

Fire Hazard Assessment and Abatement (FHAA)

Roadmap for the future &

Landscape Wildfire Resiliency

Wildland Fire and Fuel C.O.P. - April 17, 2024

Pete Laing, RFT, IC1, OSC1, L1, PBB2

Superintendent Fuel Management

BC Wildfire Service



Presentation

- Not how to a do a fire hazard assessment (FHA) or complete abatement (overview)
- Not a deep dive into legislative requirements (overview)
- Is about policy/planning/implementation that meet FHAA legal obligations intent of the Wildfire Act and Regulation
- Is about wildfire resiliency and/through private (industry)/public partnerships
- PDF reference document available Links in document



The Wildfire Act & Regulation 20 years of FHAA Professional Reliance

- next 20 years?

- Qualified holder Statutory obligations
- Professional Reliance is it working?
- FHAA what we've leaned; where are we going?
 (Support guidance tools)
- Fire Hazard Abatement: open fire use piled vs broadcast (what's old is new - sort of)
- Planning: Site Plans Fire Hazard Assessments (FHA)
 Burn Plans Prescriptions Fuel Management
 Plans Forest Landscape Plans (or FSPs)
- Cost & Liability (Barriers?)
- Landscape Wildfire Resiliency building the system
- Scenarios and questions are for consideration and illustration of a potential future state



Qualified Holder



"qualified holder" means a person, other than the government,

- (a) who is a party to a cost sharing agreement or service agreement, as defined in section 28 of Wildfire Regulation, or
- (b) who
 - (i) is the holder of an agreement or licence referred to in section 12 (1) (a), (c), (d), (e) and (g) and (2) (a) of the *Forest Act*, and
 - (ii) is not in arrears, under the Annual Rent Regulation, B.C. Reg. 122/2003, for the annual rent payable respecting
- (A) the agreement or licence, or
- (B) in the case of a supplemental forest licence, the cutting permit issued under the supplemental forest licence;

Forest Act 12(1) & (2)



Form of agreements

12 (1) The minister may enter on behalf of the government into an agreement granting rights to harvest Crown timber in the form of a

- (a)forest licence,
- (b)[Repealed 2004-36-4.]
- (c)timber licence,
- (d)tree farm licence,
- (e)community forest agreement,
- (e.1) first nations woodland licence,
- (f)[Repealed 2021-38-22.]
- (g)woodlot licence,
- (h)licence to cut,
- (i)free use permit,
- (j)Christmas tree permit, or
- (k)road permit.

(2) A timber sales manager may enter on behalf of the government into an agreement granting rights to harvest Crown timber in the form of a (a) timber sale licence,

- (b)forestry licence to cut, or
- (c)Road permit





- Wildfire Reg. states that a <u>fire hazard</u> <u>assessment must be completed;</u>
 - Every 3 months while operating within, or within 2 km, of local government boundaries as defined in the WA (Interface) WR 11(2)
 - -6 months everywhere else WR 11(3)
 - -Option for qualified holder to complete assessments as specified by an RPF or RFT (rationale required) WR 11(3.1)(b)







•Wildfire Reg. states that fire hazard abatement must be completed;

- Within 6 months when operating within, or within 2 km, of local government boundaries as defined in the WA (Interface) WR 12(1)(a). Note exception; unless bylaws exist WA 4
- Within 12 months everywhere else WR 12(1)(b)
- Qualified holder;
 - Within 24 months when operating within, or within 2 km, of local government boundaries as defined in the WA (Interface), beginning on start date of industrial activity WR 12.1(2)(a). Note exception; unless bylaws exist WA 4
 - Within 30 months everywhere else, beginning on start date of industrial activity WR 12.1(2)(b)(i)
 - Option for qualified holder to complete abatement as specified by an RPF or RFT (rationale required) WR 12.1(2)(b)(ii)



Fire hazard
 assessments must
 include assessment
 of fire hazard and
 risk of fire starting
 or spreading

- WR 11(4)(a)





- A required person must abate a fire hazard to levels that do not increase risk of a fire starting or spreading as a result of their prescribed or industrial activity – WR 12(2)(a)(b) & 12.1(3)(i)(ii)
 - Or, In the case of a qualified holder as specified by a RPF or RFT (with rationale) WR 12.1(3)(b)





Specifically,

- A person required to abate a fire hazard must reduce the fuel hazard to ensure that;
 - a) it does not increase the risk of a fire starting on the site, or
 - b) If a fire were to start, would not increase the fire behavior or fire suppression associated with the fire



Same fire – same time – 2023

Did the prescribed activity increase the risk of a fire starting - or was fire spread rate increased?

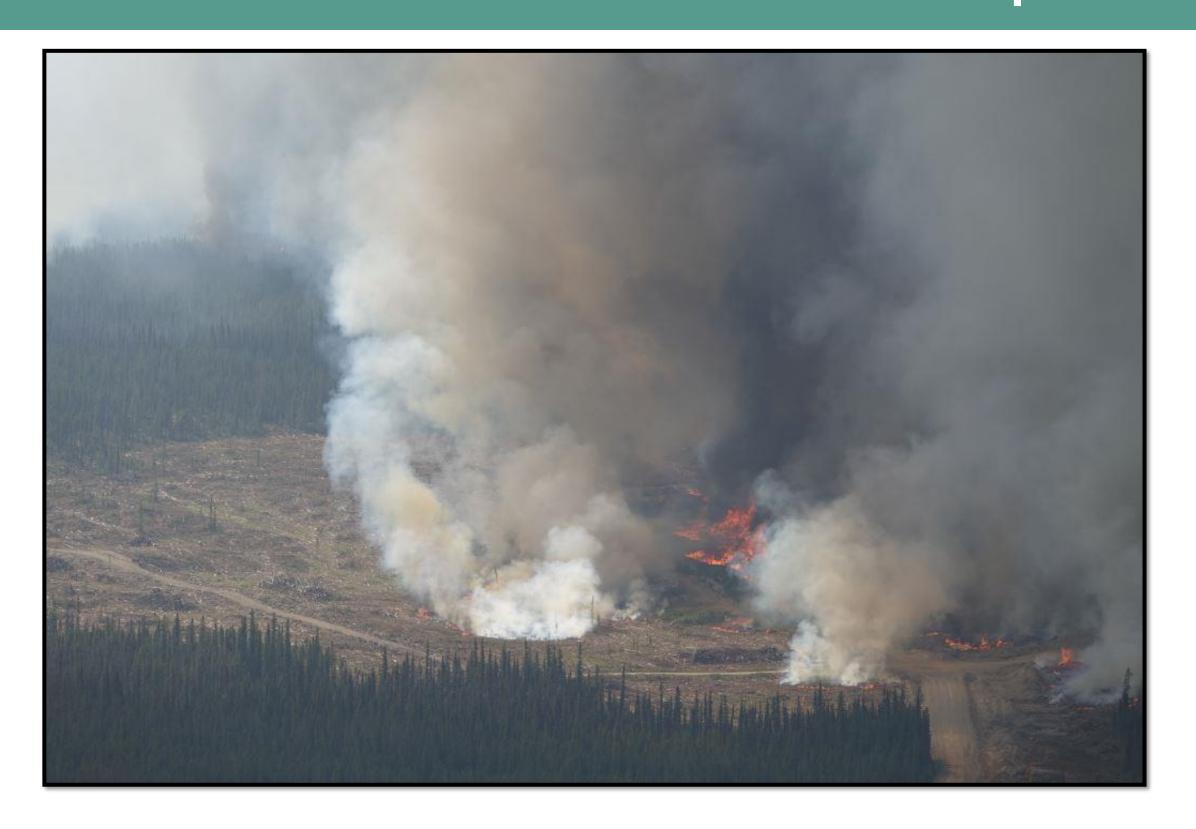






What questions do you have about the fire hazard in this picture?





