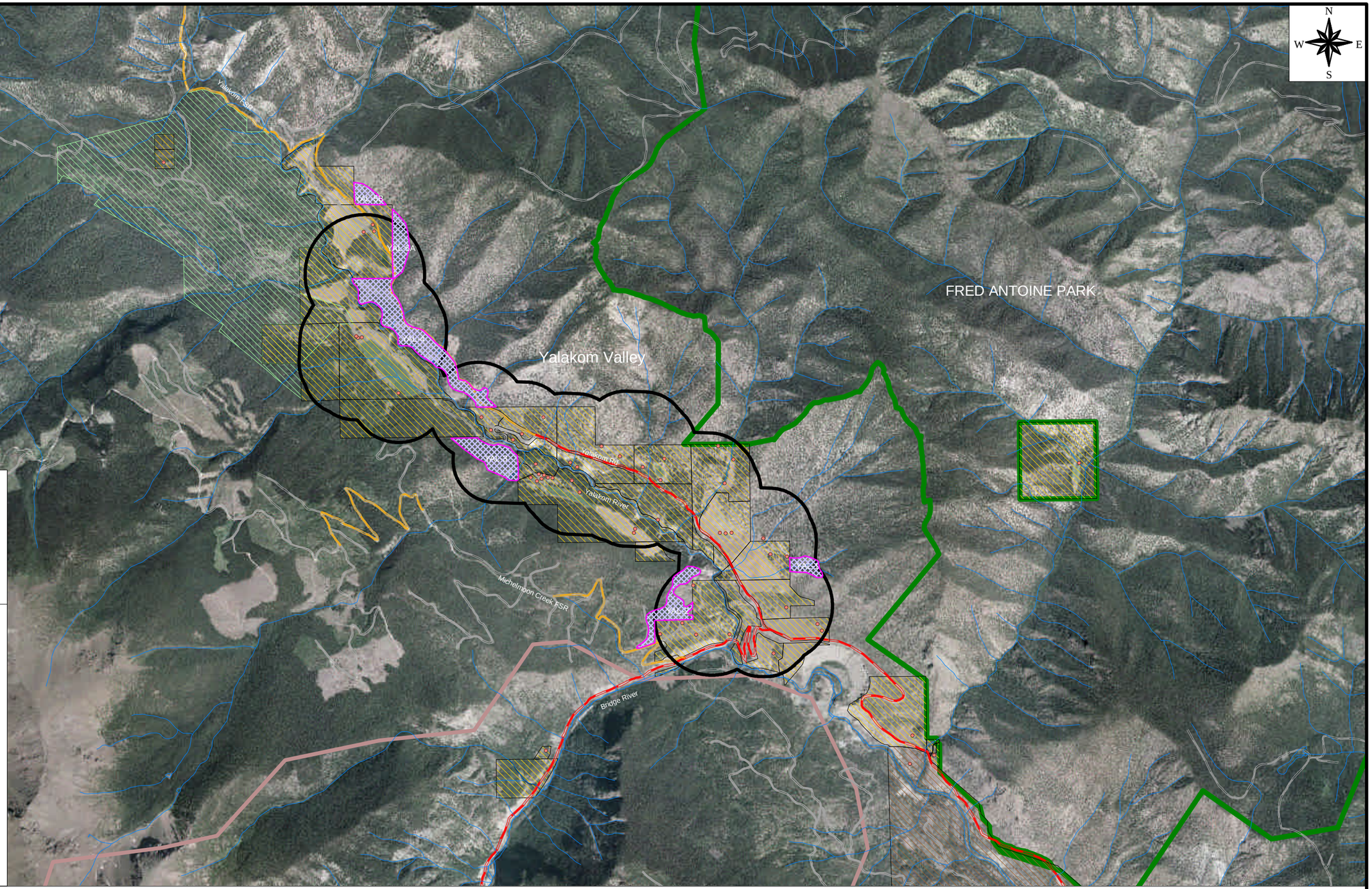
Squamish-Lillooet Regional District - Electoral Area B CWRP
Pavilion Lake

1:40,000

0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 **Kilometers**

Mapping Project: SLRD Area B_CWRP
Datum: NAD83
Map Projection: NAD83 UTM Zone 10
Drawn By: E.Senger
Production Date: March 13, 2023

Landscope Consulting Corporation



Treatment Unit	Area (ha)
YAL-1	5.2
YAL-2	14.1
YAL-3	15.1
YAL-4	36.4
YAL-5A	9.2
YAL-5B	5.0

- 1km WUI Area Boundary
- Proposed Fuel Treatment Area
- Treatment Area under Prescription
- Previously Treated Area
- Private Land
- FN Reserve Land
- Municipal Land
- Provincial Crown Agency
- Provincial Crown Land
- Provincial Park or Protected Area
- Woodlot
- Structure
- Primary Roads
- Secondary Roads
- Forest Service Road
- BC Hydro Transmission Line
- Streams

PROPOSED FUEL TREATMENT UNITS

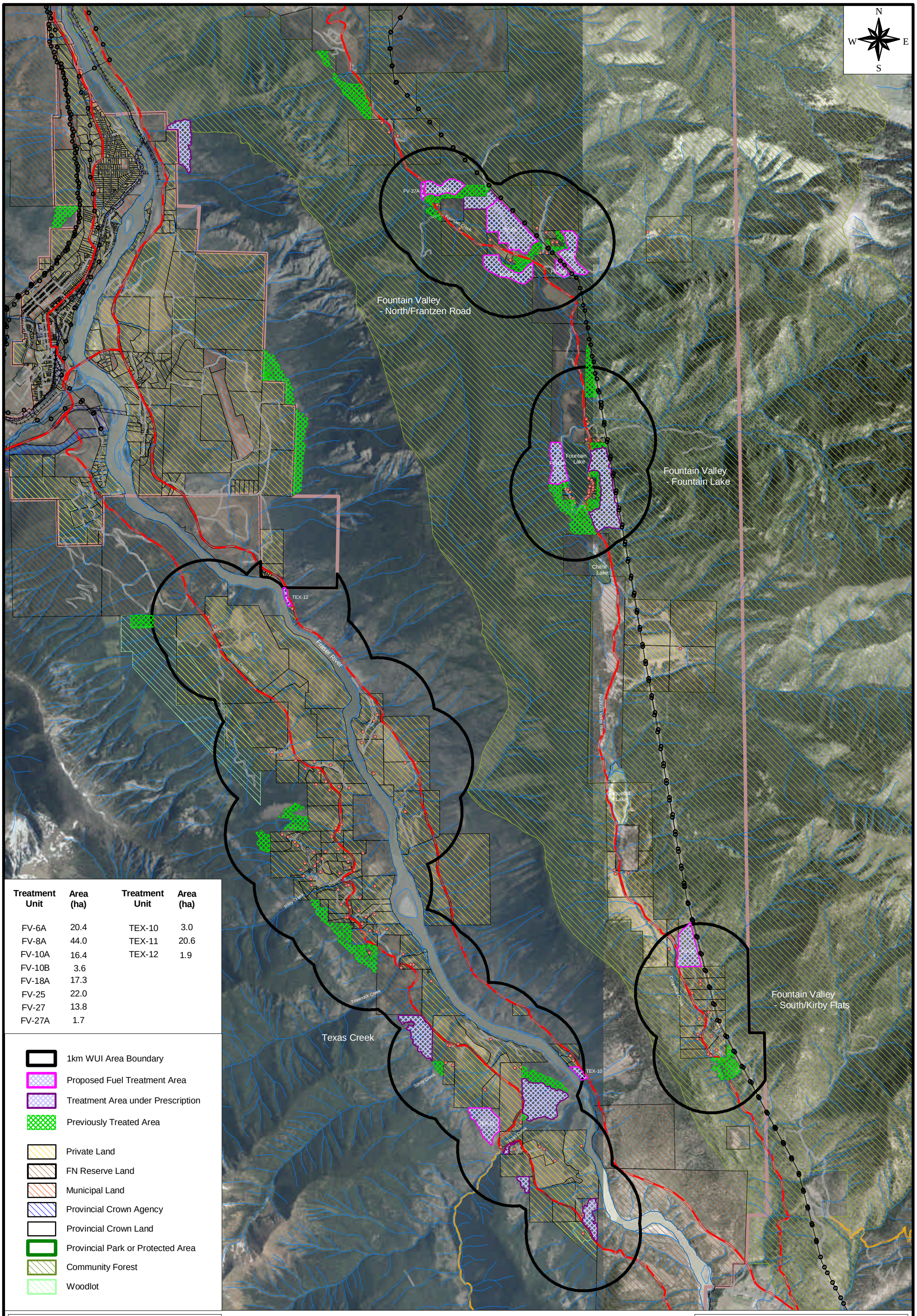
Squamish-Lillooet Regional District - Electoral Area B CWRP
Yalakom Valley

1:40,000

0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 Kilometers

Mapping Project: SLRD Area B_CWRP
Datum: NAD83
Map Projection: NAD83 UTM Zone 10
Drawn By: E.Senger
Production Date: March 13, 2023

Landscope Consulting Corporation



Treatment Unit	Area (ha)	Treatment Unit	Area (ha)
FV-6A	20.4	TEX-10	3.0
FV-8A	44.0	TEX-11	20.6
FV-10A	16.4	TEX-12	1.9
FV-10B	3.6		
FV-18A	17.3		
FV-25	22.0		
FV-27	13.8		
FV-27A	1.7		

- 1km WUI Area Boundary
- Proposed Fuel Treatment Area
- Treatment Area under Prescription
- Previously Treated Area
- Private Land
- FN Reserve Land
- Municipal Land
- Provincial Crown Agency
- Provincial Crown Land
- Provincial Park or Protected Area
- Community Forest
- Woodlot

- Structure
- Primary Roads
- Secondary Roads
- Forest Service Road
- BC Hydro Transmission Line
- Streams

PROPOSED FUEL TREATMENT UNITS

Squamish-Lillooet Regional District - Electoral Area B CWRP
Fountain Valley & Texas Creek

1:60,000

0.5 0 0.5 1 1.5 2 2.5 Kilometers

Mapping Project: SLRD Area B_CWRP
Datum: NAD83
Map Projection: NAD83 UTM Zone 10
Drawn By: E.Senger
Production Date: March 13, 2023

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SECTION 6: Plan Monitoring and Updates

Scheduling regular monitoring, reviewing and updating of the CWRP ensures that the plan does more than “sit on a shelf”. Communities should set a schedule that ideally includes a minimum annual review of the CWRP action plan and a five-year comprehensive review of the entire plan. During the annual review, consider whether any significant changes have occurred, such as the adoption of a new planning process that could affect CWRP implementation. In addition, columns can be added to the action table that annually note whether actions have been completed, if they are in progress, and any changes to priority levels. The five-year comprehensive review should cover the entire plan and consider how risk has changed based on any recent wildfires occurring, vegetation management work completed, significant changes to the urban environment due to growth and development, government legislation or program funding changes, or other factors that would influence the overall success of the plan.

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Appendices

Appendix 1: Public Engagement

The following engagement sessions were completed during the CWRP development:

June 11, 2021 via Zoom – 18 participants. Joint CFRC with Area A & B.

July 8, 2021 via Zoom – 7 participants. Joint CFRC with Area A & B.

October 14, 2021 via Zoom – 12 participants. Joint CFRC with Area A & B.

February 24, 2022 via Zoom – 14 participants. Joint CFRC with Area A & B.

