Unit 20A – Kal Lake Road
Vernon, BC, V1T 9G1
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BIG WHITE SKI RESORT LTD.
FOREST HEALTH ASSESSMENT AND MANAGEMENT PLAN

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1.0 Background

Big White Ski Resort (BWSR) is located 56km southeast of Kelowna, BC, in the Kootenay Boundary Regional District of British Columbia. Currently, BWSR is operating within its Controlled Recreation Area (CRA) based on the approved 1999 Master Plan and Master Development Agreement. In 2020, BWSR submitted a proposed amended master plan, which included an expansion to its existing Controlled Recreation Area. This proposed expansion area was dropped in 2025. The master plan amendment outlines the location of additional development, including new chair lifts, additional ski terrain, expanded real estate, commercial development, and additional trail networks (Figure 1).

This Forest Health Analysis is a high-level review of available geospatial data sourced from BC provincial databases within the CRA. Aerial overview surveys are performed by the Ministry of Forests to assess forest damage due to bark beetle, defoliators, and other visible Forest Health Factors (FHF), such as foliar diseases and abiotic damage (Mitchell et al.) This report summarizes results analyzed from a decade of FHF data, including data collected and available up to 2024. Current and historical FHF, along with associated hazard ratings, within the CRA have been summarized within this report.

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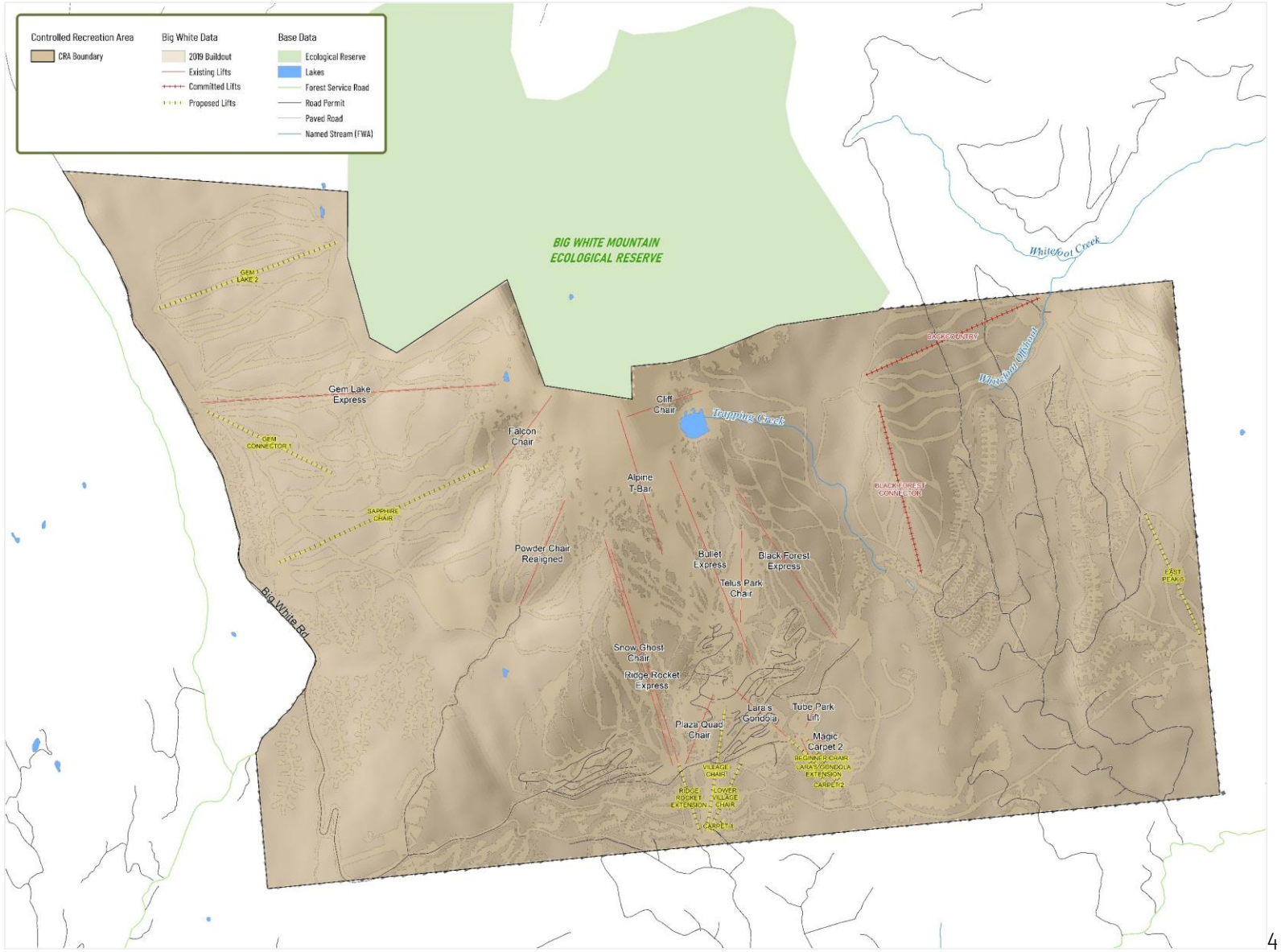

Figure 1. Map of BWSR existing CRA boundary in tan.

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The Big White CRA boundary, including the expansion area, is within the Westbank First Nation (WFN) Area of Responsibility on the traditional, unceded, and unsurrendered territory of the Syilx (Okanagan) Nation and peoples. It is overlapped by the Okanagan Shuswap Natural Resource District (DOS) in the northwest, which includes the Okanagan Timber Supply Area (TSA). It also overlaps the Selkirk Natural Resource District (DSE) in the south and east, which corresponds with the Boundary TSA (Figure 2). The Ministry of Forests contracts out annual Aerial Overview Surveys via fixed-wing aircraft to capture Forest Health Factors delineated by the Natural Resource District and TSA's.