- When did the activity start?
- Qualified holder status?
- Fire hazard assessment completed?
 - Scope/due diligence
- Are professional reliance principles meeting the objectives and intent of the Wildfire Act and Regulation – and social licence expectations in general?
- Are professionals meeting FHAA due diligence and scope requirements?
- Is there another way to meet intent of statutory requirements?
- Is the Wildfire Act and Regulation meeting it's intended FHAA goals?

20 Year of Professional Reliance – Wildfire Act and Regulation

Forest Appeals Commission





2 decisions rendered in regards to abatement orders

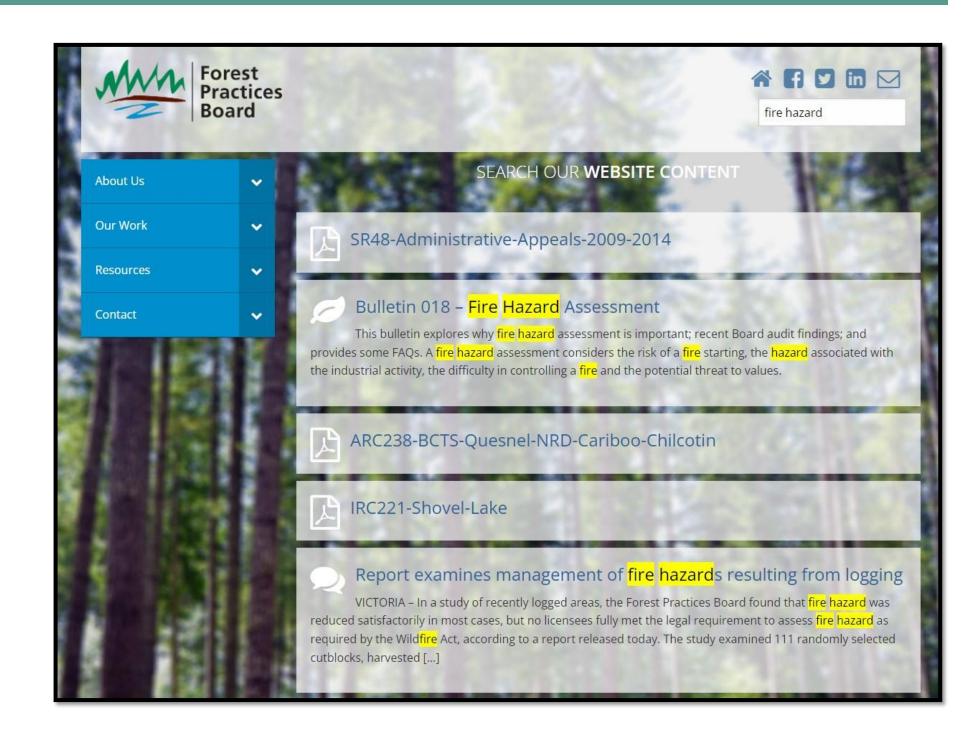
- 2013 Appeal allowed in part (cost recovery/remediation order/admin penalty referred to manager for adjustment).
 None the less, cost to licensee was high (recovery/remediation order/admin penalty)
- 2019 Appeal allowed in part (broad wording in abatement order). None the less the abatement order stands, and appellant must abate fire hazard
- Take away abate the fire hazard when someone from the government tells (orders) you to
- Not resolved <u>liability timelines</u>

20 Years of Professional Reliance – Wildfire Act and Regulation

Forest Practices Board



- Exemption requests, simplified FHA process, develop BMPs 2008 S.I.
- FHA = due diligence 2008 S.I.
- Exemption from FHA = comprehensive fuel management plans 2008 S.I.
- Timing (30 months) and reduced fuel loading concerns March 2021 C.I.
- Review our defined hazard assessment/abatement strategy -March 2021 C.I.
- Liability concerns echoed Dec. 2022
 S.I.



20 Years of Professional Reliance – Wildfire Act and Regulation

BRITISH COLUMBIA Service **FUEL MANAGEMENT Forest Practices Board**





Fuel Management in the Wildland Urban Interface - Update

Special Investigation

FPB/SIR/43

May 2015



Fire Management Planning

Special Investigation

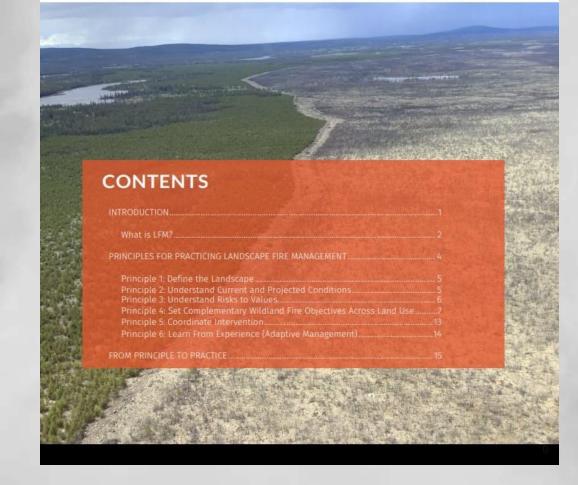
FPB/SIR/34

February 2012





TECHNICAL BULLETIN



20 Years of Professional Reliance – Wildfire Act and Regulation

Reports





info@fpinnovations.ca www.fpinnovations.ca

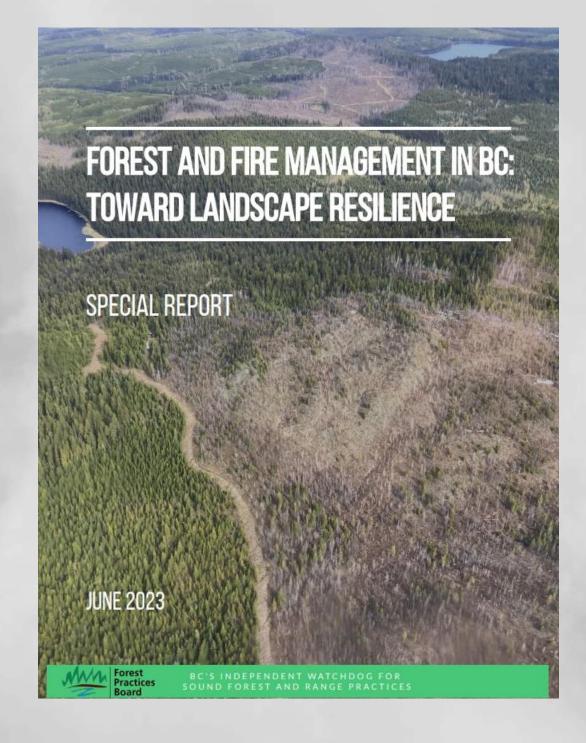
Wildfire/fuel treatment encounters:
Assessing fuel treatment effectiveness

A case study at Logan Lake, British Columbia

PROJECT NUMBER: 301013731







- Does the next 20 years look like the last 20 years in relation to Fire Hazard Assessment and Abatement in BC?
- Can FHAA contribute to landscape wildfire resiliency through common forestry practice?
- How do we get there?