August 11, 2022; Xwisten Band Office – 1 participant. Subcommittee for Xwisten, Yalakom and West Pavilion areas.

August 12, 2022; Lil'tem' Mountain Hotel – 8 participants. Subcommittee for Seton Portage and Tsal'alh.

August 22, 2022; Tsk'way'laxw Band Office – 10 participants. Subcommittee for Pavilion Lake, Fountain and Tsk'way'laxw areas.

August 23, 2022; Lillooet REC Centre – 6 participants. Subcommittee for Texas Creek Road, Sekw'el'was and T'it'q'et areas.

June 27, 2022 and November 24, 2022 – Lillooet and Area Community Wildfire Roundtable

Community FireSmart and Resiliency Committee Participants (including CFRC subcommittee and Lillooet and Area Community Wildfire Roundtable).

Name	Organization	Role (if known)
Alan Leung	First Nations Health Authority	Public Health Officer
Alycia Fennings	Cascades Natural Resource District	Land and Resource Specialist
Andrew Snetsinger	Cascades Natural Resource District	
Anishia LeBourdais	Xaxli'p Community Forest Corporation	Forestry Assistant
Arlen Ferguson	T'sk'way'laxw	Emergency Operations, IT Systems
Barbe Wiebe	District of Lillooet	Councillor
Brandi Galliazzo	District of Lillooet	Manager of Public Works
Brett Squirrell	Coldstream Nature-Based Solutions	Research Biologist
Cheryl Rogers	Canadian Disaster Animal Response Team	MST Coordinator
Chris Walder	Cascades Natural Resource District	
Cliff Casper	Tsal'alh	
Darren Oike	District of Lillooet	Fire Chief
Darrick Andrew	First Nations Emergency Services Society	Mitigation Liaison

Darryl Adrian	Lillooet Tribal Council	Emergency Management Coordinator
Darwyn John	St'at'imc Government Services	
Deborah van der Horst	Lillooet	resident
Delaney Adolph	Sekw'el'was	
Denise Bob	Sekw'el'was	Emergency Program Coordinator
Ellen Reyes	St'at'imc Government Services	Environmental Manager
Geoff Playfair	Gun Creek + Texas Creek neighbourhoods	resident
Gerald Michel	Xwisten	
Jacquie Rasmussen	Squamish-Lillooet Regional District	Alternate Director, Area B
Janna Pike	Lillooet Agriculture and Food Society	
Jason Jacob	Xaxli'p	
Jennifer Leach	District of Lillooet	Councillor
Jennifer Young	BC Wildfire Service	Senior Wildfire Officer Prevention
Justin Rommel	BC Wildfire Service	Wildfire Technician
Justin Waito	BC Wildfire Service	Wildfire Prevention Officer
Karen Mitchell	Xaxli'p Community Forest Corporation	XCFC Administrator
Leo Porter	Sekw'el'was	Director of Operations
Lia Wilson	Xaxli'p	Emergency Coordinator
Martin Ponsioen	Cascades Natural Resource District	Senior Advisor
Michael Aldred	BC Wildfire Service	Wildfire Prevention Officer
Michael Heimann	Lillooet	resident
Myrus Doss	T'it'q'et	
Nicole Bonnett	BC Wildfire Service	Wildfire Technician - Prevention
Nora Billy	St'at'imc Government Services	
Quinton Nelson	First Nations Emergency Services Society	Mitigation Manager
Robin Andruss	Yalakom neighborhood	resident
Ryan de Visser	Cascades Natural Resource District	Stewardship Forester
Susan Napoleon	T'it'q'et	Emergency Operations Director
Travis Peters	Xwisten	Lands Manager
Vella Dan	Xaxli'p	
Verne Rasmussen	BC Wildfire Service	Wildfire Officer
Vivian Birch-Jones	Squamish-Lillooet Regional District	Director, Area B
Yvonne Michel	Xwisten	FireSmart Coordinator

Appendix 2: Canadian Forest Fire Behavior Prediction (FBP) – Fuel Type Descriptions

C1 - Spruce–Lichen Woodland

This fuel type is characterized by open, parklike black spruce (***Picea mariana*** (Mill.) B.S.P.) stands occupying well-drained uplands in the subarctic zone of western and northern Canada. Jack pine (***Pinus banksiana*** Lamb.) and white birch (***Betula papyrifera*** Marsh.) are minor associates in the overstory. Forest cover occurs as widely spaced individuals and dense clumps. Tree heights vary considerably, but bole branches (live and dead) uniformly extend to the forest floor and layering development is extensive. Accumulation of woody surface fuel is very light and scattered. Shrub cover is exceedingly sparse. The ground surface is fully exposed to the sun and covered by a nearly continuous mat of reindeer lichens (***Cladonia*** spp.), averaging 3-4 cm in depth above mineral soil.

C2 - Boreal Spruce

This fuel type is characterized by pure, moderately well-stocked black spruce (***Picea mariana*** (Mill.) B.S.P.) stands on lowland (excluding ***Sphagnum*** bogs) and upland sites. Tree crowns extend to or near the ground, and dead branches are typically draped with bearded lichens (***Usnea*** spp.). The flaky nature of the bark on the lower portion of stem boles is pronounced. Low to moderate volumes of down woody material are present. Labrador tea (***Ledum groenlandicum*** Oeder) is often the major shrub component. The forest floor is dominated by a carpet of feather mosses and/or ground-dwelling lichens (chiefly ***Cladonia***). ***Sphagnum*** mosses may occasionally be present, but they are of little hindrance to surface fire spread. A compacted organic layer commonly exceeds a depth of 20–30 cm.

C3 - Mature Jack or Lodgepole Pine

This fuel type is characterized by pure, fully stocked (1000–2000 stems/ha) jack pine (***Pinus banksiana*** Lamb.) or lodgepole pine (***Pinus contorta*** Dougl. ex Loud.) stands that have matured at least to the stage of http://www.ifsasikisizle.site/complete crown closure. The base of live crown is well above the ground. Dead surface fuels are light and scattered. Ground cover is feather moss (***Pleurozium schreberi***) over a moderately deep (approximately 10 cm), compacted organic layer. A sparse conifer understory may be present.

C4 - Immature Jack or Lodgepole Pine

This fuel type is characterized by pure, dense jack pine (***Pinus banksiana*** Lamb.) or lodgepole pine (***Pinus contorta*** Dougl. ex Loud.) stands (10,000–30,000 stems/ha) in which natural thinning mortality results in a large quantity of standing dead stems and dead downed woody fuel. Vertical and horizontal fuel continuity is characteristic of this fuel type. Surface fuel loadings are greater than in fuel type C3, and organic layers are shallower and less compact. Ground cover is mainly needle litter suspended within a low shrub layer (***Vaccinium*** spp.).

C5 - Red and White Pine

This fuel type is characterized by mature stands of red pine (***Pinus resinosa*** Ait.) and eastern white pine (***Pinus strobus*** L.) in various proportions, sometimes with small components of white spruce (***Picea glauca*** (Moench) Voss) and old white birch (***Betula papyrifera*** Marsh.) or aspen (***Populus*** spp.). The understory is of moderate density, usually red maple (***Acer rubrum*** L.) or balsam fir (***Abies balsamea*** (L.) Mill.). A shrub layer, usually beaked hazel (***Corylus cornuta*** Marsh.), may be present in moderate proportions. The ground surface cover is a combination of herbs and pine litter. The organic layer is usually 5–10 cm deep.

C6 - Conifer Plantation

This fuel type is characterized by pure, fully stocked conifer plantations with closed crowns and no understory or shrub layer. The forest floor is covered by needle litter with an underlying duff layer up to 10 cm deep. The crown base height is taken into account in predicting fire spread rate and crowning.

C7 - Ponderosa Pine–Douglas-Fir

This fuel type is characterized by uneven-aged stands of ponderosa pine (***Pinus ponderosa*** Laws.) and Douglas-fir (***Pseudotsuga menziesii*** (Mirb.) Franco) in various proportions. Western larch (***Larix occidentalis*** Nutt.) and lodgepole pine (***Pinus contorta*** Dougl. ex Loud.) may be significant stand components on some sites and at some elevations. Stands are open, with occasional clumpy thickets of multi-aged Douglas-fir and/or larch as a discontinuous understory. Canopy closure is less than 50% overall, although thickets are closed and often dense. Woody surface fuel accumulations are light and scattered. Except within Douglas-fir thickets, the forest floor is dominated by perennial grasses, herbs, and scattered shrubs. Within tree thickets, needle litter is the predominant surface fuel. Duff layers are nonexistent to shallow (<3 cm).

O1 - Grass

This fuel type is characterized by continuous grass cover, with no more than occasional trees or shrub clumps that do not appreciably affect fire behavior. Two subtype designations are available for grasslands; one for the matted grass condition common after snowmelt or in the spring (O1-a) and the other for standing dead grass common in late summer to early fall (O1-b). The proportion of cured or dead material in grasslands has a pronounced effect on fire spread there and must be estimated with care.

D1 - Leafless Aspen

This fuel type is characterized by pure, semimature trembling aspen (***Populus tremuloides*** Michx.) stands before bud break in the spring or following leaf fall and curing of the lesser vegetation in the autumn. A conifer understory is noticeably absent, but a well-developed medium to tall shrub layer is typically present. Dead and down roundwood fuels are a minor component of the fuel complex. The principal fire-carrying surface fuel consists chiefly of deciduous leaf litter and cured herbaceous material that is directly exposed to wind and solar radiation. In the spring the duff mantle (F and H horizons) seldom contributes to the available combustion fuel because of its high moisture content.

S1 - Jack or Lodgepole Pine Slash

This fuel type is characterized by slash resulting from tractor or skidder clear-cut logging of mature jack pine (***Pinus banksiana*** Lamb.) or lodgepole pine (***Pinus contorta*** Dougl. ex Loud.) stands. The slash is typically one or two seasons old, retaining up to 50% of the foliage, particularly on branches closest to the ground. No post-logging treatment has been applied, and slash fuels are continuous. Tops and branches left on site result in moderate fuel loads and depths. Ground cover is continuous feather moss mixed with discontinuous fallen needle litter. Organic layers are moderately deep and fairly compact.

S2 - White Spruce–Balsam Slash

This fuel type is characterized by slash resulting from tractor or skidder clear-cut logging of mature to overmature stands of white spruce (***Picea glauca*** (Moench) Voss) and sub-alpine fir (***Abies lasiocarpa*** (Hook.) Nutt.) or balsam fir (***Abies balsamea*** (L.) Mill.). Slash is typically one or two seasons old, retaining from 10% to 50% of the foliage on the branches. No postlogging treatment has been applied. Fuel continuity may be broken by skid trails unless the site was logged in winter. Tops have been left on site, and most branch fuels have broken off during skidding of logs to landings, which results in moderate fuel loads and depths. Quantities of shattered large and rotten woody fuels may be significant. Ground cover is feather moss with considerable needle litter fallen from the slash. Organic layers are moderately deep and compact.