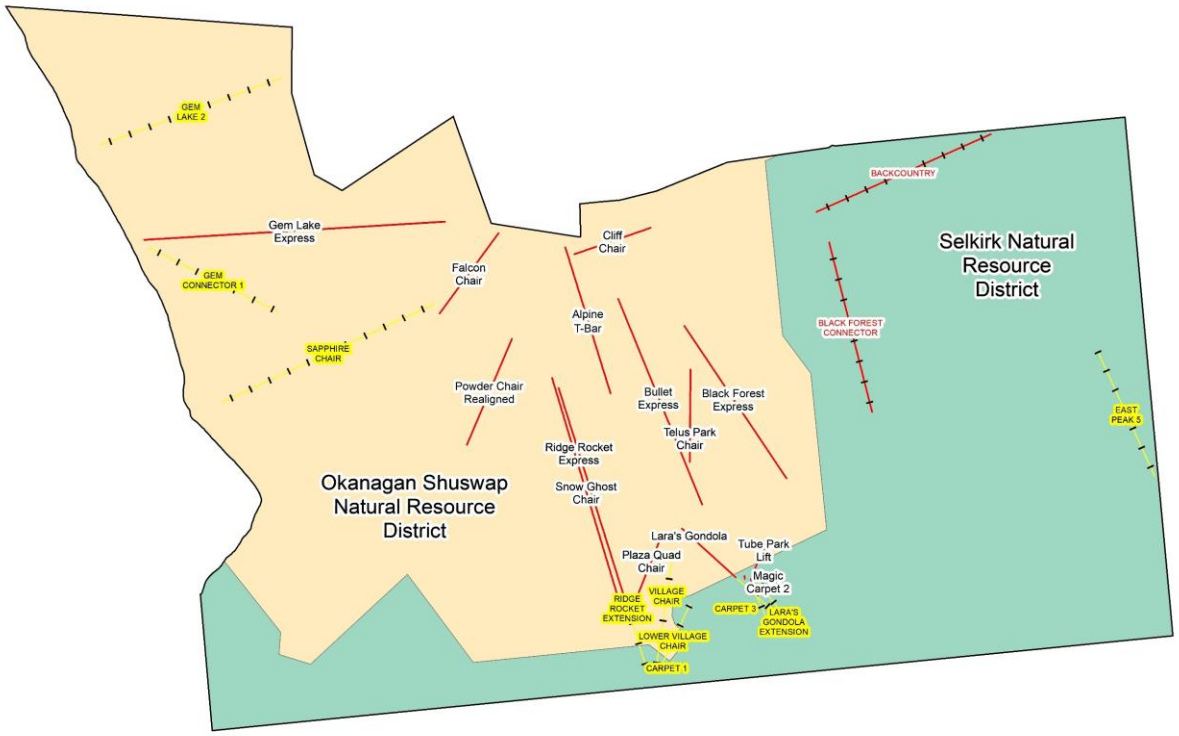

Figure 2. Map showing the location of the Okanagan Shuswap Natural Resource District (Okanagan TSA) and the Selkirk Natural Resource District (Boundary TSA) within the BWSR tenure.

The Biogeoclimatic Ecosystem Classification (BEC) system in British Columbia provides essential information about forest health disturbances by categorizing ecosystems based on climate, geography, and vegetation. The BEC system helps predict and assess the types, frequency, and severity of disturbances affecting forests. The BEC zones, subzones and variants that overlap the CRA include ESSFdc1, ESSFdc2, ESSFdcw, ESSFdcp, ESSFmh , and MSdm1 (Figure 3).

Having a thorough understanding of each forest health factor and how they interact across a BEC zone, and the landscape allows for strategic and targeted planning for pest management, fire mitigation, and climate adaptation.

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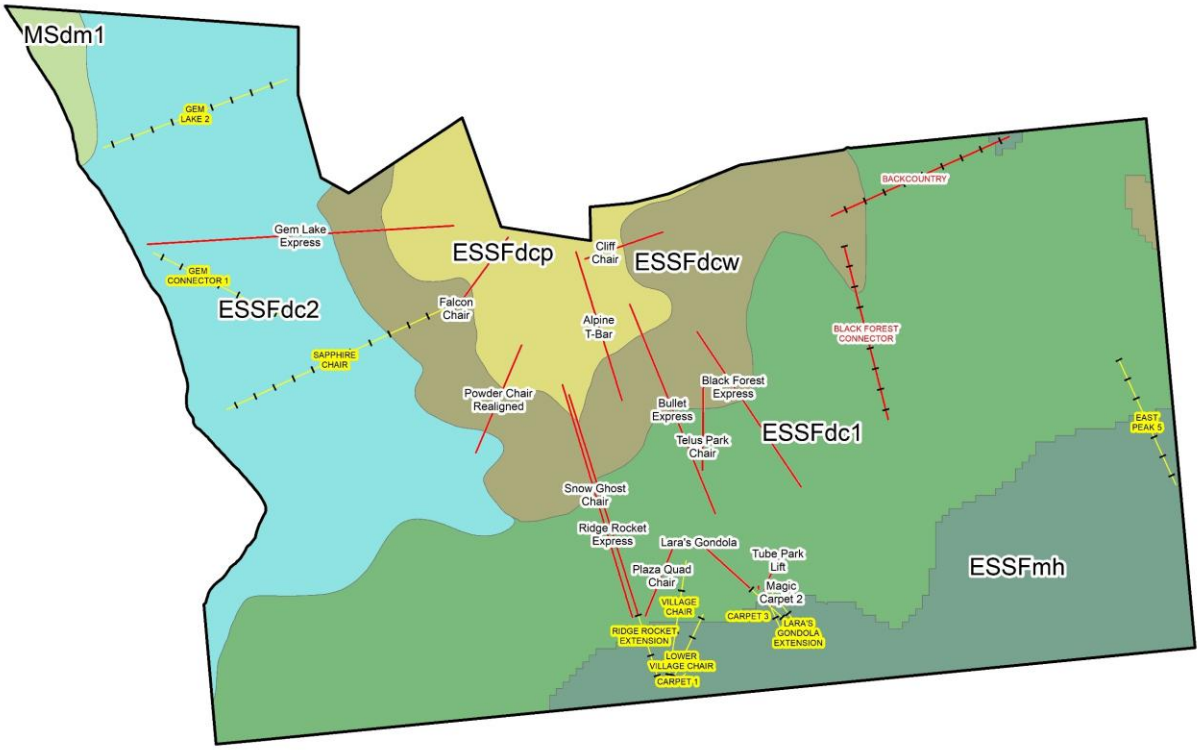

Figure 3. Map showing the location of the Biogeoclimatic Ecosystem Zones across the Big White Ski Resort Controlled Recreation Area.

Lastly, the major licensee overlapping the Big White Ski Resort area includes BC Timber Sales (BCTS) – Okanagan Shuswap in the west, Interfor Corporation in the east and south, and Weyerhaeuser Company Ltd. (Figure 4). Understanding these boundaries allows for consideration of mutually beneficial information sharing and collaboration on mitigating forest health factors.