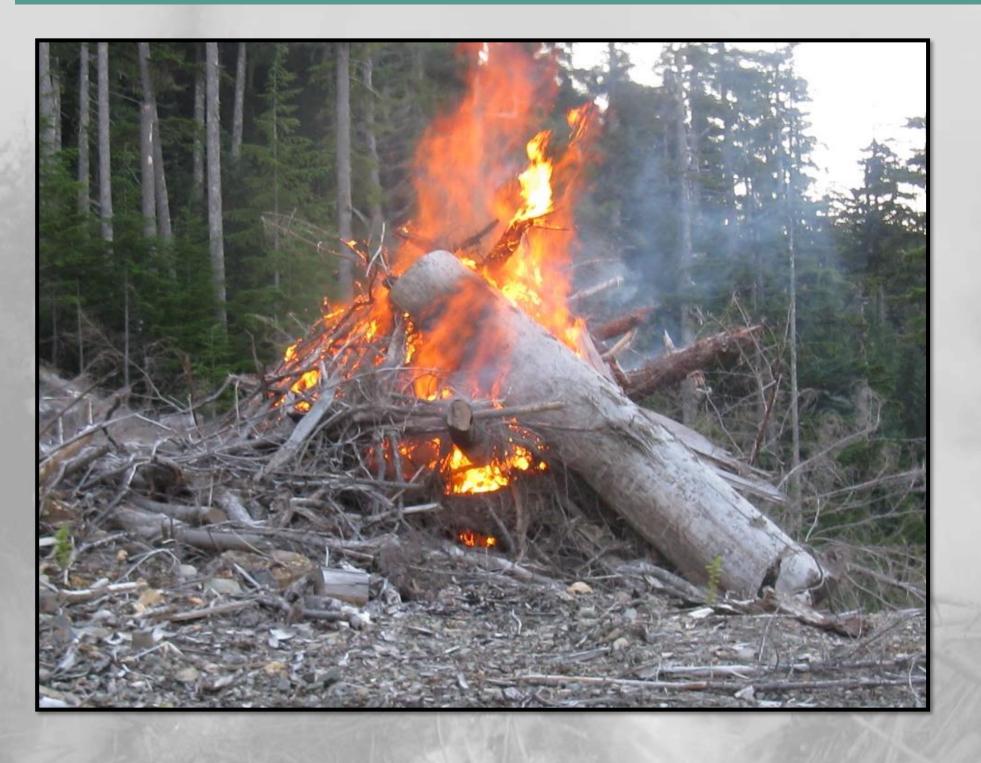




Common Thread – More **Good** Fire Needed

- What role can FHAA play?
- Do the photos below represent good or bad fire?







Support - Tools 2024

- FHAA / Harvesting & Fuel Management Guidance
- BC Wildfire Service: Fuel Management Program & the CRx Fire Program & Fire Centre's



Wildfire prevention for industry and commercial operators - Province of British Columbia (gov.bc.ca)

Wildfire prevention for industry and commercial operators

Last updated on May 10, 2023

① The B.C. Government has recently made minor amendments to the Wildfire Regulation, BC Reg 38/2005. Please review the amended sections to determine if they affect your operations and activities: ATTENTION: Amendments to the Wildfire Regulation

Industry and commercial operators in British Columbia have, under the <u>Wildfire Act</u> and <u>Wildfire Regulation</u>, legal obligations and responsibilities with respect to fire use, prevention, control, and rehabilitation.

This includes <u>hazard assessment and hazard abatement</u> and the performance of <u>high risk activities</u>.

The Wildfire Act applies on both public (Crown) and private land throughout B.C. It is your responsibility to review and understand the Act and Regulation and take steps to ensure you are in compliance.

A person who contravenes either the Wildfire Act or the Wildfire Regulation may be liable for an administrative penalty or a fine upon conviction, and/or suppression, fire damage and rehabilitation costs.

Hazard assessment & abatement

Use the British Columbia fire risk map to determine the location of a potential fire hazard.

View fire risk map

High risk activities

Fire and fuel management - Province of British Columbia (gov.bc.ca)

Tools for fuel management

+ Last updated on December 13, 2023

① A new version of the <u>Line Intersect Calculator</u> and new <u>Spatial Standards for Fuel Management Prescriptions</u> are now available.

In preparing to develop a treatment plan to mitigate wildfire threat near values at risk, users may find the tools described below helpful in quantifying threat, developing treatment options, and prescribing a treatment plan.

WRR community engagement resources

WRR references and literature

ABCFP interim guidelines - fire and fuel management

Members of the Association of BC Forest Professionals (ABCFP) play an integral role in the management of fire and fuels in B.C. forest ecosystems. Reference for professional considerations related to fire and fuel management.

ABCFP Interim Guidelines – Fire and Fuel Management (PDF, 561KB)

Fuel management

Fuel management is the planned manipulation and (or) reduction of living or dead forest fuels for forest management and other land use objectives (such as hazard reduction, silvicultural purposes, wildlife habitat improvement) by prescribed fire, mechanical, chemical or biological means, and (or) changing stand structure and species composition.

• Fuel Management Practices 2023 (PDF, 15.3MB)

Update - Law and Policy 2024



Changes to Wildfire Regulation

- Definitions
- Fuel breaks and open fire spread
- Fire control open fire
- Burn registration numbers
- Extinguishment Cat. 3 documentation

policy_912_open_fire.pdf (gov.bc.ca)



Scope

This policy pertains to the requirements for use of open fire under sections 20 to 24 of the Wildfire Regulation. This policy does not address requirements that may apply to the use of open fire under other legislation, such as the *Environmental Management Act* (Open Burning Smoke Control Regulation).

Purpose

The purpose of this policy is to provide guidance on certain requirements under the Wildfire Regulation for the safe use of open fire, including fuel breaks, preventing open fires from becoming out of control, burn registration numbers and documenting extinguishment.

This policy provides guidance only for the above referenced topic areas and does not provide guidance on all requirements related to the use of open fire. The actual legislation should be referenced for the legal requirements on this topic. Legal advice may be required for specific questions about the legal requirements under the *Wildfire Act* and Wildfire Regulation.

Definitions

In this policy, the following words have the following meanings, unless the context dictates otherwise:

- a) "Category 1 campfire" means a category 1 campfire as defined in section 1 of the Wildfire Regulation.
- b) "Category 2 open fire" means a category 2 open fire as defined in section 1 of the Wildfire Regulation.