S3 - Coastal Cedar–Hemlock–Douglas-Fir Slash

This fuel type is characterized by slash resulting from high-lead clear-cut logging of mature to overmature coastal British Columbia mixed conifer stands. Predominant species are western redcedar (***Thuja plicata*** Donn.), western hemlock (***Tsuga heterophylla*** (Raf.) Sarg.), and Douglas-fir (***Pseudotsuga menziesii*** (Mirb.) Franco). Slash is typically one season old, with the cedar component retaining all its foliage in a cured condition on the branches, whereas the hemlock and Douglas-fir components will have dropped up to 50% of their foliage. Slash fuels tend to be continuous and uncompacted. Very large loadings of broken and rotten unmerchantable material may be present, depending on degree of stand decadence. Slash fuel depths may range from 0.5 to 2.0 m. Ground cover may be feather moss or just compact old needle litter under significant quantities of recent needle litter fallen from the slash. Organic layers are moderately deep to deep and compact. Minor to moderate shrub and herbaceous understory components may be present. This fuel type designation may also be applied to wet belt cedar–hemlock slash of coastal and interior British Columbia where the Douglas-fir component is absent.

M1 - Boreal Mixedwood–Leafless

This fuel type (and its "green" counterpart, M2) is characterized by stand mixtures consisting of the following coniferous and deciduous tree species in varying proportions: black spruce (***Picea mariana*** (Mill.) B.S.P.), white spruce (***Picea glauca*** (Moench) Voss), balsam fir (***Abies balsamea*** (L.) Mill.), subalpine fir (***Abies lasiocarpa*** (Hook.) Nutt.), trembling aspen (***Populus tremuloides*** Michx.), and white birch (***Betula papyrifera*** Marsh.). On any specific site, individual species can be present or absent from the mixture. In addition to the diversity in species composition, stands exhibit wide variability in structure and development, but are generally confined to moderately well-drained upland sites. M1, the first phase of seasonal variation in flammability, occurs during the spring and fall. The rate of spread is weighted according to the proportion (expressed as a percentage) of softwood and hardwood components.

M2 - Boreal Mixedwood–Green

This fuel type (and its "leafless" counterpart, M1) is characterized by stand mixtures consisting of the following coniferous and deciduous tree species in varying proportions: black spruce (***Picea mariana*** (Mill.) B.S.P.), white spruce (***Picea glauca*** (Moench) Voss), balsam fir (***Abies balsamea*** (L.) Mill.), subalpine fir (***Abies lasiocarpa*** (Hook.) Nutt.), trembling aspen (***Populus tremuloides*** Michx.), and white birch (***Betula papyrifera*** Marsh.). On any specific site, individual species can be present or absent from the mixture. In addition to the diversity in species composition, stands exhibit wide variability in structure and development, but are generally confined to moderately well-drained upland sites. M2, the second phase of seasonal variation in flammability, occurs during the summer. The rate of spread is weighted according to the proportion (expressed as a percentage) of softwood and hardwood components. In the summer, when the deciduous overstory and understory are in leaf, fire spread is greatly reduced, with maximum spread rates only one-fifth that of spring or fall fires under similar burning conditions.

M3 - Dead Balsam Fir Mixedwood–Leafless

This fuel type (and its "green" counterpart, M4) is characterized by mixedwood stands in which balsam fir (***Abies balsamea*** (L.) Mill.) grows, often as an understory species, in a heterogeneous mix with spruce (***Picea*** spp.), pine (***Pinus*** spp.), and birch (*Betula* spp.). These stands are found in the Great Lakes – St. Lawrence and Boreal Forest regions of Canada and are not to be confused with the pure balsam fir stands typical of Nova Scotia and New Brunswick. Repeated annual defoliation (due to spruce budworm (***Choristoneura fumiferana*** Clemens) attack) causes balsam fir mortality, followed by peeling bark, draped lichen (Spanish moss or old man's beard, ***Usnea*** spp.) development, top breakage, and windthrow, peaking 5–8 years after mortality. The volume of down woody material is initially low but increases substantially with progressive stand decomposition following mortality. The forest floor is a mixture of feather mosses, conifer needles, and hardwood leaves. The organic layer is moderately compacted and 8–10 cm deep. After mortality, spring fires in this fuel type behave extremely vigorously, with continuous crowning and downwind spotting.

M4 - Dead Balsam Fir Mixedwood–Green

This fuel type (and its "leafless" counterpart, M3) is characterized by mixedwood stands in which balsam fir (***Abies balsamea*** (L.) Mill.) grows, often as an understory species, in a heterogeneous mix with spruce (***Picea*** spp.), pine (***Pinus*** spp.), and birch (***Betula*** spp.). These stands are found in the Great Lakes – St. Lawrence and Boreal Forest regions of Canada and are not to be confused with the pure balsam fir stands typical of Nova Scotia and New Brunswick. Repeated annual defoliation (due to spruce budworm (***Choristoneura fumiferana*** Clemens) attack) causes balsam fir mortality, followed by peeling bark, draped lichen (Spanish moss or old man's beard, ***Usnea*** spp.) development, top breakage, and windthrow, peaking 5–8 years after mortality. The volume of down woody material is initially low but increases substantially with progressive stand decomposition following mortality. The forest floor is a mixture of feather mosses, conifer needles, and hardwood leaves. The organic layer is moderately compacted and 8–10 cm deep. Summer fires are hampered by the proliferation of green understory vegetation resulting from the opening of stand canopy. As sufficient surface fuel accumulates through stand decomposition (usually after 4–5 years), fires will spread through the fuel complex, although not as vigorously as in spring. Forest fire behaviour potential is greatest 5–8 years after mortality, decreasing gradually as the surface fuels decompose and the understory vegetation continues to proliferate.