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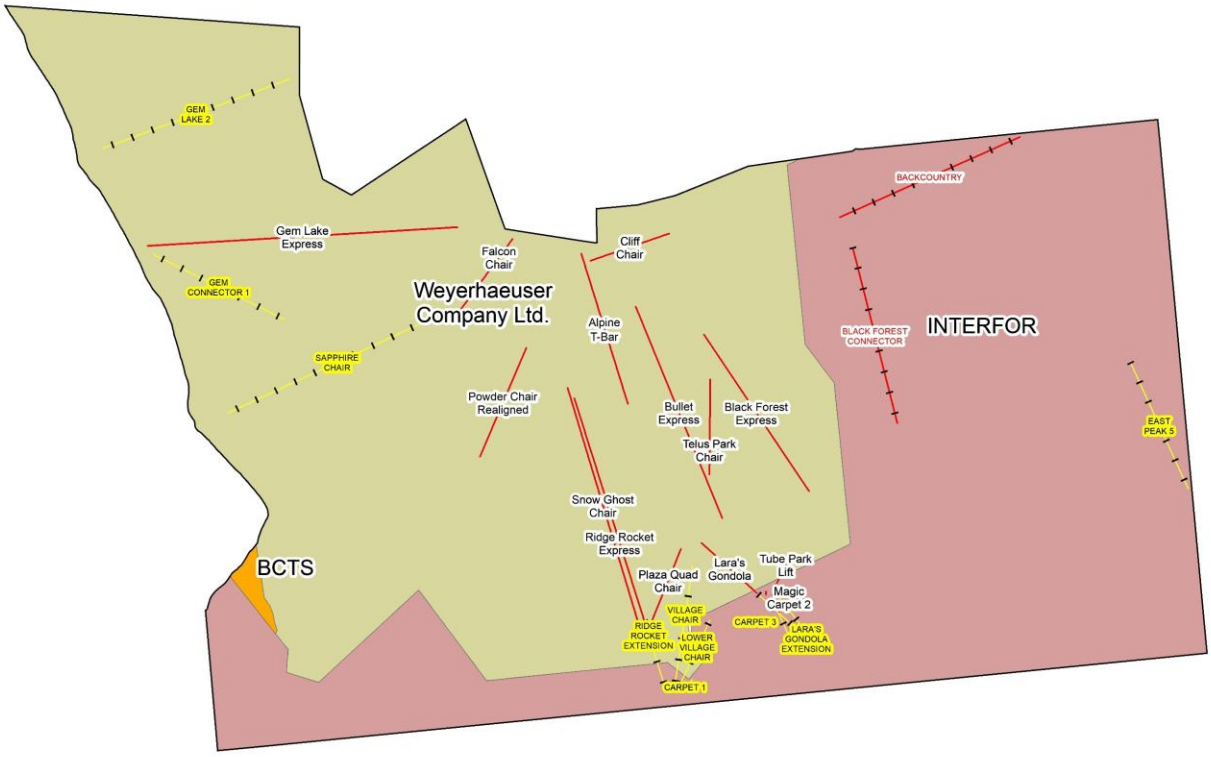

Figure 4. Map demonstrating Major Licensee overlap across the Big White Ski Resort Controlled Recreation Area.

2.0 Current State of Forest Health

2.1 Common Forest Health Factors (FHF)

The Forest Health Strategies for both the Okanagan and Boundary Timber Supply Areas (TSA) rank the significance of forest health factors. From Very Low, where less than 50 hectares per year of loss is anticipated for a particular forest health agent, to Very High, where greater than 400 hectares per year of damage loss is expected (Table 1). These rankings are determined by varying factors such as collective knowledge of forest health specialists, historical patterns, etc. Rankings determined are subjective and are examined using equivalence for a large geographic area and applied to the entire TSA (Christianson 2024).

Table 1. Potential damage loss of common forest health factors across the Okanagan & Boundary Timber Supply Area (TSA), used in both Forest Health Strategies (Christianson 2024).

Ranking	Predicted potential damage loss per year (ha)
Very High	>400
High	200-400
Moderate	100-200
Low	50-100
Very Low	<50

The Ministry of Forests aerially surveys all Forest Health Factors annually to determine damage agent severity and compiles the annual impact. Within the South Interior, some common agents typically trend annually, which include western balsam bark Beetle, Douglas-fir beetle, mountain pine beetle, and spruce beetle. These are not exhaustive, and other forest health agents are currently present or are anticipated to impact the Big White Ski Resort Area. Common forest health agents and their respective predicted damage loss pursuant to the TSA's Forest Health Strategy can be found below (Table 2). Some forest health agents (i.e. post burn mortality, engraver beetles, or flooding) are not ranked within the Forest Health Strategies for one or both TSA's. Factors may not be ranked as severity at a local level may change with each event, or they have not been deemed a significant pest within the TSA (Sheshurak et al. 2019; Christianson 2024).

Table 2. Forest health factors common to the Okanagan and Boundary TSA's, including their scientific name, English name, damage agent & condition code, and their respective damage loss rank as depicted in local forest health strategies (Sheshurak et al. 2019; Christianson 2024).

	Scientific Name	English Name	Damage Agent & Condition Code	Predicted Damage Loss Ranking	
				Okanagan TSA	Boundary TSA
Bark Beetles	*Dryocoetes confusus*	Western balsam bark beetle	IBB	Very Low	Very High
	Dendroctonus pseudotsugae	Douglas-fir beetle	IBD	Very High	Very High
	Dendroctonus rufipennis	Spruce beetle	IBS	Low	Very High
	Dendroctonus ponderosae	Mountain pine beetle	IBM	Low	Very High
	Ips spp.	Engraver beetles	IBI	No Rank	No Rank
	Dendroctonus brevicomis	Western pine beetle	IBW	No Rank	Low
Defoliators	*Lambdina fiscellaria lugubrosa*	Western hemlock looper	IDL	No Rank	No Rank
	Choristoneura freemani	Western spruce budworm	IDW	No Rank	Very High
	Phyllocnistis populiella	Aspen serpentine leaf miner		No Rank	Low
	Fenusa pusilla	Birch leaf miner		No Rank	Low
	Orgyia pseudotsugata	Douglas-fir tussock moth	IDT	No Rank	High
Diseases	*Leptographium wageneri*	Blackstain root disease	DRB	No Rank	Low
	Armillaria ostoyae	Armillaria root disease	DRA	Very High	Very High