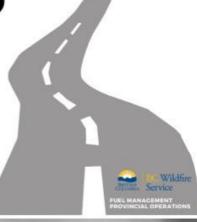
Policy 9.12 – Open Fire Page 1

Update - FHAA Roadmap - posting soon

- Aspirational (FHAA fuel management plans/policy) and pragmatic (training), not static
- Speaks to issues (FPB, Industry, others)



FIRE HAZARD **ASSESSMENT** AND



ABATEMENT ROADMAP TABLE OF CONTENTS History of Fire Hazard Assessment and Abatement in British Columbia Internal Government Reports, Forest Practices Board, Forest Appeals Commission Pricing & Tenures, Climate Change, Air Quality, Utilization, Carbon Sequestration 1 Contribute, collaborate, and support legislative amendments and policy changes that create an environment that encourages actions leading to effective assessment and 2. Identify and support business opportunities and technology that increase compliance Update existing guidance documents and develop new best management practices and standards that facilitate an advancement in practice... 4. Promote tools, technology and research that enhance effective practice... 5. Develop curriculum that improves professional practice and engagement strategies that inform government and the forest industry on their obligations and safety

FIRE HAZARD ASSESSMENT AND ABATEMENT ROADMAP



ROADMAP PRIORITIES

- 1. Contribute, collaborate, and support legislative amendments and policy changes that create an environment that encourages actions leading to effective assessment and abatement practice
- 2. Identify and support business opportunities and technology that increase compliance and enforcement
- 3. Update existing guidance documents and develop new best management practices that facilitate an advancement in practice
- 4. Promote tools, technology and research that enhance effective practice
- 5. Develop curriculum that improves professional practice and engagement strategies that inform government and the forest industry on their obligations and safety requirements



STRATEGIC ROADMAP



FIRE HAZARD ASSESSMENT AND ABATEMENT ROADMAP



CONTRIBUTE, COLLABORATE, AND SUPPORT LEGISLATIVE AMENDMENTS AND POLICY CHANGES THAT CREATE AN ENVIRONMENT THAT **ENCOURAGES ACTIONS LEADING TO EFFECTIVE** ABATEMENT AND ASSESSMENT PRACTICE

Objective 1.2

Strategy: Work internally (with MOF: pricing and tenures, Office of the Chief Forester (OCF), BCWS), and Externally (Ministry Of Environment Climate Change (MOECC)) to explore other regulatory options and policy options (i.e. appraisal manual re: Rx fire costs/abatement costs, waste manual, and OBSCR) that reduce fuel hazard on the land base and mitigate risk

ltem	Stage	Fuels Management Lead	Estimated Completion Date
Work with Cultural and Prescribed Fire (C+Rx) and Risk and Planning Departments to assess the appraisal manuals for amendments that support reduced billing for fuel reduction burning as a silviculture treatment.	Advanced scoping	Pete Laing, Jonathan Murkin (Morgan Boghean)	TBD
Continue engaging with MOECC regarding the OBSCR and policy development under 'substituted requirements for open burning' (Part 4 29(1)) to allow for more flexibility when burning to complete Wildfire Risk Reduction (WRR) work linked to public safety. Investigate opportunities/ implications for 'High Smoke Sensitivity' zones outside of the WUI. Note: may require minister to minister discussions to provide clarity and priority to staff.	Early scoping	Pete Laing, Ryan Hall	TBD

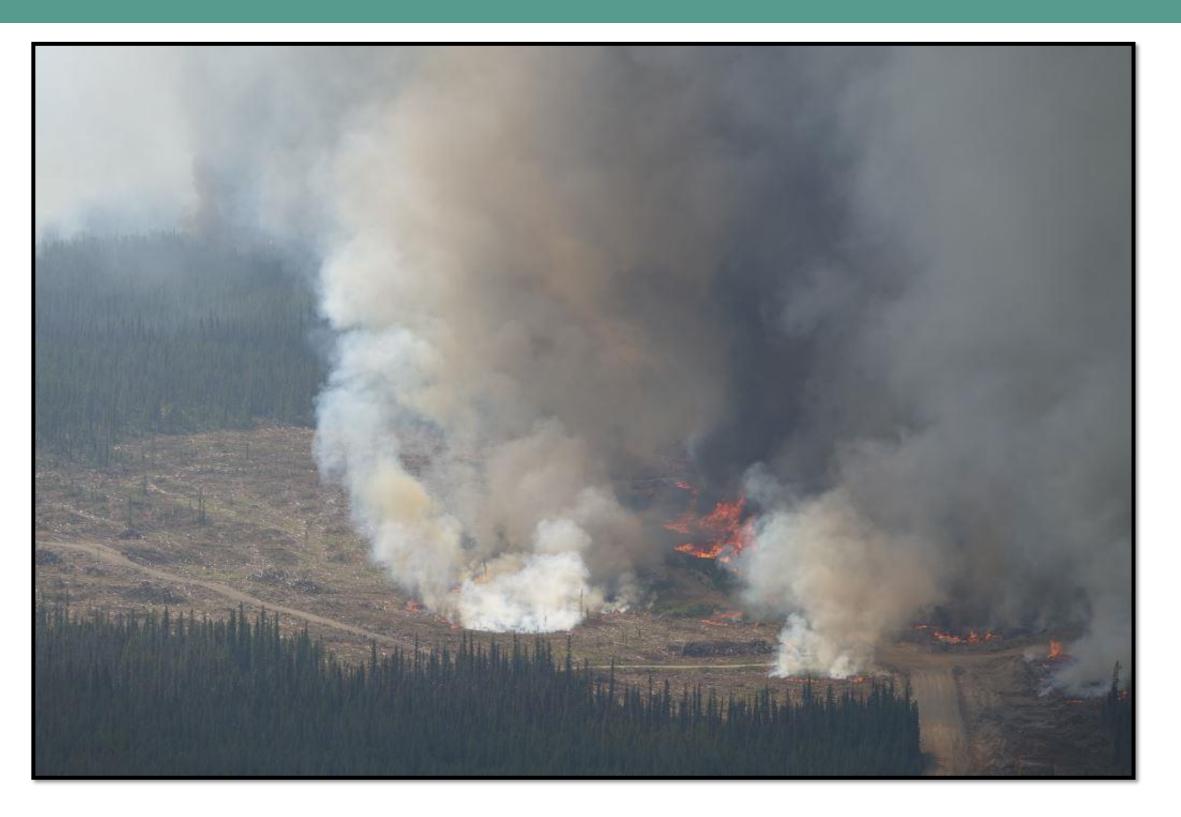
11 STRATEGIG ROADMAP



- Tools/levers to incentivize and assist compliance with legislation and policy updates relates to tools, technology, research objective 4
- Increased windows of opportunity for WRR related abatement activities: Enabling: More effective and timely fuel reduction – relates to compliance objective 2

What questions do you have about the fire hazard in this picture?