Appendix 3: CWRP Area of Interest Maps

CWRP Map 1: Area of Interest & Values at Risk

CWRP Map 2: Local Wildfire Risk

CWRP Map 3: Proposed Fuel Treatment Units

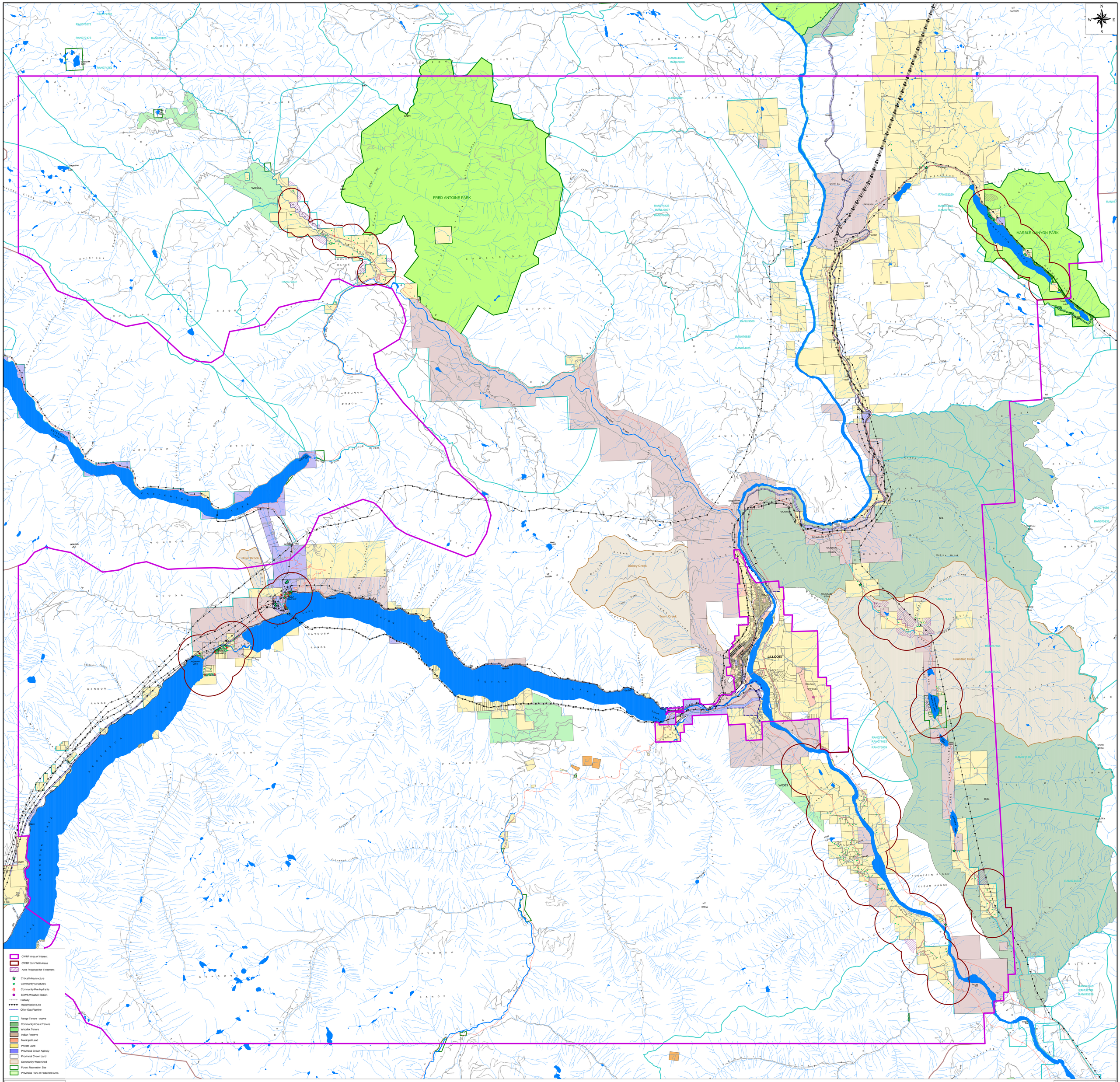
CWRP Map 4: Fuel Types

CWRP Map 5: Slope Class

CWRP Map 6: Wildfire History and Density

CWRP Map 7: Head Fire Intensity

CWRP Map 8: Spotting Impact



CWRP MAP 1: AREA OF INTEREST & VALUES AT RISK

Squamish-Lillooet Regional District

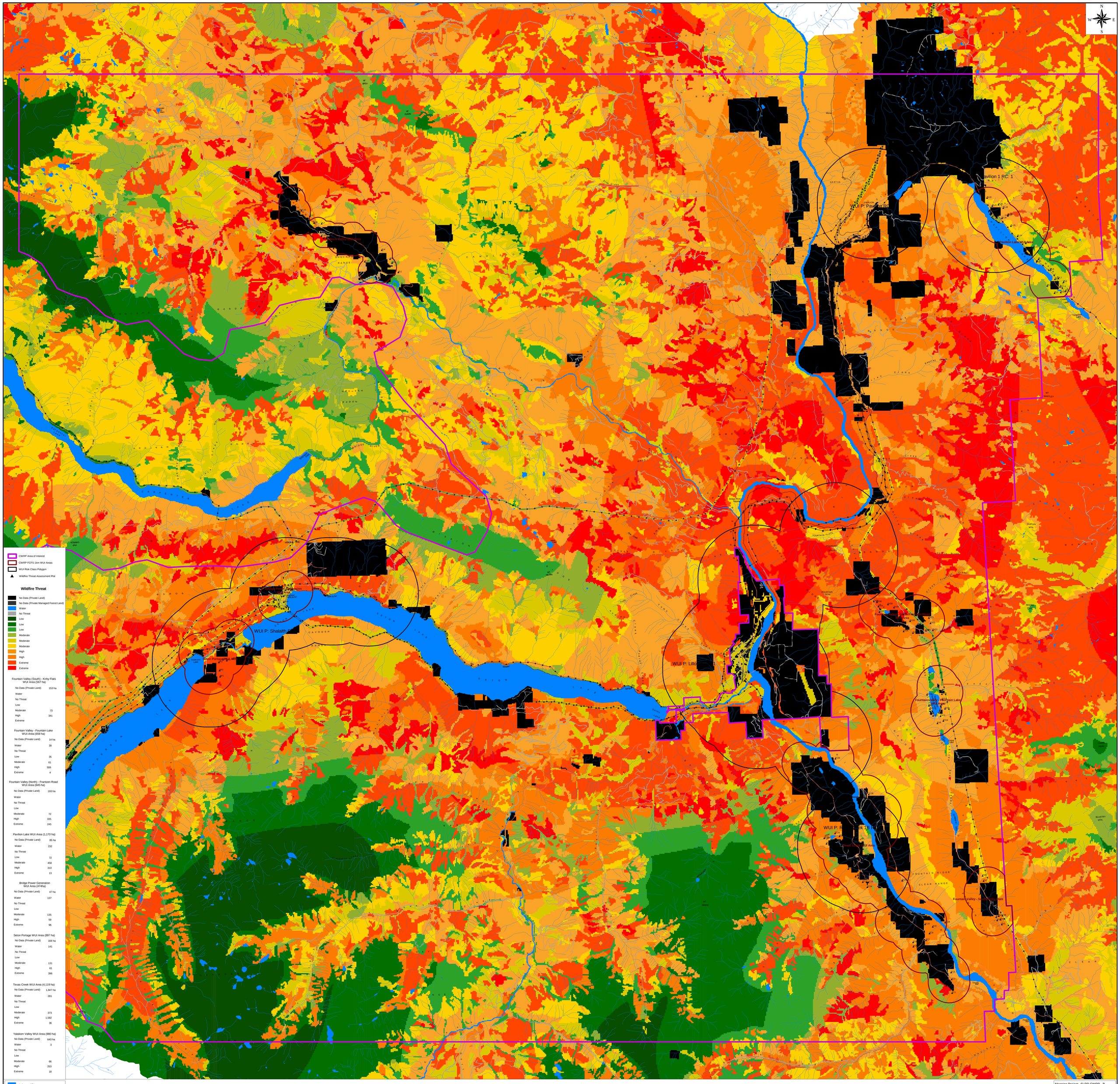
Electoral Area B

1:47,500

0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 Kilometers

Mapping Project: SLRD CWRP - B
Datum: NAD83
Map Projection: ALBERS
Drawn By: E.Senger
Production Date: March 20, 2023

Landscape Consulting Corporation



CWRP Area of Interest
CWRP FCFS 1km WUI Areas
WUI Risk Class Polygon
Wildfire Threat Assessment Plot

Wildfire Threat

- No Data (Private Land)
- No Data (Private Managed Forest Land)
- Water
- No Threat
- Low
- Low
- Low
- Moderate
- Moderate
- Moderate
- High
- High
- Extreme
- Extreme

Fountain Valley (South) - Kirby Flats WUI Area (567 ha)

No Data (Private Land)	153 ha
Water	
No Threat	
Low	
Moderate	73
High	341
Extreme	

Fountain Valley - Fountain Lake WUI Area (659 ha)

No Data (Private Land)	14 ha
Water	39
No Threat	
Low	35
Moderate	61
High	506
Extreme	4

Fountain Valley (North) - Frantzen Road WUI Area (645 ha)

No Data (Private Land)	193 ha
Water	
No Threat	
Low	
Moderate	72
High	335
Extreme	245

Pavilion Lake WUI Area (1,170 ha)

No Data (Private Land)	85 ha
Water	232
No Threat	
Low	72
Moderate	458
High	310
Extreme	13

Bridge Power Generation WUI Area (474ha)

No Data (Private Land)	47 ha
Water	137
No Threat	
Low	
Moderate	135
High	59
Extreme	96

Seton Portage WUI Area (897 ha)

No Data (Private Land)	168 ha
Water	141
No Threat	
Low	
Moderate	131
High	61
Extreme	396

Texas Creek WUI Area (4,119 ha)

No Data (Private Land)	1,847 ha
Water	281
No Threat	
Low	
Moderate	373
High	1,582
Extreme	36

Yalakom Valley WUI Area (980 ha)

No Data (Private Land)	640 ha
Water	3
No Threat	
Low	
Moderate	66
High	253
Extreme	18

- Lakes and Rivers
- Streams
- Primary Roads
- Secondary Roads
- Railway
- Transmission Line
- Oil or Gas Pipeline

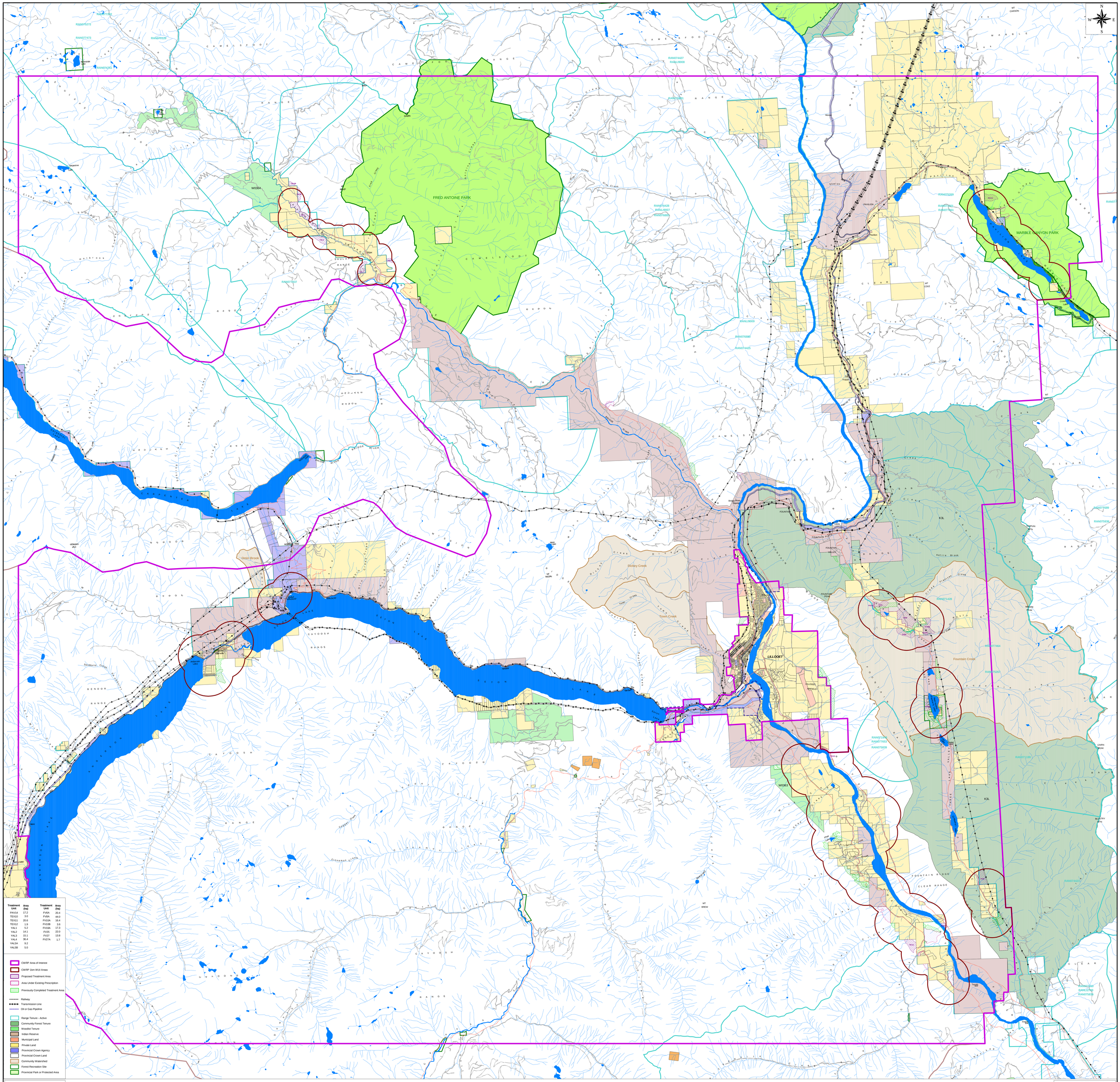
CWRP MAP 2: WILDFIRE RISK

Squamish-Lillooet Regional District
Electoral Area B
1:47,500

0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 Kilometers

Mapping Project: SLRD CWRP - B
Datum: NAD83
Map Projection: ALBERS
Drawn By: E.Senger
Production Date: March 20, 2023

Landscope
Consulting Corporation



Treatment Unit	Area (ha)	Treatment Unit	Area (ha)
PAV14	17.2	FV6A	20.4
TEX10	3.0	FV8A	44.0
TEX11	20.6	FV10A	16.4
TEX12	1.9	FV10B	3.6
YAL1	5.2	FV18A	17.3
YAL2	14.1	FV25	22.0
YAL3	15.1	FV27	13.8
YAL4	36.4	FV27A	1.7
YAL5A	9.2		
YAL5B	5.0		

- CWRP Area of Interest
- CWRP 1km WUI Areas
- Proposed Treatment Area
- Area Under Existing Prescription
- Previously Completed Treatment Area
- Railway
- Transmission Line
- Oil or Gas Pipeline
- Range Tenure - Active
- Community Forest Tenure
- Woodlot Tenure
- Indian Reserve
- Municipal Land
- Private Land
- Provincial Crown Agency
- Provincial Crown Land
- Community Watershed
- Forest Recreation Site
- Provincial Park or Protected Area
- Lakes and Rivers
- Streams
- Primary Roads
- Secondary Roads

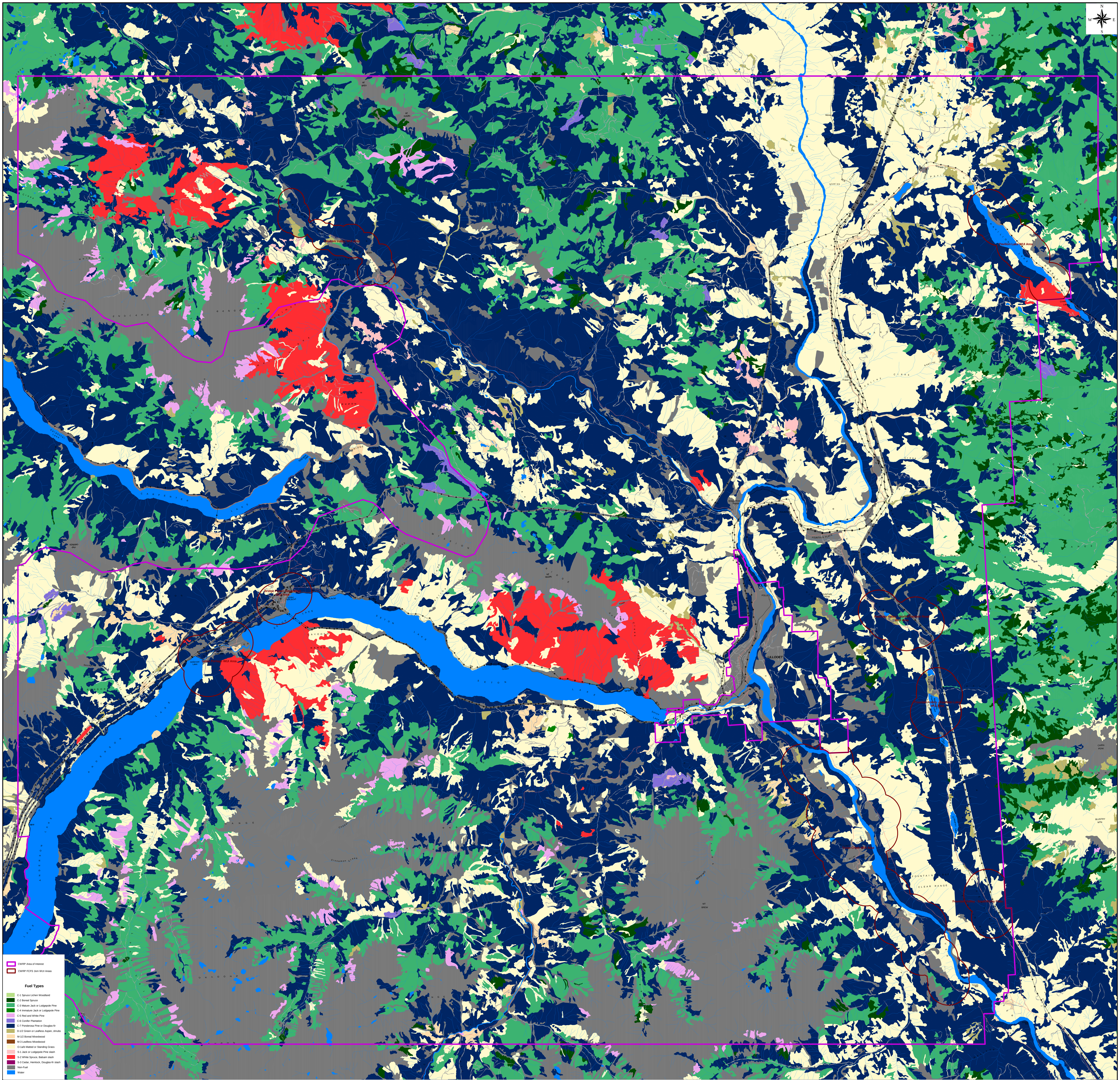
CWRP MAP 3: PROPOSED FUEL TREATMENT UNITS