	Coniferiporia sulphurascens	Laminated root rot	DRL	High	No Rank
	Mycosphaerella pini	Dothistroma (red band) needle blight	DFS	Medium	No Rank
	Cronartium coleosporioides	Stalactiform blister rust	DSS	No Rank	Moderate
	Lophodermium seditiosum	Lophodermium needle cast	DFO	Low	No Rank
	Hypodermella laricis	Larch needle blight	DFH	Low	Moderate
	Rhabdocline laricis	Larch needle cast	DFM	Low	Moderate
	Cronartium comandrae	Comandra blister rust	DSC	Very Low	Moderate
	Cronartium ribicola	White pine blister rust	DSB	Very Low	Moderate
	Endocronartium harknessii	Western gall rust	DSG	No Rank	Moderate
	Rhabdocline laricis	Pine needle cast	DFL	No Rank	No Rank
Abiotic Injuries		Fire	NB	High	Very High
		Post-burn mortality	NBF	No Rank	No Rank
		Drought	ND	High	Very High
		Drought – foliage loss or damage	NDF	No Rank	No Rank
		Flooding	NF	No Rank	No Rank
		Windthrow	NW	No Rank	Moderate
		Cedar flagging	NE	No Rank	No Rank
		Slide	NS	No Rank	No Rank
Other	*Adelges piceae*	Balsam woolly adelgid	IAB	No Rank	Low
		Animal damage	A	No Rank	High
		Bear - Animal damage	AB	No Rank	High
	Arceuthobium laricis	Larch dwarf mistletoe	DML	No Rank	Low
	Arceuthobium americanum	Lodgepole pine dwarf mistletoe	DMP	No Rank	Low
	Pissodes strobi	White pine weevil (on spruce)	IWS	No Rank	Low

2.2 Controlled Recreation Area (CRA) in Okanagan Timber Supply Area (TSA)

The dataset outlines forest disturbances from 2014 to 2024, primarily driven by two forest health agents: mountain pine beetle (severe) and western balsam bark beetle (trace and light severity), see Table 3 and Table 4.

Table 3. Mortality severity ratings as depicted by the (Province of BC 2025).

Severity	Code	Percent of Trees in Polygon Recently Killed
Trace	T	<1%
Light	L	1 to 10%
Moderate	M	11 to 29%
Severe	S	30 to 49%

Very Severe	V	>50%

Western balsam bark beetle is the primary forest health agent across all surveys that occurred within the CRA located within the Okanagan TSA. The most significant impacts were discovered in 2016 when 770 hectares of forest were infested with Western balsam bark beetle.

In the same year, mountain pine beetle was discovered in a relatively small area of 5 hectares (Figure 5). Decline of mountain pine beetle may be attributed to host depletion as witnessed across the province during this timeframe.

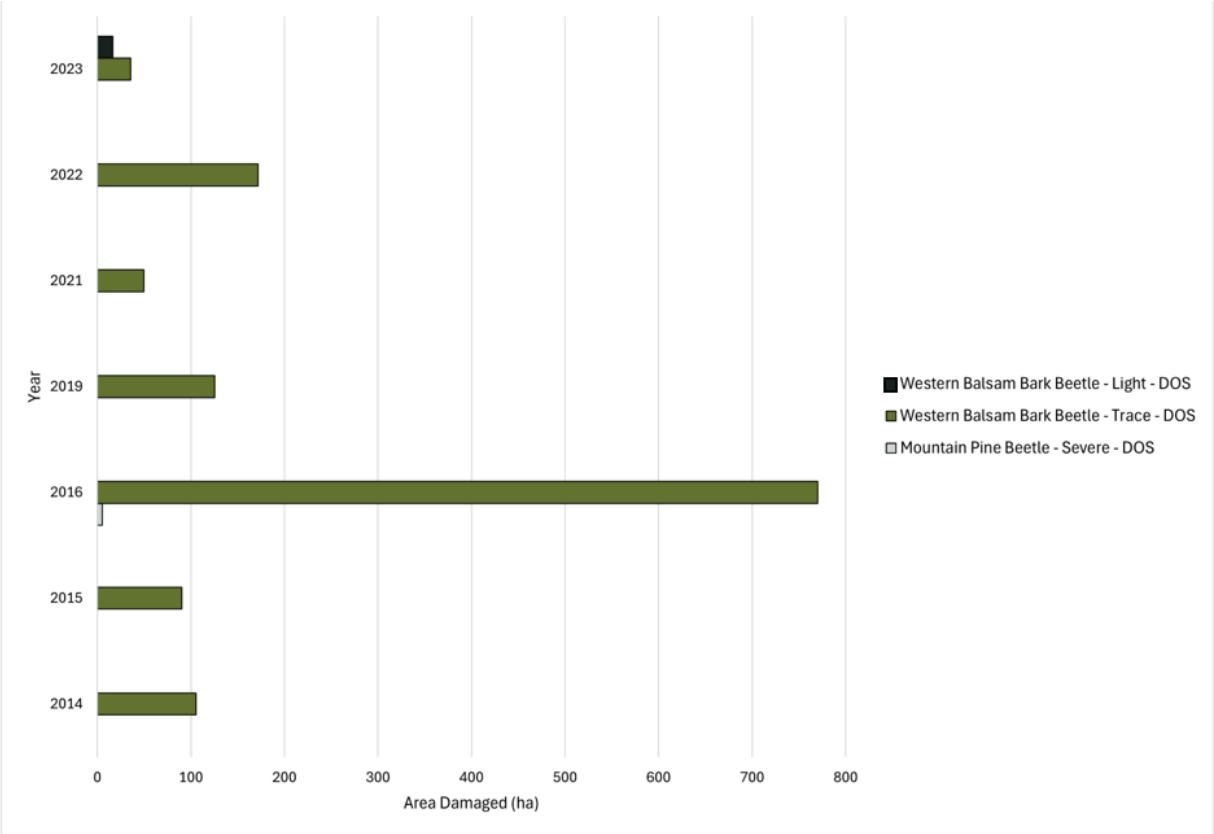

Figure 5. Forest health agents within the Big White Ski Resort CRA within the Okanagan TSA from 2014 to 2024, with mortality severity. Forest health disturbances (in hectares) within the Big White CRA from 2014 to 2024, as recorded in the Okanagan TSA (DOS). The data reflect cumulative impacts of FHF's, including Western balsam bark beetle and Mountain pine beetle, and Disturbances are categorized by agent, severity, and year, highlighting spatial and temporal variability in forest health across the Big White CRA within the Okanagan TSA.

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2.3 Controlled Recreation Area (CRA) in Boundary Timber Supply Area (TSA)

The dataset examines forest health data over 2014-2024, detailing the affected area (in hectares) by specific mortality and defoliation severity levels (Table 3;

Table 4).