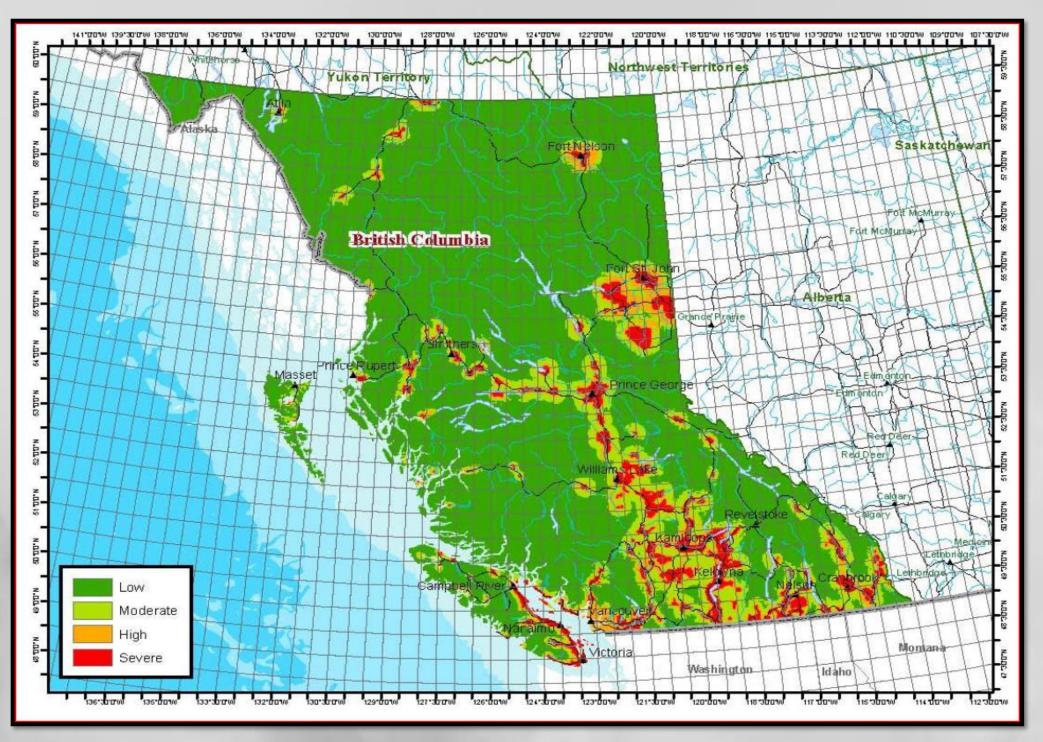
- When did the activity start?
- What is the location?
- Qualified holder status?
- Fire hazard assessment completed?
 - Scope/due diligence
- professional reliance principles meeting the objectives and intent of the Wildfire Act and Regulation – And social licence expectations in general?
- Are professionals meeting due diligence and scope requirements?
- Is there another way to meet intent of statutory requirements?
- Is the wildfire Act and Regulation meeting it's intended goals?

Professional Reliance FHA due diligence may require more consideration than what is prescribed by legislation

Including,

- Fuel Hazard Loading/continuity/size
- Fire Risk chances of a fire starting and resulting spread
- Values at risk
- Strategy for mitigating and managing the Fire Hazard logical rationale







Woody Debris Management Strategies



Choosing suitable woody debris management strategies can reduce debris volumes, or in some cases eliminate the need for post-harvest burning.

The matrix below can be used to select suitable strategies in a consistent manner.

Hazard Abatement Requirement Matrix		Fuel Hazard Assessment Rating		
		Low	Moderate	High
Sensitivity Zone Rating	Low	No Abate	No Abate	Abate?
	Moderate	No Abate	Abate?	Abate?
	High	Abate?	Abate	Abate

Strategies

- Abatement Not Required (No Abate)
- Consider Debris Dispersal and Wildlife Piles (4)
 where accumulations compromise other values, e.g. to create plantable spots.
- Abatement May be Required (Abate?)
 - Consider Harvesting (2) and Harvest Methods (3) to reduce the volume of residual debris.
- Explore Alternatives to Open Burning (4, 5, 6) to reduce volume of residual debris and the need to burn.
- Employ Best Management Practises for Debris
 Piling (7, 8) to promote efficient burning.
- Abatement Required (Abate)
 - Consider Harvesting (2) and Harvest Methods (3) to reduce the volume of residual debris.
- Explore Alternatives to Open Burning (4, 5, 6) to reduce volume of residual debris and the need for burning.
- Employ Best Management Practises for Debris
 Piling (7, 8) to promote efficient burning.

Abatement Best Practices





Leave it?...Use it?...Burn it?

Alternatives to Open Burning



Opportunities for secondary wood products is a primary strategy for reducing and in some cases eliminating the need for open burning.

Log salvage

Logs mistakenly left behind from primary logging or logs that have been upgraded to meet Company or Government utilization standards.

Douglas Fir, Cypress, Cedar Cants

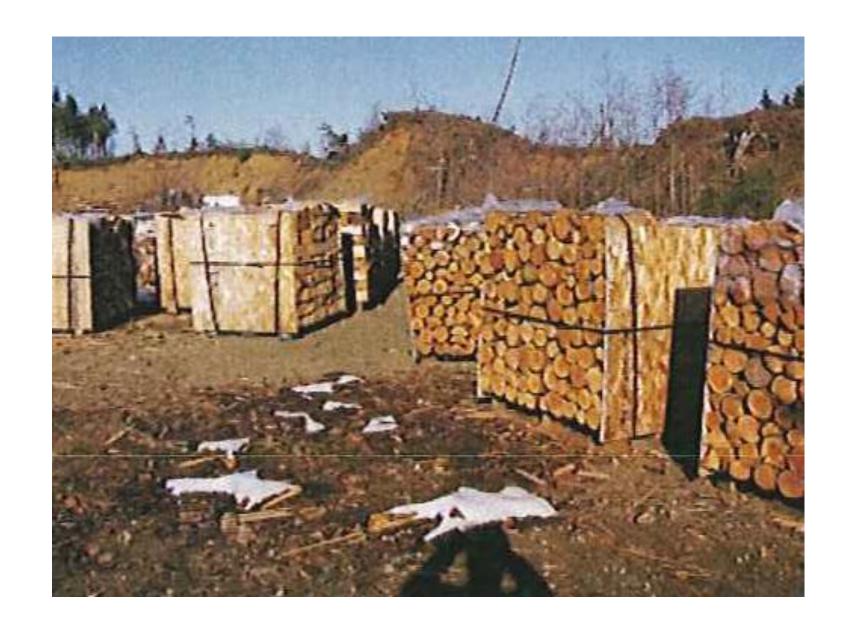
Parts of logs that have been manufactured by splitting or ripping - typically high value old growth free of defect and suitable for sawing

Cedar Shake and Shingle

Made from pieces of old growth Cw not suitable for sawing (typically >25% defect) that have sufficient volume, dimension and quality, e.g. Include edge grain at least 7 inches thick

Firewood Salvage

An option in most areas especially where there is good accessibility and available markets



Alternatives to Open Burning



Low Emission Burning Methods (Air Curtain Incineration)

· Pros:

- Is low risk, clean, efficient burning under high temperature.
- · Cons:
- Cost is very high.



Prior to embarking on an open burning program, consult relevant Acts and Regulations to ensure regulatory compliance.