Squamish-Lillooet Regional District
Electoral Area B
1:47,500

0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 Kilometers

Mapping Project: SLRD CWRP - B
Datum: NAD83
Map Projection: ALBERS
Drawn By: E.Senger
Production Date: March 20, 2023

Landscope Consulting Corporation



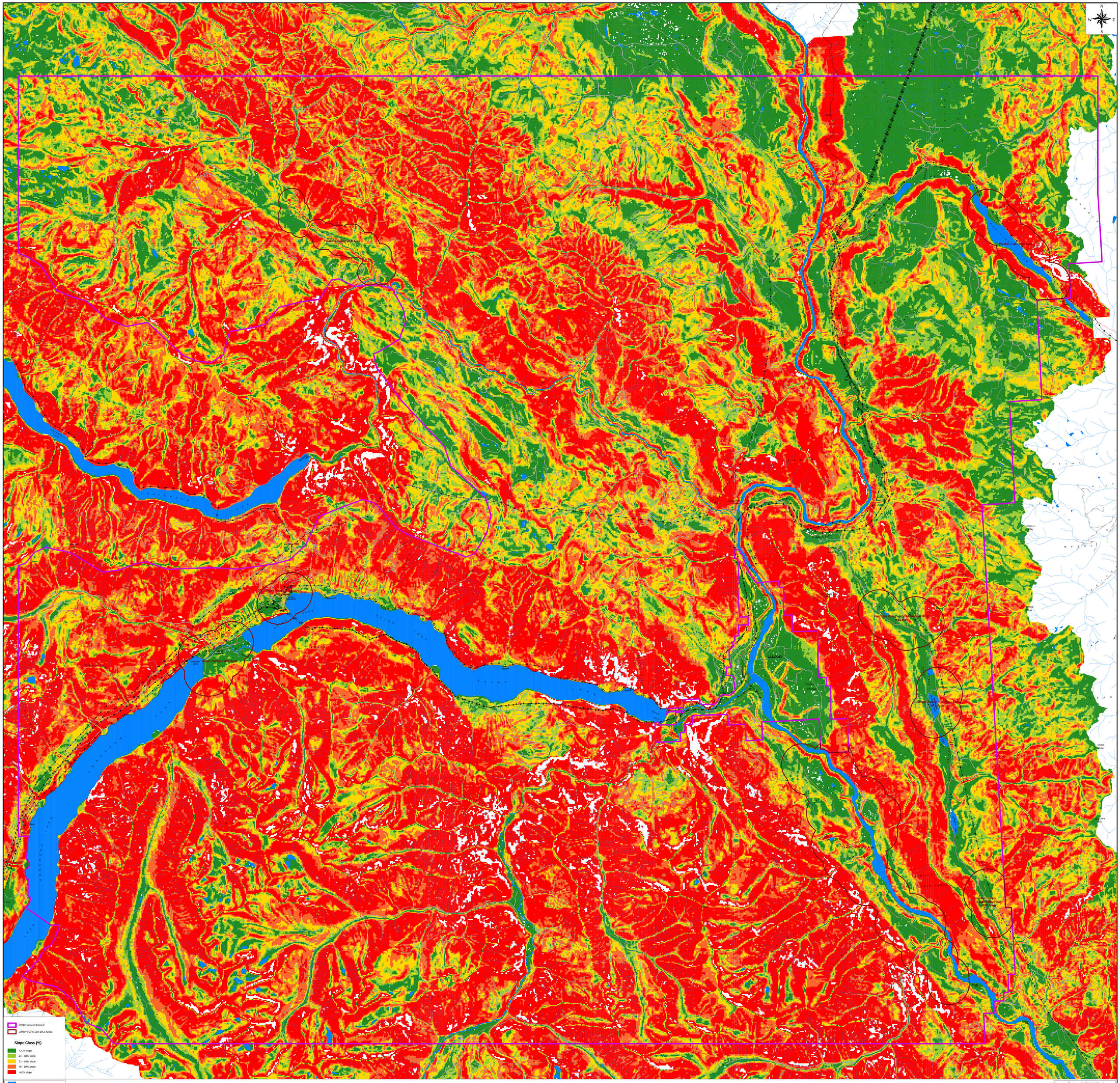
CWRP MAP 4: FUEL TYPES

Squamish-Lillooet Regional District
Electoral Area B
1:47,500

0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 Kilometers

Mapping Project: SLRD CWRP - B
Datum: NAD83
Map Projection: ALBERS
Drawn By: E.Senger
Production Date: March 21, 2023

Landscope Consulting Corporation



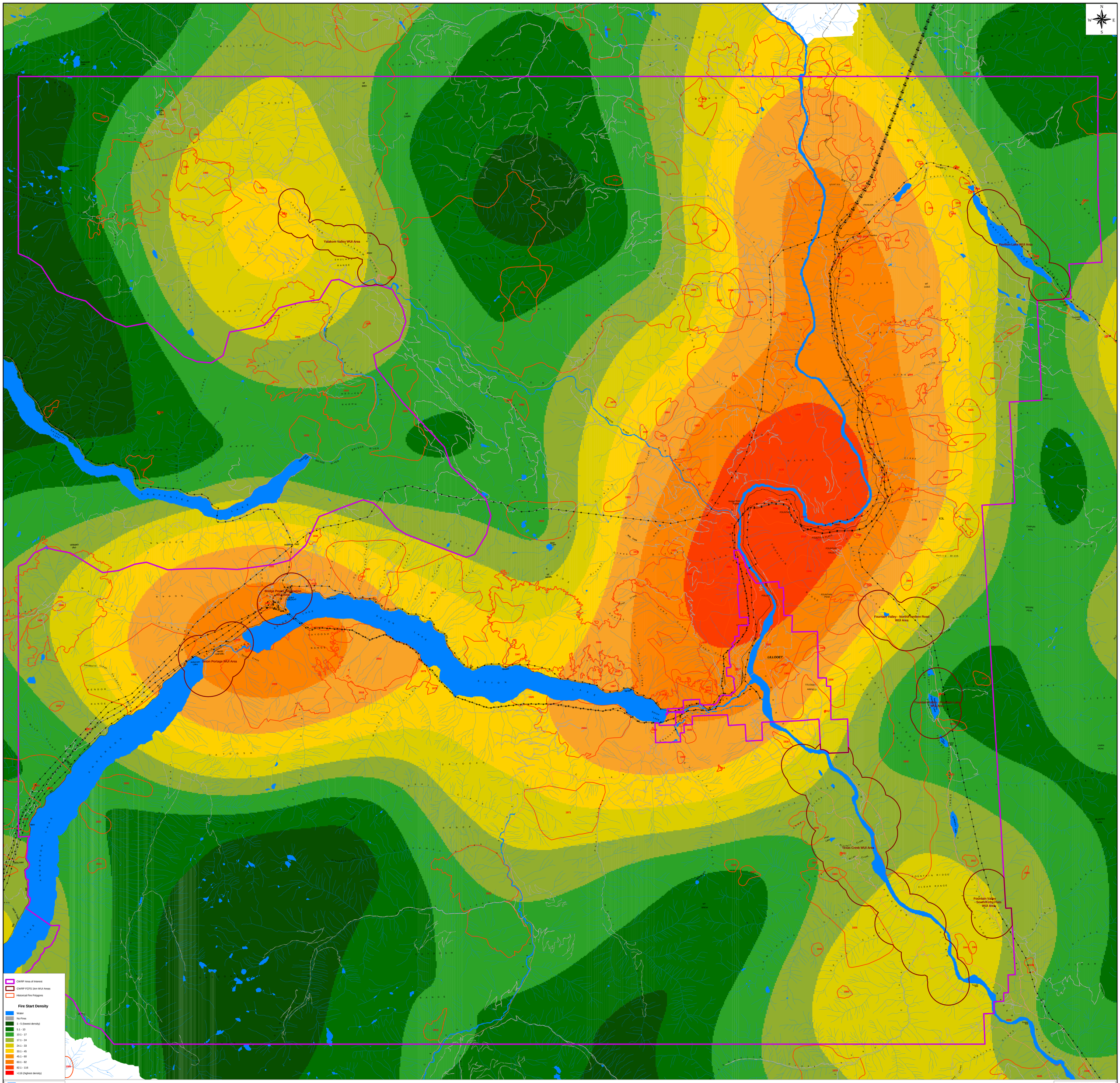
CWRP MAP 5: SLOPE CLASS

Squamish-Lillooet Regional District
Electoral Area B

1:47,500

Mapping Project: SLRD CWRP - B
Datum: NAD83
Map Projection: ALBERS
Drawn By: E. Senger
Production Date: March 21, 2023