Table 4. Defoliation severity ratings (Province of BC 2025).

Severity	Code	Description
Light	L	Some branch tip and upper crown defoliation, barely visible from the air.
Moderate	M	Thin foliage, top third of many trees severely defoliated, some completely stripped, easily visible from the air.
Severe	S	Bare branch tips and completely defoliated tops, most trees sustaining more than 50% total defoliation, many trees completely stripped.

Pine needle cast and western balsam bark beetle in Light and Trace severity respectively, were detected on survey between the years of 2014 to 2020. Area affected by western balsam bark beetle peaked in 2016 with 130 hectares impacted. While pine needle cast defoliation was only observed in 2017, impacting 60 hectares of the CRA within Boundary TSA (Figure 6).

These data show that western balsam bark beetle was the most frequently recorded pest or pathogen, affecting a peak of 100 ha in 2016. Between the years of 2014 to 2016 and in 2020 balsam bark beetle had a steady presence in the area. However, the trend suggests a general decline in the affected area after 2016, dropping to just 13 hectares in 2020 (Figure 6).

There has been no documented incidence of mountain pine beetle infestation over the past decade (Figure 6).

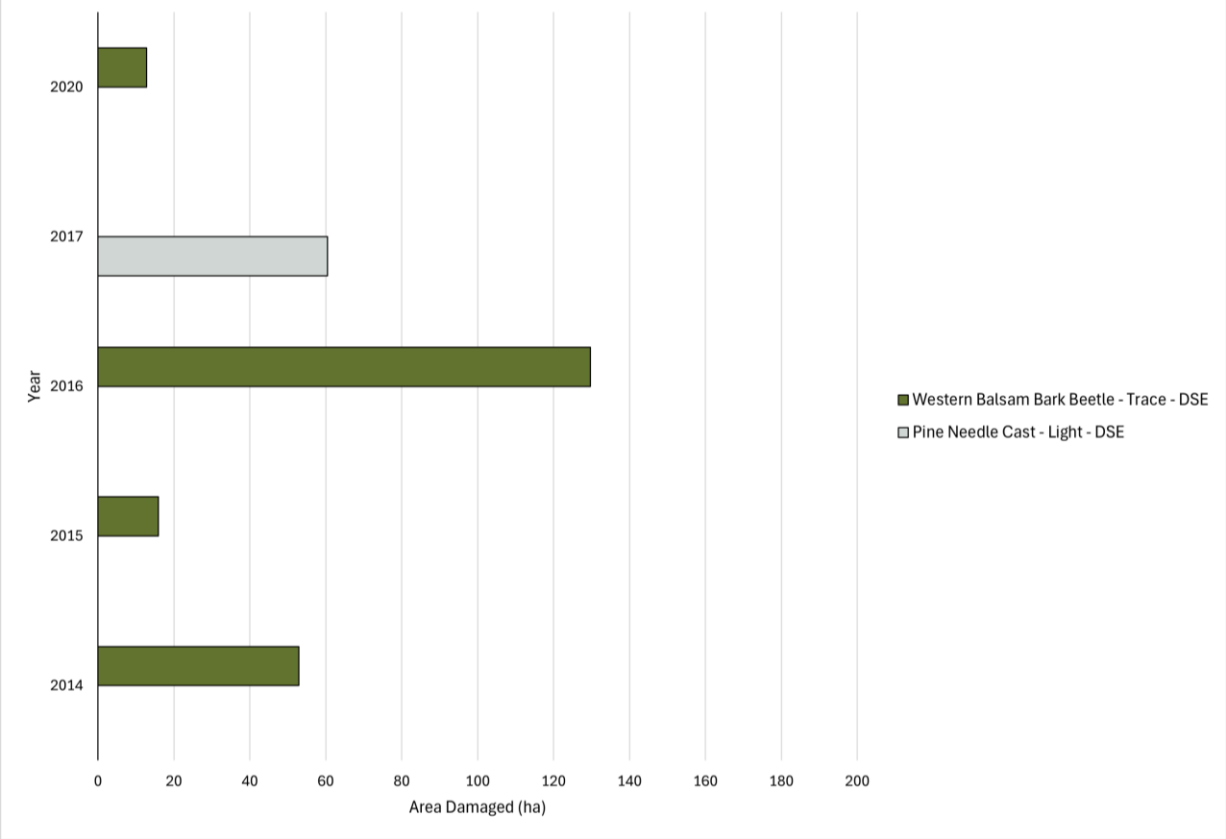

Figure 6. Forest health agents within the Big White Ski Resort CRA within the Boundary TSA from 2014 to 2024, with mortality and defoliation severity. Forest health disturbances (in hectares) within the Big White CRA from 2014 to 2024, as recorded in the Boundary TSA (DSE). These data reflect cumulative impacts of FHF's, including western balsam bark beetle and pine needle cast, and Disturbances are categorized by agent, severity, and year, highlighting spatial and temporal variability in forest health across CRA within the Boundary TSA.