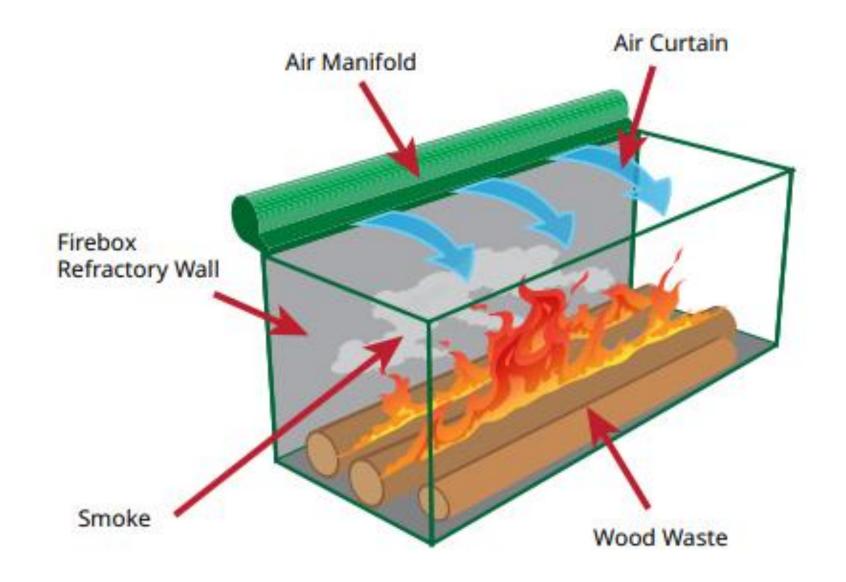
Applicable Provincial Legislation

Province of BC regulates air emissions through the *Environmental Management Act* (EMA). Under the EMA, the regulation covering open burning is the Open Burning Smoke Regulation (OBSCR).

The Wildfire Act and Regulations cover hazard assessment, hazard abatement and requirements for different types of open burns.

Applicable Regional and Municipal Legislation

Regional Districts and Municipalities may have bylaws or local requirements, e.g. Burn Permits, that are more restrictive than the Provincial Act and Regulations.



OBSCR Factsheet - Air Curtain Incinerators (gov.bc.ca)

1Km to residence and 2Km to school, hospital, etc. = no venting requirement

Open Fire Use: Understand Statutory Obligations



The Wildfire Regulation

- Registration #
- Must be safe and continue to be so
- Fire gear/Fire break
- Fire does not escape
- Fire control
- Section 22 Wildfire Reg.

Wildfire Regulation (gov.bc.ca)

Section 23 Wildfire Reg.

Wildfire Regulation (gov.bc.ca)



Moving forward – how will we burn it?

- Do the photos below represent good or bad fire? It Depends
- Cat. 4 burning by the forest industry could contribute fire resiliency
- By Qualified Holder meeting their statutory FHAA obligations



Category 3 – Sec. 22 W.R.



Category 4 – Sec. 23 W.R.



If you build it – burn it

- Should we build it (A Pile)?
- Are there other ways to arrange fuel/debris and complete harvesting/site prep for successful and efficient Category 4 abatement? And what is the benefit?





Why Broadcast Fire?

What's old is new





- Remove fine/med. fuel only = >GHG seq. plus
 <emission + > wildfire resilience. Pile Burning
 Burns all coarse fuel
- Broader nitrogen release (plantation)
- Easier (safer) planting
- Reduces competition
- Spread fire resiliency across larger area. Pile burn only treats small footprint
- Connected broadcast burns create a wildfire operational tactical advantage
- This is an exponential GHG benefit when wildfire occur and are managed with this tactical advantage and is wildfire resiliency defined!
- Carbon Credit?

Why Broadcast Fire?

What's old is new





- Remove fine/med. fuel only = >GHG seq. plus
 <emission + > wildfire resilience. Pile Burning Burns all coarse fuel
- This is an exponential GHG benefit when wildfire occur and are managed with this tactical advantage and is wildfire resiliency defined!
- Carbon Credit?