Landscope Consulting Corporation



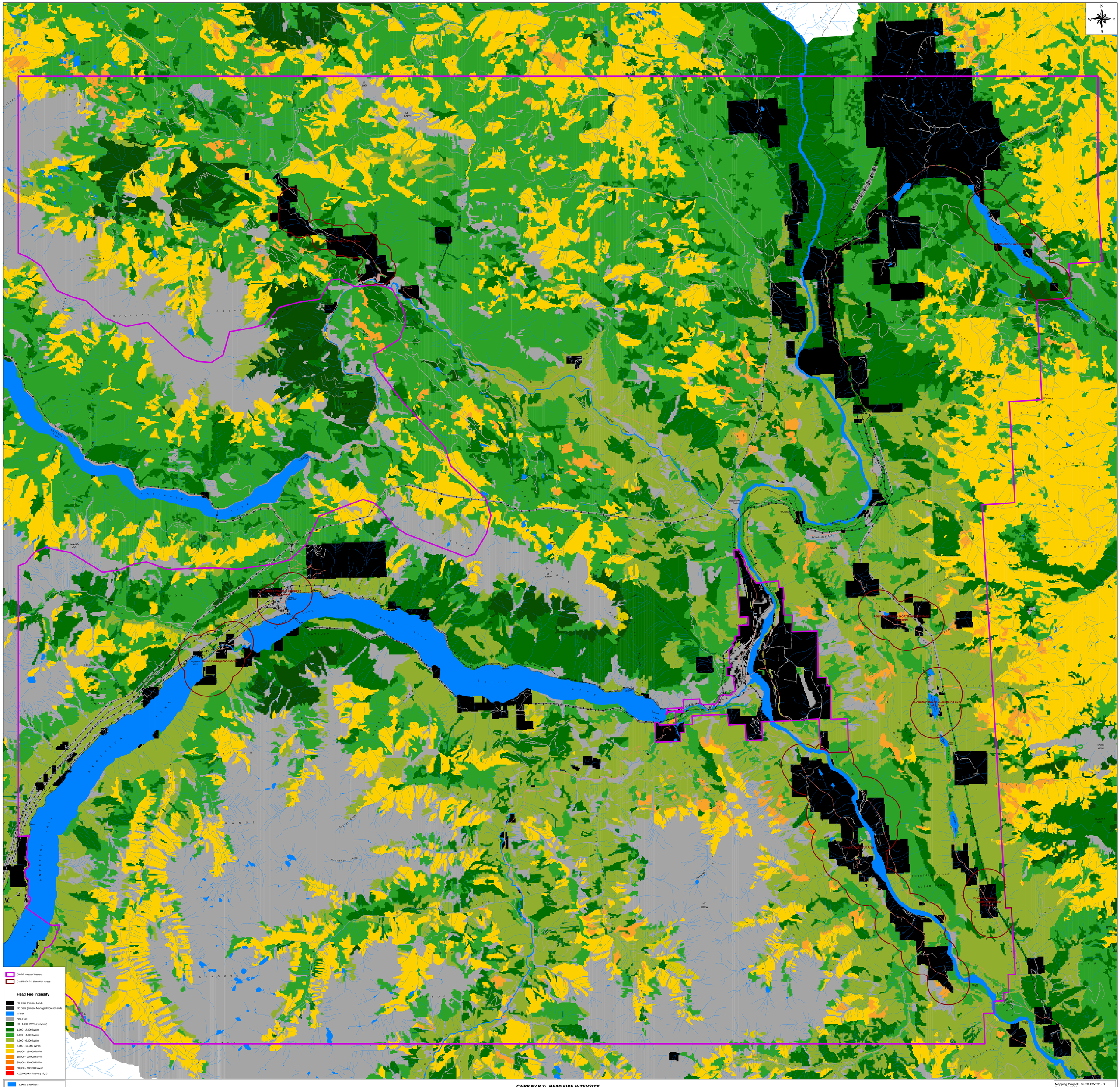
CWRP MAP 6: WILDFIRE HISTORY AND DENSITY

Squamish-Lillooet Regional District
Electoral Area B
1:47,500

0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 Kilometers

Mapping Project: SLRD CWRP - B
Datum: NAD83
Map Projection: ALBERS
Drawn By: E. Senger
Production Date: March 21, 2023

Landscope Consulting Corporation



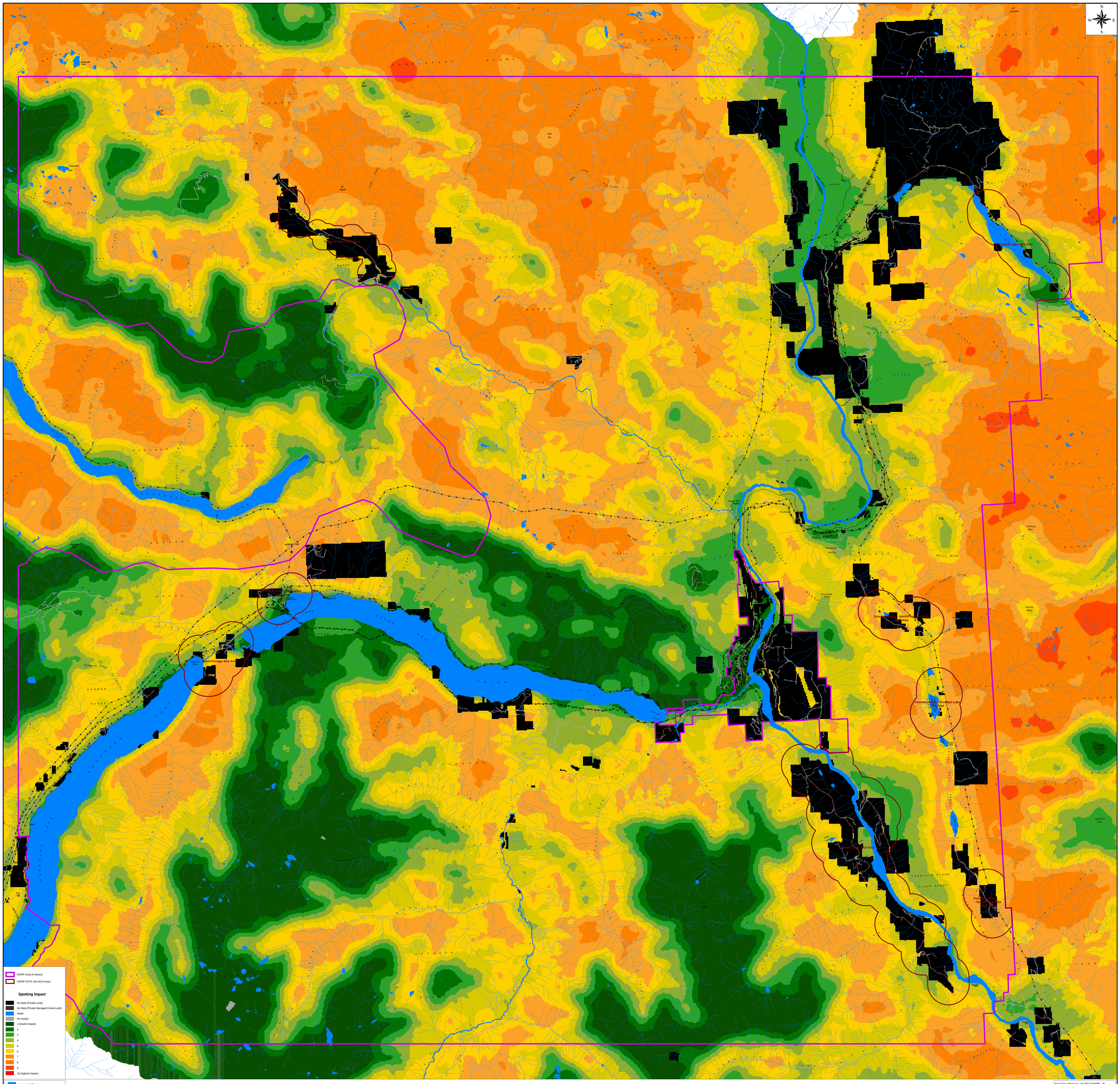
CWRP MAP 7: HEAD FIRE INTENSITY

Squamish-Lillooet Regional District
Electoral Area B
1:47,500

0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 Kilometers

Mapping Project: SLRD CWRP - B
Datum: NAD83
Map Projection: ALBERS
Drawn By: E. Senger
Production Date: March 21, 2023

Landscope
Consulting Corporation



CWRP MAP 8: SPOTTING IMPACT

Squamish-Lillooet Regional District
Electoral Area B

1:47,500

0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 Kilometers

Mapping Project: SLRD CWRP - B
Datum: NAD83
Map Projection: ALBERS
Drawn By: E.Senger
Production Date: March 21, 2023

Landscope Consulting Corporation

Appendix 4a: Historical Fire Density

	WUI Area															
Fire Density	Fountain Valley (South) – Kirby Flats		Fountain Valley – Fountain Lake		Fountain Valley (North) – Frantzen Road		Pavilion Lake		Bridge Power Generation		Seton Portage		Texas Creek		Yalakom Valley	
	ha	%	ha	%	ha	%	ha	%	ha	%	ha	%	ha	%	ha	%
Water			38	6			230	20	137	29	140	16	275	7	3	1
1 - 5																
5.1 - 10			172	26												
10.1 - 17			449	68			373	32								
17.1 - 24	195	34			205	24	415	35					2029	49	260	26
24.1 - 33	372	66			278	33	153	13					1757	43	400	41
33.1 - 45					215	25							58	1	317	32
45.1 - 60					147	17			83	17	118	13				
60.1 - 82									254	53	639	71				
82.1 – 116																
>116																

Appendix 4b: Head Fire Intensity

	WUI Area															
Head Fire Intensity (kW/m)	Fountain Valley (South) – Kirby Flats		Fountain Valley – Fountain Lake		Fountain Valley (North) – Frantzen Road		Pavilion Lake		Bridge Power Generation		Seton Portage		Texas Creek		Yalakom Valley	
	ha	%	ha	%	ha	%	ha	%	ha	%	ha	%	ha	%	ha	%
No Data	153	27	14	2	188	21	85	7	46	10	168	19	1847	45	639	65
Water			39	6	3	1	232	20	137	29	141	16	281	7	3	1
Non-Fuel			36	5	56	7	81	7	135	28	131	15	178	4	29	3
>0 to 1000							65	6							16	2
1000 to 2000	88	16	19	3	22	3	334	29	17	4	26	3	20	0	22	2
2000 to 4000	4	1	57	9	95	11	361	31	42	9	36	4	723	18	254	26
4000 to 6000	322	57	490	74	463	55			96	20	395	44	1044	25		
6000 to 10000																
10000 to 18000							13	1							18	2
18000 to 30000			5	1	16	2							26	1		
30000 to 60000																

Appendix 4c: Spotting Impact

	WUI Area															
Spotting Impact	Fountain Valley (South) – Kirby Flats		Fountain Valley – Fountain Lake		Fountain Valley (North) – Frantzen Road		Pavilion Lake		Bridge Power Generation		Seton Portage		Texas Creek		Yalakom Valley	
	ha	%	ha	%	ha	%	ha	%	ha	%	ha	%	ha	%	ha	%
No Data	152	27	14	2	187	22	85	7	46	10	168	19	1837	45	637	65
Water			39	6			232	20	138	29	144	16	282	7	3	1
Low							273	23	106	22	49	5	197	5	3	0
Moderate	153	27	227	34	404	48	542	46	165	35	367	41	1780	43	211	22
High	263	46	379	58	253	30	38	3	18	4	170	19	22	1	127	13
Very High																