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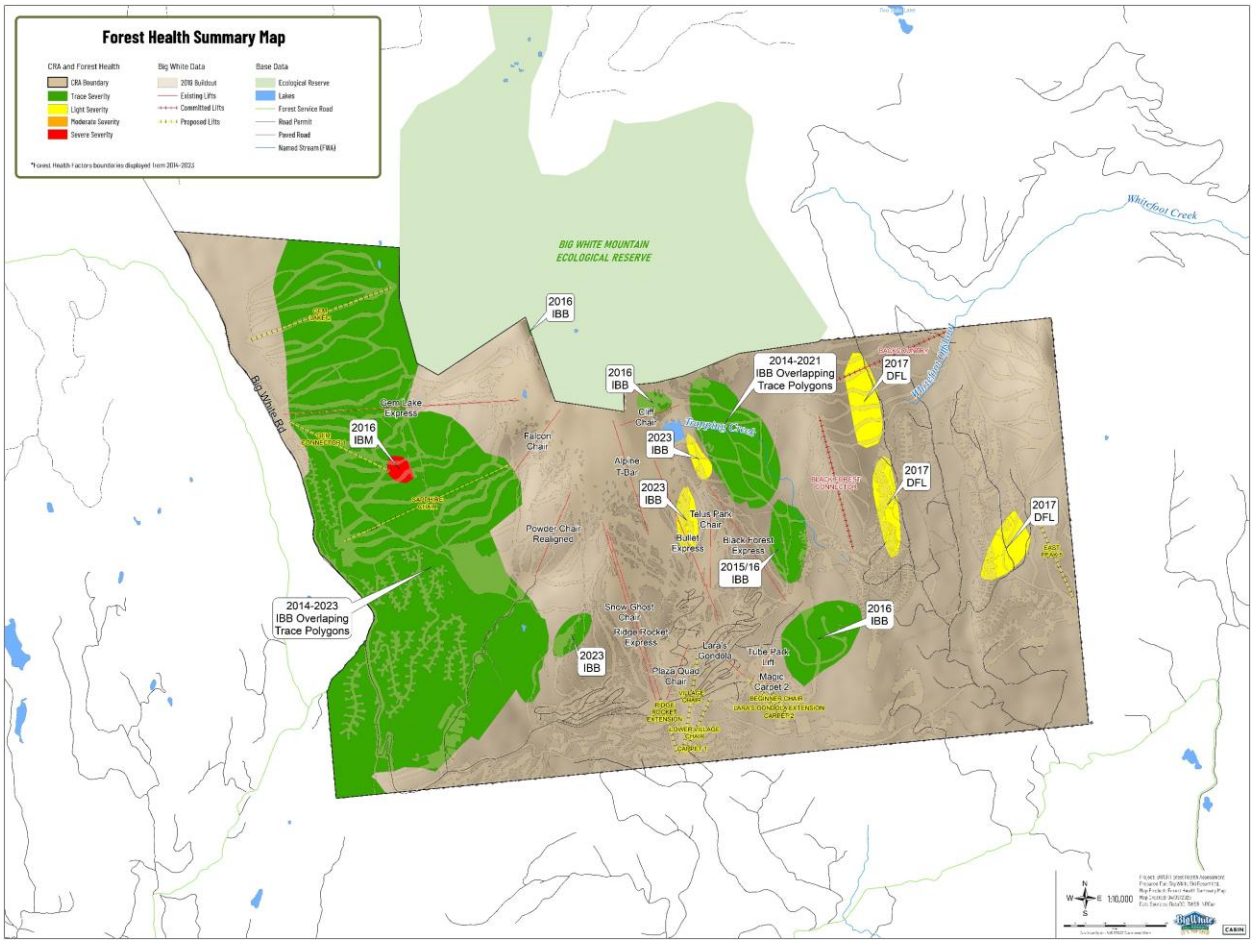

Figure 7. Overview map of forest health agents by severity across the Big White CRA Boundary.

3.0 Major Biotic Factors Specific to Big White Ski Resort Area

Located high high-elevation wet belt forests, the Big White Ski Resort area is predisposed to a larger range of biotic stressors. These agents are influenced by stand conditions such as elevation, site moisture and nutrients, climate change, and historic forest management.

3.1 Mountain pine beetle (*Dendroctonus ponderosae*)

Even with epidemic levels of mountain pine beetle have subsided throughout the province, endemic populations still pose threats to lodgepole pine. The beetle's survival largely depends on milder winters, and with climate change there is still an evident threat of another large resurgence of the pest (Safranyik and Carroll 2006).

3.2 Western balsam bark beetle (*Dryocoetes confusus*)

The most common threat to the forests surrounding Big White is the western balsam bark beetle. The beetle is largely found in mid to higher elevations, meaning that sub-alpine fir stands are especially vulnerable.

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Consistent presence has been reported amongst both TSAs within the resort area. Mortality of the tree by the beetle is commonly from a fungus that is carried within the beetle's mandibles, which eventually and slowly causes lesions which girdle the tree that has been attacked. The fungus is attributed to approximately 65% of mortality caused by the Western balsam bark beetle (Burleigh et al. 2014).

3.3 Spruce beetle (Dendroctonus rufipennis)

There has been an increasing trend of spruce beetle outbreaks across British Columbia; however, the beetles' presence has yet to be serious in nature as of yet to the Big White area. Spruce beetle does have a substantial risk to species such as Englemann spruce, which is common throughout the resort. Risk is only increased following disturbance such as logging or windthrow events. Whereas the species prefers mature and/or damaged spruce (Burleigh et al. 2014). While the AOS did not capture any incidence of spruce beetle over the last 10 years, spruce trees on the resort have been impacted by this FHF.

3.4 Root Rots (Armillaria ostoyae, Phellinus sulphurascens)

Root diseases such as Armillaria and Phellinus are species that are very common and damaging to the region. The inoculum is common with mortality and windthrow events in Douglas-fir, Spruce, and Subalpine fir. These soil-borne pathogens are hard to report from aerial surveys as they slowly spread and develop from the disease epicentre over a long period of time. Various kinds of root rots such as these means increased public risk around resort infrastructure and require long-term forest health planning (Morrison and Mallett 1996).

3.5 Wildlife Damage

Wildlife can lead to changes in forest structure and regeneration function in the Big White area. Wildlife species such as bear, deer, moose, and small mammals can lead to substantial damage to juvenile species of trees through herbivory. Inadvertent girdling of younger trees can affect seed establishment and mortality rates of regeneration that may be under threat already from other pests or pathogens. (Burleigh et al. 2014).

4.0 Major Abiotic Factors Specific to Big White Ski Resort Area

Other than biotic forest health impacts, the Big White CRA is exposed to various abiotic and other anthropogenic pressures. These impacts can influence the survivorship of trees, wildfire risk, and the feedback of trees becoming more susceptible to damage or disease.

4.6 Windthrow

A significant disturbance in higher elevation or montane subalpine stands is windthrow. These areas, influenced by topographical features that increase exposure, compounded with shallow-rooted soils, allow for increased windthrow risk. In stands that have an inoculum of root rot, they are exceptionally at risk to wind events and subsequent failure. Windthrow mortality can also increase habitat and brood material for beetles such as the western balsam bark beetle (Stathers et al. 1994).

4.7 Snow and Ice Loading (Structural Stress)

Snow and ice accumulation in wintertime increases the structural stress of trees which can lead to stem breakage. This phenomenon is commonly referred to as snowpress. This can especially impact younger trees or trees with brittle wood, such as the Englemann spruce (Burleigh et al. 2014). Snowpress can influence hazard tree formation and increase risks to trees through secondary pests. While it was not captured by the AOS, the resort was impacted by a snow and ice loading event combined with wind in the winter of 2023/24.

4.8 Climatic Stress (Temperature Extremes and Anomalies)

Given climate variations, unprecedented stress has become common for high-elevation ecosystems. Cycles of freeze-thaw in spring and fall can cause increased frost cracking and a reduction of winter resiliency. With heat domes becoming normal and the growing season increasing 20-40 days by the year 2100, causing a multiplied effect of drought, pest, and wildfire issues (NRC 2025). Conditions are creating an issue of predisposing trees to attack from insects, especially bark beetles and defoliators. As a result of climate change through the lens of forest health, a feedback loop has been created that is interconnected through pest outbreaks, wildfire, and biodiversity loss (Westfall and Duthie-Holt 2021).