New process & new headset - Proper planning



Site Plans –

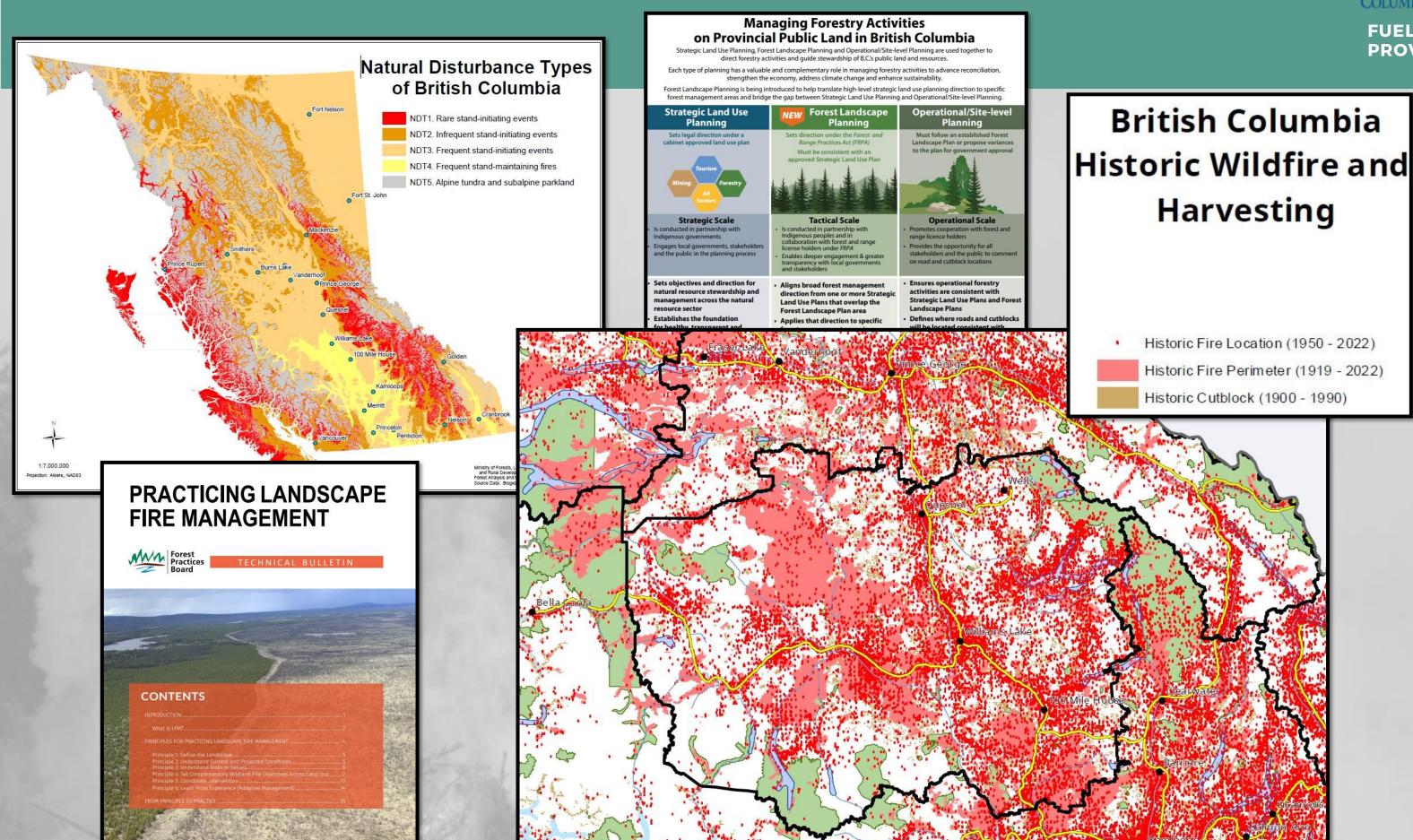
planning

plans and

proper forward

Regional burn

prescriptions



- and FHA
- (exemption)
- Comprehensive **Fuel** Management **Plans**
- FLP/FSP

New process & new headset

Proper Planning



West Coast Fuel-Smoke Management Plan

Extension Date: May 01, 2006 to April 30, 2007 Extension Date: May 01, 2007 to April 30, 2008 Extension Date: May 31, 2008 to April 30, 2010 Extension Date: May 01, 2010 to April 30, 2012 Extension Date: May 01, 2012 to April 30, 2014 Extension Date: May 01, 2014 to April 30, 2016 Extension Date: May 01, 2016 to April 30, 2018 Extension Date: May 01, 2018 to April 30, 2020 Extension Date: July 30, 2020 to April 30, 2022

Extension Date:

DATE: May 1, 2022 to April 30, 2024

"subject to legislation changes"

Approved By:

Clinton Parker

Parker Date: 2022:03.31 17:52:53 -07:00

Clint Parker Coastal Fire Centre Manager BC Wildfire Service Domenico Iannidinardo

Domenico Iannidinardo Vice President, Forest Logistics

& Chief Forester Mosaic Forest Management



Paul Kutz Manager of Silviculture Western Forest Products Inc.

Mark Carter

Mark Carter Planner, Honeymoon Bay Operation Teal Cedar Products Ltd

Nigel Digitally signed by Nig Burrows, RPF Date: 2022.03.31 12:00:26-0700'

Nigel Burrows Manager, Wildfire & Emergency Response Capital Regional District Matthew Merritt

Merritt

Date: 2022.03.21
08:44:38-07'00'

Matthew Merritt

Matthew Merritt Area Manager, Vancouver Island Manulife Investment Management

Darren Hiller
Meridian Forest Services Ltd
For: Huu-ay-aht First Nation

Forestry Limited Partnership (HFN Forestry)

- Consider Partnerships and regional plans that encourage BMPs and COPs
- Build Fuel Management Plans
 specific to the region that meet
 statutory obligations through
 exemption, adherence to high
 standards and accountability

New process & new headset

BC Wildfire
Service
FUEL MANAGEMENT
PROVINCIAL OPERATIONS

What's old is new sort of:

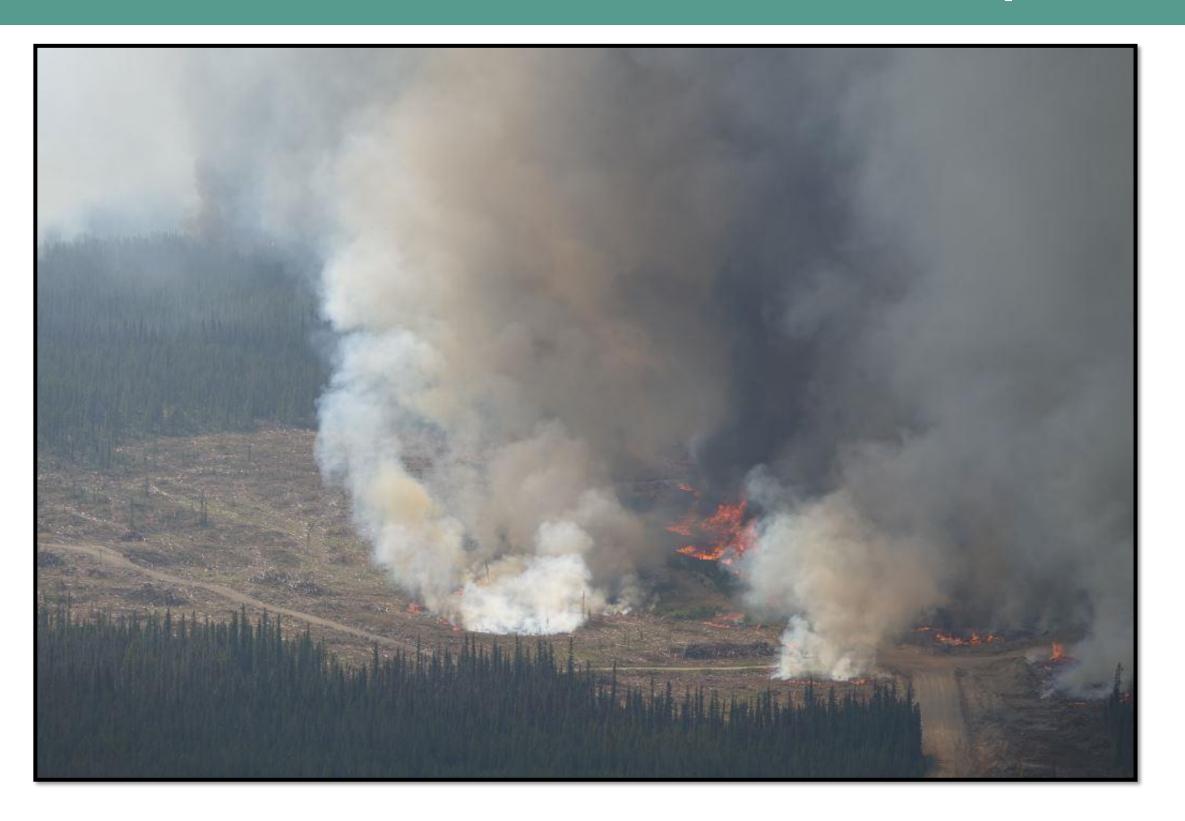
More - values/people-optics-opinion/complexity/land pressure