Appendix 5: Wildfire Threat Assessment Plot Score and Rating

Plot#	WUI Area	WTA Score	WTA Rating	Plot#	WUI Area	WTA Score	WTA Rating
SP1	Seton Portage	35	Low	PL1	Pavilion Lake	60	Moderate
SP2	Seton Portage	50	Moderate	PL2	Pavilion Lake	58	Moderate
SP3	Seton Portage	45	Low	PL3	Pavilion Lake	61	Moderate
SP4	Seton Portage	68	High	PL4	Pavilion Lake	63	Moderate
SP5	Seton Portage	44	Low	PL5	Pavilion Lake	56	Moderate
SP6	Seton Portage	53	Moderate	PL6	Pavilion Lake	63	Moderate
SP7	Seton Portage	38	Low	PL7	Pavilion Lake	61	Moderate
SP8	Seton Portage	32	Low	PL8	Pavilion Lake	56	Moderate
SP9	Bridge Power Generation	62	Moderate	PL9	Pavilion Lake	65	Moderate
SP10	Bridge Power Generation	59	Moderate	PL10	Pavilion Lake	59	Moderate
SP11	Bridge Power Generation	41	Low	PL11	Pavilion Lake	69	High
SP12	Seton Portage	41	Low	PL12	Pavilion Lake	45	Low
SP13	Seton Portage	65	Moderate	PL13	Pavilion Lake	66	Moderate
SP14	Bridge Power Generation	56	Moderate	PL14	Pavilion Lake	63	Moderate
YL1	Yalakom Valley	49	Moderate	PL15	Pavilion Lake	57	Moderate
YL2	Yalakom Valley	31	Low	PL16	Pavilion Lake	57	Moderate
YL3	Yalakom Valley	76	High	PL17	Pavilion Lake	70	High
YL4	Yalakom Valley	65	Moderate	PL18	Pavilion Lake	53	Moderate
YL5	Yalakom Valley	69	High	PL19	Pavilion Lake	68	High
YL6	Yalakom Valley	74	High	PL20	Pavilion Lake	57	Moderate
YL7	Yalakom Valley	21	Low	PL21	Pavilion Lake	56	Moderate
YL8	Yalakom Valley	64	Moderate	PL22	Pavilion Lake	62	Moderate
YL9	Yalakom Valley	60	Moderate	PL23	Pavilion Lake	57	Moderate
YL10	Yalakom Valley	59	Moderate	FV1	Fountain Valley - Kirby Flats	57	Moderate
YL11	Yalakom Valley	61	Moderate	FV2	Fountain Valley - Kirby Flats	34	Low
YL12	Yalakom Valley	59	Moderate	FV3	Fountain Valley - Kirby Flats	54	Moderate

YL13	Yalakom Valley	50	Moderate	FV4	Fountain Valley - Kirby Flats	39	Low
YL14	Yalakom Valley	59	Moderate	FV5	Fountain Valley - Kirby Flats	39	Low
YL15	Yalakom Valley	62	Moderate	FV6	Fountain Valley - Kirby Flats	57	Moderate
TC1	Texas Creek	50	Moderate	FV7	Fountain Valley - Kirby Flats	66	High
TC2	Texas Creek	62	Moderate	FV8	Fountain Valley - Kirby Flats	54	Moderate
TC3	Texas Creek	53	Moderate	FV9	Fountain Valley – Fountain Lake	37	Low
TC4	Texas Creek	60	Moderate	FV10	Fountain Valley – Fountain Lake	59	Moderate
TC5	Texas Creek	66	Moderate	FV11	Fountain Valley – Fountain Lake	61	Moderate
TC6	Texas Creek	51	Moderate	FV12	Fountain Valley – Fountain Lake	67	High
TC7	Texas Creek	50	Moderate	FV13	Fountain Valley – Fountain Lake	77	High
TC8	Texas Creek	60	Moderate	FV14	Fountain Valley – Fountain Lake	63	Moderate
TC9	Texas Creek	45	Low	FV15	Fountain Valley – Fountain Lake	47	Low
TC10	Texas Creek	43	Low	FV16	Fountain Valley – Fountain Lake	72	High
TC11	Texas Creek	46	Low	FV17	Fountain Valley – Fountain Lake	52	Moderate
TC12	Texas Creek	54	Moderate	FV18	Fountain Valley – Fountain Lake	52	Moderate
TC13	Texas Creek	70	High	FV19	Fountain Valley – Fountain Lake	44	Low
TC14	Texas Creek	38	Low	FV20	Fountain Valley – Frantzen Rd	53	Moderate
TC15	Texas Creek	58	Moderate	FV21	Fountain Valley – Frantzen Rd	60	Moderate
TC16	Texas Creek	54	Moderate	FV22	Fountain Valley – Frantzen Rd	53	Moderate
TC17	Texas Creek	53	Moderate	FV23	Fountain Valley – Frantzen Rd	52	Moderate
TC18	Texas Creek	52	Moderate	FV24	Fountain Valley – Frantzen Rd	65	Moderate
TC19	Texas Creek	46	Low	FV25	Fountain Valley – Frantzen Rd	72	High

TC20	Texas Creek	48	Moderate	FV26	Fountain Valley – Frantzen Rd	61	Moderate
TC21	Texas Creek	45	Low	FV27	Fountain Valley – Frantzen Rd	56	Moderate
TC22	Texas Creek	52	Moderate	FV28	Fountain Valley – Frantzen Rd	52	Moderate
TC23	Texas Creek	56	Moderate	FV29	Fountain Valley – Frantzen Rd	41	Low
TC24	Texas Creek	49	Moderate	FV30	Fountain Valley – Frantzen Rd	69	High
TC25	Texas Creek	57	Moderate	FV31	Fountain Valley – Frantzen Rd	49	Moderate
TC26	Texas Creek	51	Moderate	FV32	Fountain Valley – Frantzen Rd	47	Low
TC27	Texas Creek	63	Moderate	FV33	Fountain Valley – Frantzen Rd	41	Low
TC28	Texas Creek	52	Moderate				

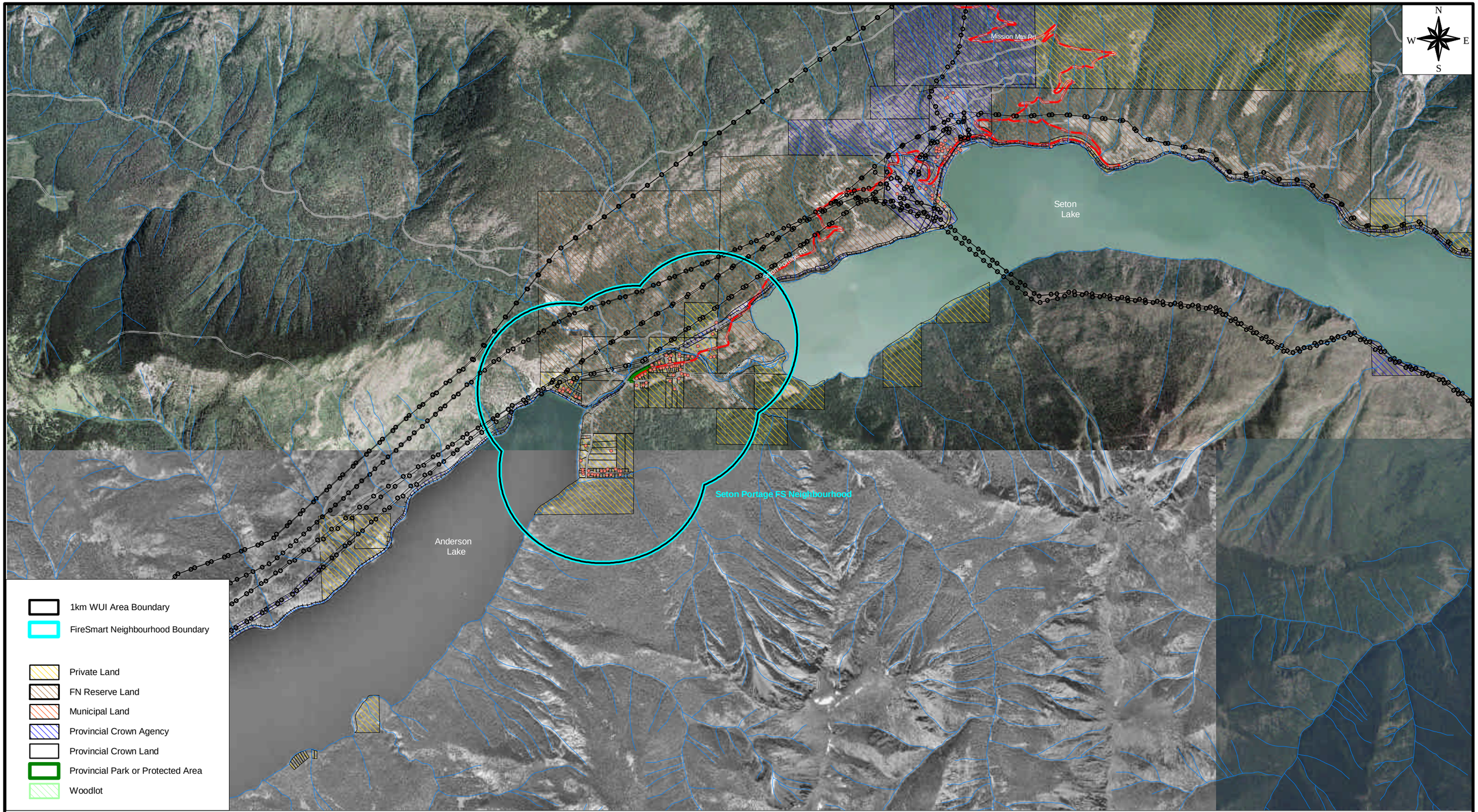
Appendix 6: SLRD Area B Proposed FireSmart Neighbourhoods

Proposed Firesmart Neighbourhoods – Seton Portage

Proposed Firesmart Neighbourhoods – Fountain Valley & Texas Creek

Proposed Firesmart Neighbourhoods – Pavilion Lake

Proposed Firesmart Neighbourhoods – Yalakom Valley



1km WUI Area Boundary
FireSmart Neighbourhood Boundary

Private Land
FN Reserve Land
Municipal Land
Provincial Crown Agency
Provincial Crown Land
Provincial Park or Protected Area
Woodlot

Structure
Primary Roads
Secondary Roads
Forest Service Road
BC Hydro Transmission Line
Streams