4.9 Wildfire Risk

Even though Big White has not endured a significant wildfire event in more recent years, the areas surrounding the resort have. The frequency and severity of wildfires are increasing, with larger megafires becoming normal. Given the resort's position on the landscape, it is dominated by conifer stands that have increased ladder fuels and elevated fire risk when compounded by extreme weather conditions. Wildfire suppression/exclusion and an increase in interface area require proactive wildfire fuel management strategies.

4.10 Edge Effects

Solar radiation, wind exposure, and microclimatic shifts become more common when forest edges are created through the development of lift lines, roads, trails, and ski runs. This effect on the forest can lead to increased desiccation (drying through wind flow), tree structural damage, and stand species conversion (Harper et al. 2005).

4.11 Anthropogenic & Cumulative Effects

Overall expansion of resort infrastructure can lead to changes in succession and stand composition around the CRA. Changes that may detract from existing forest resilience by augmenting age structures, wildlife habitat, fragmentation, and the aforementioned increase in edge effect. Increased edge effect can impact both plant and animal, which may create a transition of species compositions (i.e., shade-tolerant species to shade-intolerant species or an increase in invasive species) (Burton 2025).

5.0 Current Forest Health Management

5.12 Okanagan TSA Forest Health Plan

The Okanagan TSA (DOS) Forest Health Strategy prioritizes adaptive management to manage for biotic stressors. For example, Beetle Management Units (BMUs) have led to increased monitoring and sanitation logging to better protect Lodgepole pine and Ponderosa pine species (Table 5).

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Western balsam bark beetle management is limited, given its scattered and drawn-out mortality pattern. There is a particular emphasis on long-term monitoring given the pest complexities alongside higher elevation stands (Table 5).

Armillaria and Phellinus, including other fungi, require long-term management in the Okanagan TSA with an emphasis on long-term monitoring and possible stumping for Armillaria and sanitation for Phellinus (Table 5).

5.13 Boundary TSA Forest Health Plan

The Boundary TSA (DSE) Forest Health Strategy is like that of the Okanagan TSA where for maintaining populations of mountain pine beetle through BMUs and monitoring is upheld through aerial surveys (Table 5).

Western balsam bark beetle has a similar methodology for management to that of the Okanagan TSA (Table 5). Blowdown savaging to manage for Spruce beetle is a similar strategy to that of the Okanagan TSA (Table 5).

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Table 5. Comparison of forest pest and stressor management strategies between Okanagan TSA (DOS) and Boundary TSA (DSE), highlighting region-specific approaches to monitoring, treatment, and forest resilience for various biotic and abiotic agents. Summarized from both Forest Health Strategies within the Okanagan and Boundary TSA (Sheshurak et al. 2019; Christianson 2024).

Agent / Stressor	Okanagan TSA (DOS) – Management Strategy	Boundary TSA (DSE) – Management Strategy
Mountain Pine Beetle	Sanitation logging; harvest residual susceptible pine; aerial survey and prioritization tools.	Harvest green attack > red > susceptible stands; target BMUs; use aerial survey and detection mapping.
Douglas-fir Beetle	Trap trees, sanitation harvest, fall & burn in high hazard stands. Monitor post-disturbance blowdown.	Trap trees, funnel traps, slash removal, blowdown cleanup, post-fire management guidance.
Spruce Beetle	Salvage blowdown; monitor outbreak conditions in spruce-leading stands.	Prioritize salvage of blowdown; monitor for future outbreaks; follow Bark Beetle Guidebook.
Western Balsam Bark Beetle	Detection only; no direct treatments; avoid multi-layered, older fir stands.	Long-term monitoring; focus on detection; direct control not feasible due to stand structure and beetle dynamics.
Western Spruce Budworm	Biological control (Btk); egg mass surveys; convert multi-layered fir stands to more resilient structures.	Egg mass surveys; silvicultural modifications; avoid heavy retention or complex multi-age stands in fir-dominated areas.
Douglas-fir Tussock Moth	Pheromone monitoring; biological insecticide (NPV); monitor human health risks.	Annual pheromone and beat sampling; Btk application during outbreak; consider stand conversion and thinning.
Hemlock Looper	Egg mass surveys and aerial detection when active.	Not active or managed currently.
Aspen/Birch Leaf Miners	Monitor only; no treatment required.	No management planned; deciduous species excluded from timber stocking objectives.
Armillaria Root Disease	Stump removal post-harvest; delayed Free Growing (FG) surveys; adjusted stocking standards.	Cautious thinning; minor stump removal efforts; later FG surveys recommended.
Phellinus (Laminated Root Rot)	Sanitation harvest; favor resistant species in replanting.	General monitoring only; integrated under broader root disease management practices.
Drought	Track drought-sensitive sites; promote species/stand resilience through adaptive silviculture.	Incorporated into agent priority rankings; adjust management to improve forest resilience.
Fire (Wildfire)	Apply fuel breaks, post-fire salvage, FireSmart prescriptions in developed areas.	Monitor fire recovery zones for secondary bark beetle activity; salvage as needed.
Windthrow	Use windfirm species on exposed sites; prompt salvage of blowdown; post-harvest design to reduce edge exposure.	Rapid salvage of blowdown; assess wind exposure during stand layout and harvest planning.

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6.0 Impact of Climate Change on Forest Health

Minor levels of FHF are essential to the role of a resilient forest ecosystem. Endemic levels or benign disturbance assist in structural diversity, nutrient cycling, and the dynamics of succession (Volney and Fleming 2000; Sturrock et al. 2011). Healthy forests allow for insect populations and root disease to co-exist with host species at moderate levels; however, when these populations increase in frequency, intensity, or distribution, these factors begin to exceed the adaptive potential of a forest.

Defoliators such as western spruce budworm (*Choristoneura freemani*) and Hemlock looper (*Lambdina fiscellaria*) are on the rise across the province, among many other harmful defoliator pests. Some even affecting both agricultural crops and natural forest. Given the forest species composition of the Big White CRA, it is exceptionally at risk for hemlock looper and spruce budworm infestation as their distributions increase with warming climates. An increase in temperature allows for larval development to increase, as well as reduced winter die-off which assists in population management (Gray 2008; Campbell et al. 2021). Climate change also assists in allowing the species to interact with areas it has yet to impact by creating additions of suitable habitat (Pureswaran et al. 2015).