PROPOSED FIRESMART NEIGHBOURHOODS

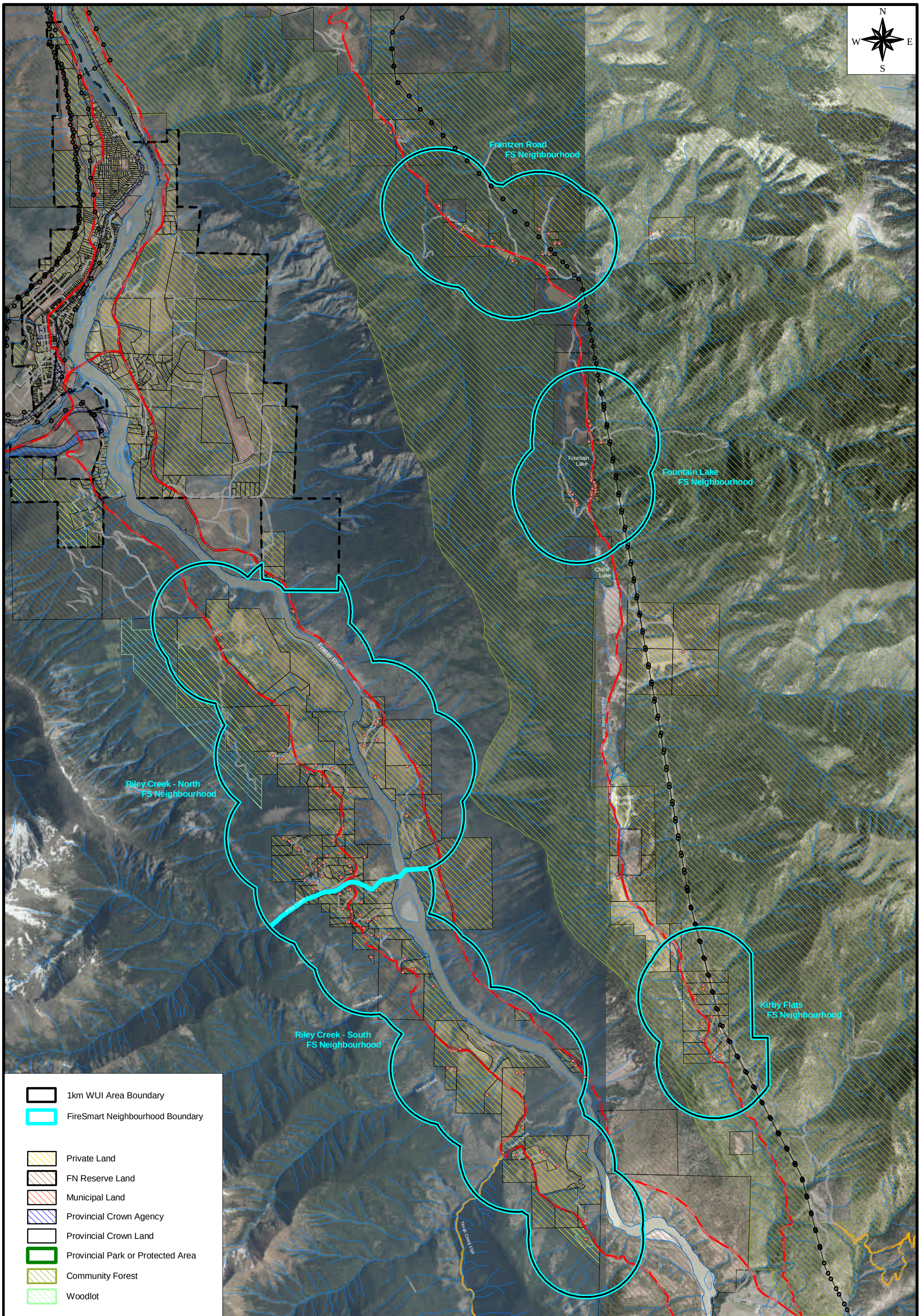
Squamish-Lillooet Regional District - Electoral Area B CWRP
Seton Portage

1:40,000

0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 Kilometers

Mapping Project: SLRD Area B_CWRP
Datum: NAD83
Map Projection: NAD83 UTM Zone 10
Drawn By: E.Senger
Production Date: March 23, 2023

Landscope Consulting Corporation



Structure
Primary Roads
Secondary Roads
Forest Service Road
BC Hydro Transmission Line
Streams

PROPOSED FIRESMART NEIGHBOURHOODS

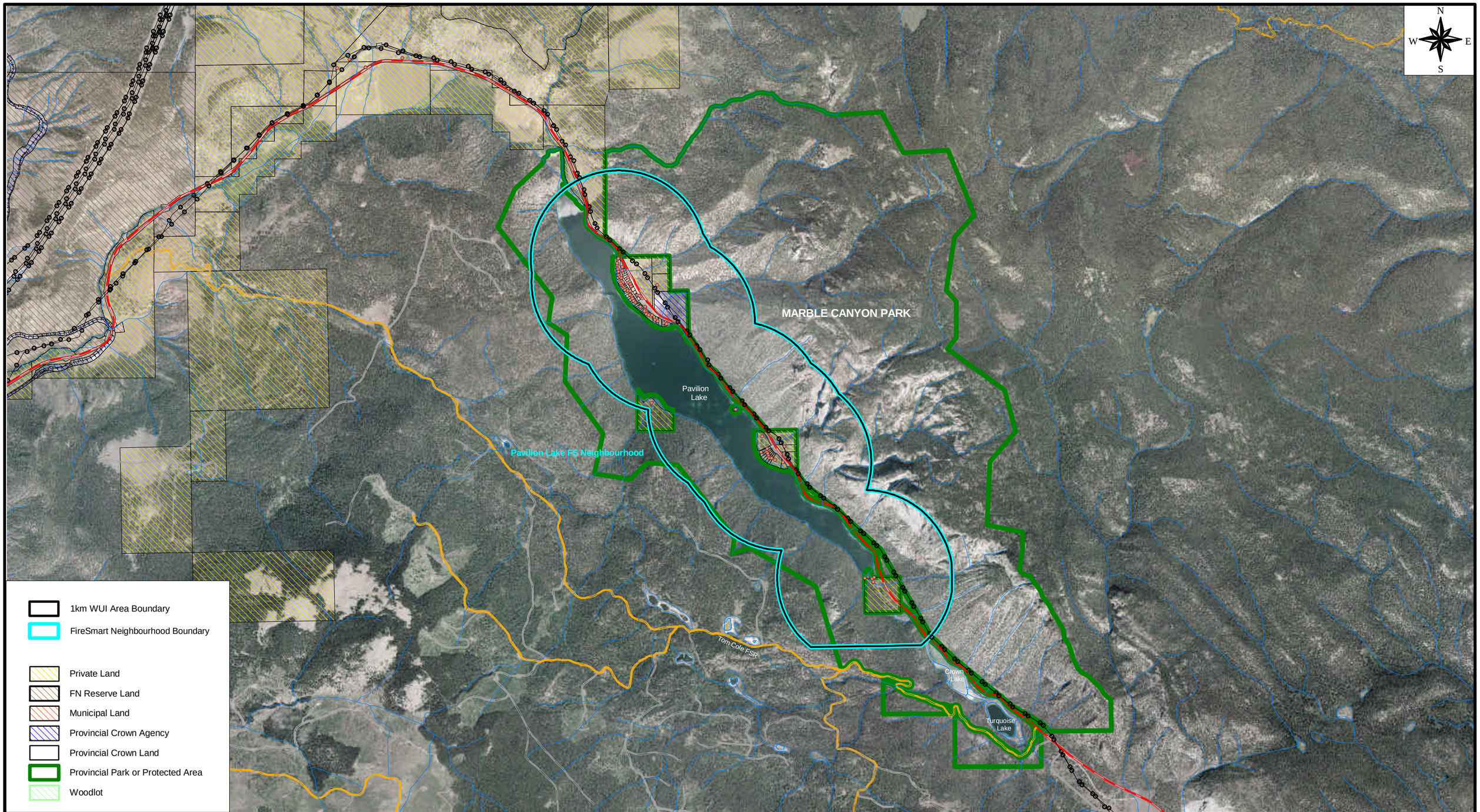
Squamish-Lillooet Regional District - Electoral Area B CWRP
Fountain Valley & Texas Creek

1:60,000

0.5 0 0.5 1 1.5 2 2.5 Kilometers

Mapping Project: SLRD Area B_CWRP
Datum: NAD83
Map Projection: NAD83 UTM Zone 10
Drawn By: E.Senger
Production Date: March 23, 2023

Landscope Consulting Corporation



Structure
Primary Roads
Secondary Roads
Forest Service Road
BC Hydro Transmission Line
Streams

PROPOSED FIRESMART NEIGHBOURHOODS

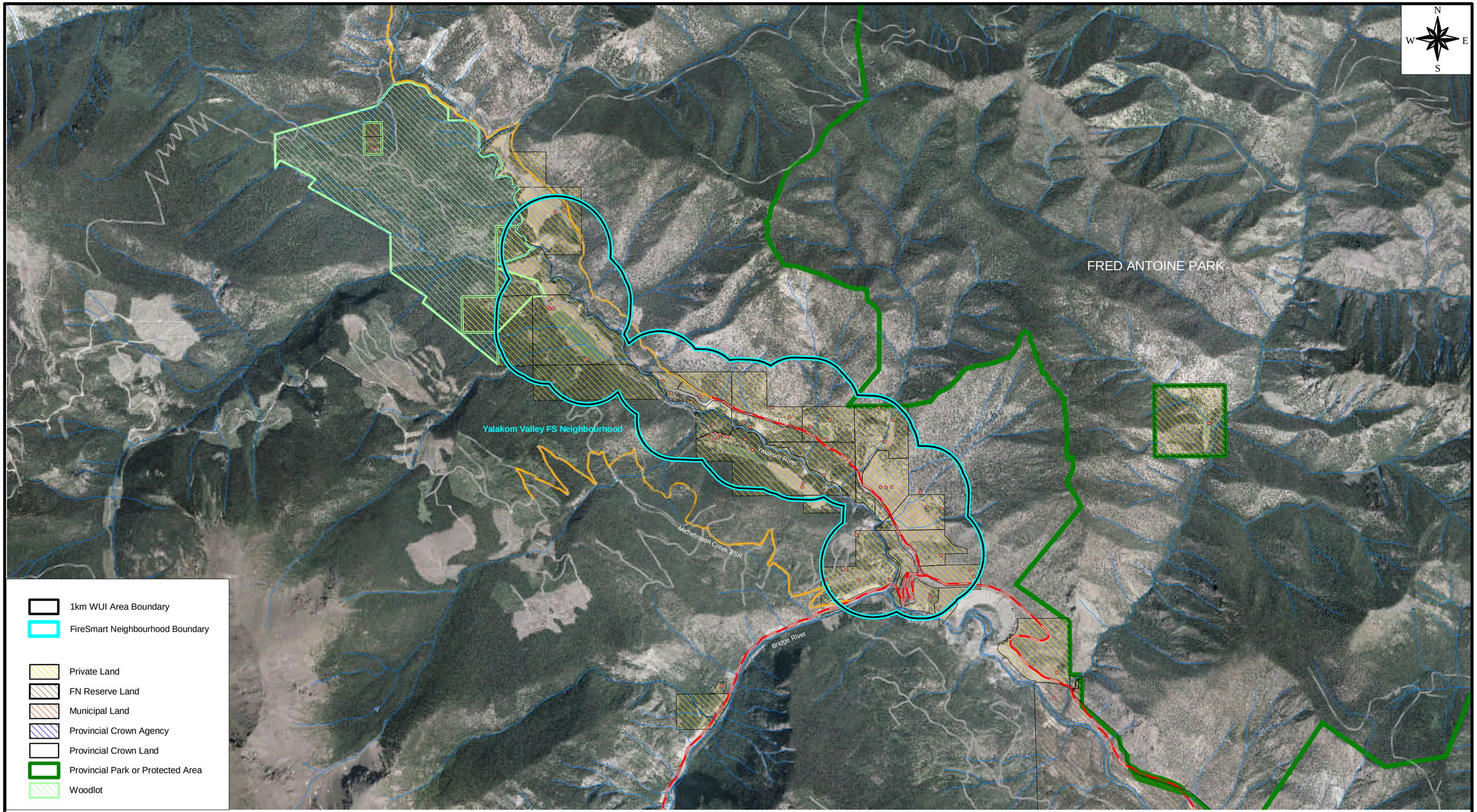
Squamish-Lillooet Regional District - Electoral Area B CWRP
Pavilion Lake

1:40,000

0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 **Kilometers**

Mapping Project: SLRD Area B_CWRP
Datum: NAD83
Map Projection: NAD83 UTM Zone 10
Drawn By: E.Senger
Production Date: March 23, 2023

Landscope Consulting Corporation



Structure
Primary Roads
Secondary Roads
Forest Service Road
BC Hydro Transmission Line
Streams

PROPOSED FIRESMART NEIGHBOURHOODS

Squamish-Lillooet Regional District - Electoral Area B CWRP
Yalakom Valley

1:40,000

0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 Kilometers

Mapping Project: SLRD Area B_CWRP
Datum: NAD83
Map Projection: NAD83 UTM Zone 10
Drawn By: E.Senger
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Landscope Consulting Corporation