Wildfire impacts associated with increased heat and drought cycles decrease a tree's ability to defend against defoliators and more wildfire-prone (Allen et al. 2010). Warmer temperatures also may impact pests' relationships with their natural predators, which can also shift population dynamics. (Sturtevant et al. 2015).

Bark beetles such as mountain pine beetle (*Dendroctonus ponderosae*) and Spruce beetle (*D. rufipennis*) are gaining vitality through warmer winters and prolonged summer activity windows. These are changes that facilitate population growth and allow beetles to complete additional voltinism cycles (Bentz et al. 2010). Drought-stressed trees have lowered resin defence, which can also allow them to be more vulnerable to attack and a reduction of forest resistance at the landscape scale. Typically, conifer species can pitch out minor infestation levels of some beetles.

Armillaria and Phellinus may become more problematic as climate change shifts soil temperature and moisture conditions in ways that favour fungal behaviour and spread (Sturrock et al. 2011).

Climate-informed monitoring is vital in tempering unnatural disturbance regimes within the ESSF, ICH, and MS forests. Addressing FHF through risk assessment and integrated adaptive management techniques is key to a successful forest health strategy for an all-season resort.

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7.0 Recommended Forest Health Actions

1. Forest Health Strategy:
   a. Development and implementation of a proactive early-detection, reporting/communication and active mitigation forest health strategy which utilizes Best Practices recognized in the Forest Sector and developed in collaboration with government, local First Nations and Forest Licensees.

2. Forest Health Monitoring:
   a. Create a Forest Health Monitoring Plan to include a Forest Health Survey.
   b. Forest Health Surveys should focus ground ground-level assessment but may include aerial and/or drone monitoring to identify the presence of any forest health issues over a larger area.
   c. Data collection to be compiled in standard forms.
   d. Methodology should be consistent year over year. This would be a focused activity to identify presence of any forest health factors that cannot be seen from the air e.g. green-attack. The methodology should be approved by a representative at the Mountain Resorts Branch.
   e. The results of the Forest Health Survey should include site-specific recommendations.
   f. Forest Health Surveys must be conducted by a qualified forest professional.

3. Forest Health Inventory:
   a. Compile Forest Health Survey data and report to the Mountain Resorts Branch to establish a forest health inventory within the CRA and any mitigative actions.
   b. Work and communicate with Ministry of Forests, Mountain Resorts Branch, local First Nations and Forest Licensees.
   c. Share information with the agencies and Licensees on active forest health factors of concern and work collaboratively to address any forest health issues identified.

4. Forest Health Treatments:
   a. Take action to mitigate any harmful forest health factors as they are identified within the CRA through the development of mitigation plans/treatments.
   b. Complete salvage or sanitation harvesting when needed.
   c. Work and communicate with Ministry of Forests, Mountain Resorts Branch, local First Nations and Forest Licensees.

5. Whitebark Pine Certification:
   a. Obtain Whitebark Pine Friendly Ski Resort Certification through the Whitebark Pine Ecosystem Foundation

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8.0 References, Data Sources and Abbreviations

8.14 References

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8.15 Data Sources

Dataset	Source
Controlled Recreation Areas - C	https://catalogue.data.gov.bc.ca/dataset/c5b1f47a-518a-4815-88c1-cd3c0245e727
BC AOS Results Summary by TSA 2014	https://www.for.gov.bc.ca/ftp/HFP/external/!publish/Aerial_Overview/2014/Datasets/2014_FHF_by_TSA.xlsx
BC AOS Results Summary by TSA 2015	https://www.for.gov.bc.ca/ftp/HFP/external/!publish/Aerial_Overview/2015/Datasets/FH%20Data%20by%20TSA%202015%20Jan%2022.xlsx
BC AOS Results Summary by TSA 2016	https://www.for.gov.bc.ca/ftp/HFP/external/!publish/Aerial_Overview/2016/Datasets/FH%20Data%20by%20TSA%202016.xlsx
BC AOS Results Summary by TSA 2017	https://www.for.gov.bc.ca/ftp/HFP/external/!publish/Aerial_Overview/2017/Datasets/2017%20Aerial%20Overview%20Summary%20for%20British%20Columbia.docx
BC AOS Results Summary by TSA 2018	https://www.for.gov.bc.ca/ftp/HFP/external/!publish/Aerial_Overview/2018/Datasets/FHF%20by%20TSA%202018.xlsx
BC AOS Results Summary by TSA 2019	https://www.for.gov.bc.ca/ftp/HFP/external/!publish/Aerial_Overview/2019/Datasets/FHF%20by%20TSA%20Jan%2028%202019.xlsx
BC AOS Results Summary by TSA 2020	https://www.for.gov.bc.ca/ftp/HFP/external/!publish/Aerial_Overview/2020/Datasets/AOS_FHF_by_TSA_2020_Final_Dataset.xlsx
BC AOS Results Summary by TSA 2021	https://www.for.gov.bc.ca/ftp/HFP/external/!publish/Aerial_Overview/2021/Datasets/AOS_2021_FHF_by_TSA.xlsx
BC AOS Results Summary by TSA 2022	https://www.for.gov.bc.ca/ftp/HFP/external/!publish/Aerial_Overview/2022/Datasets/AOS_2022_FHF_TSA_Tabular_Summary_April17_2023.xlsx
BC AOS Results Summary by TSA 2023	https://www.for.gov.bc.ca/ftp/HFP/external/!publish/Aerial_Overview/2023/Datasets/AOS_2023_by_TSA_Final.xlsx
BC AOS Results Summary by TSA 2024	https://www.for.gov.bc.ca/ftp/HFP/external/!publish/Aerial_Overview/2024/Datasets/AOS_2024_by_TSA_January7.xlsx

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8.16 Abbreviations

Abbreviation	Definition
AOS	Aerial Overview Survey
BCTS	British Columbia Timber Sales
BEC Zone	Biogeoclimatic Ecosystem Classification Zone
BMU	Beetle Management Unit
Btk	*Bacillus thuringiensis var. kurstaki*
BWSR	Big White Ski Resort
CRA	Controlled Recreation Area
DOS	Okanagan Shuswap Natural Resource District
DSE	Selkirk Natural Resource District
FG	Free Growing
FHF	Forest Health Factor
LiDAR	Light Detection and Ranging
MRB	Mountain Resorts Branch
NPV	Nucleopolyhedrovirus
NRC	Natural Resources Canada
TACS	Ministry of Tourism, Arts, Culture, and Sport
TSA	Timber Supply Area
WFN	Westbank First Nation