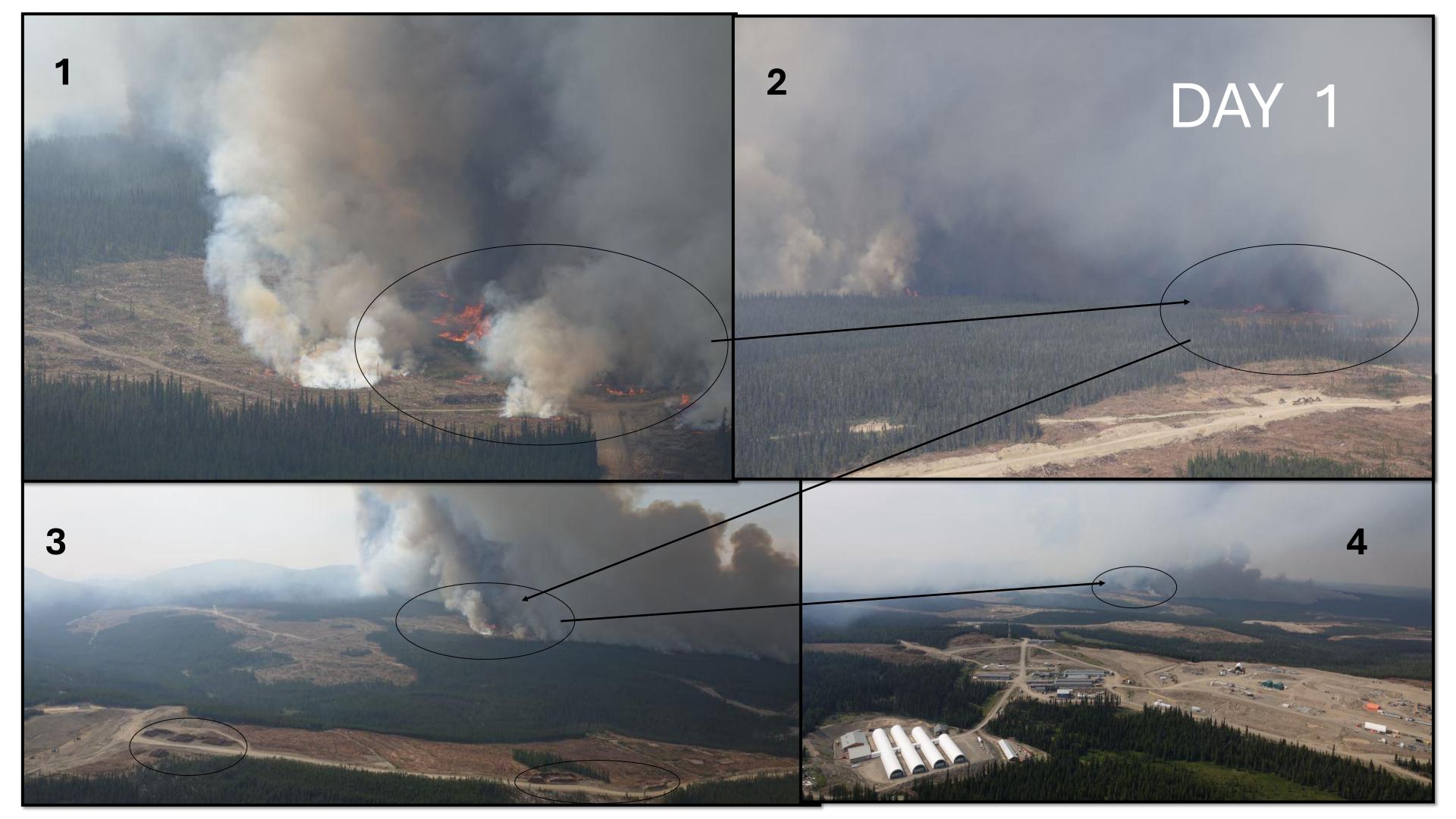
- Cost (change in headset is required) &
 assessment of pricing/billing/appraisals
 prove Category 4 burning is more
 expensive than Category 3 burning
- Liabilities framework is being discussed
- Allowable Burn Area & TU manage liabilities/risk locally through scope/timing/location management and good planning and partnerships

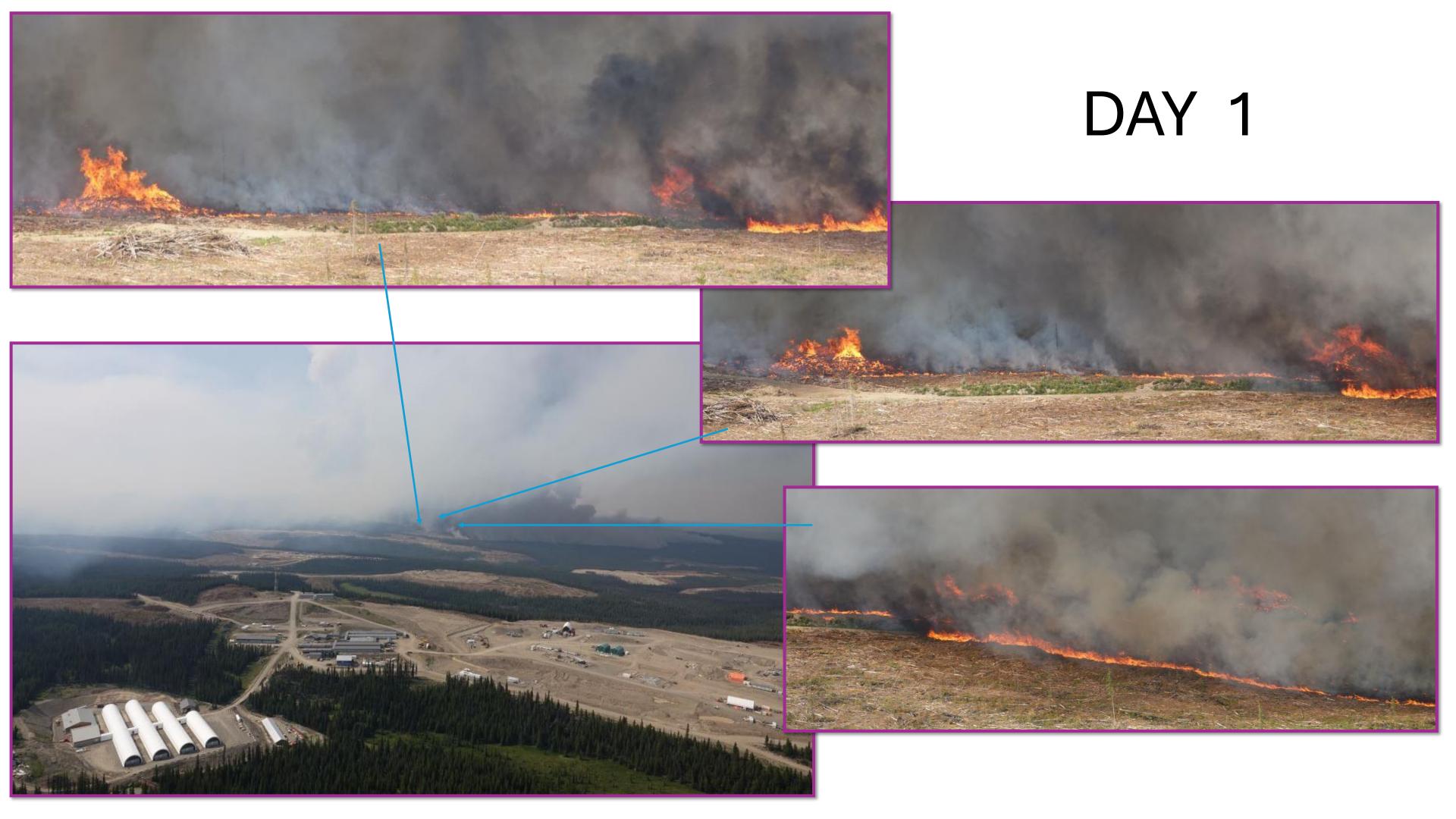
What questions do you have about the fire hazard in this picture?





- When did the activity start?
- What is the location?
- Qualified holder status?
- Fire hazard assessment completed?
 - Scope/due diligence
- professional reliance principles meeting the objectives and intent of the Wildfire Act and Regulation – And social licence expectations in general?
- Are professionals meeting due diligence and scope requirements?
- Is there another way to meet intent of statutory requirements?
- Is the wildfire Act and Regulation meeting it's intended goals?



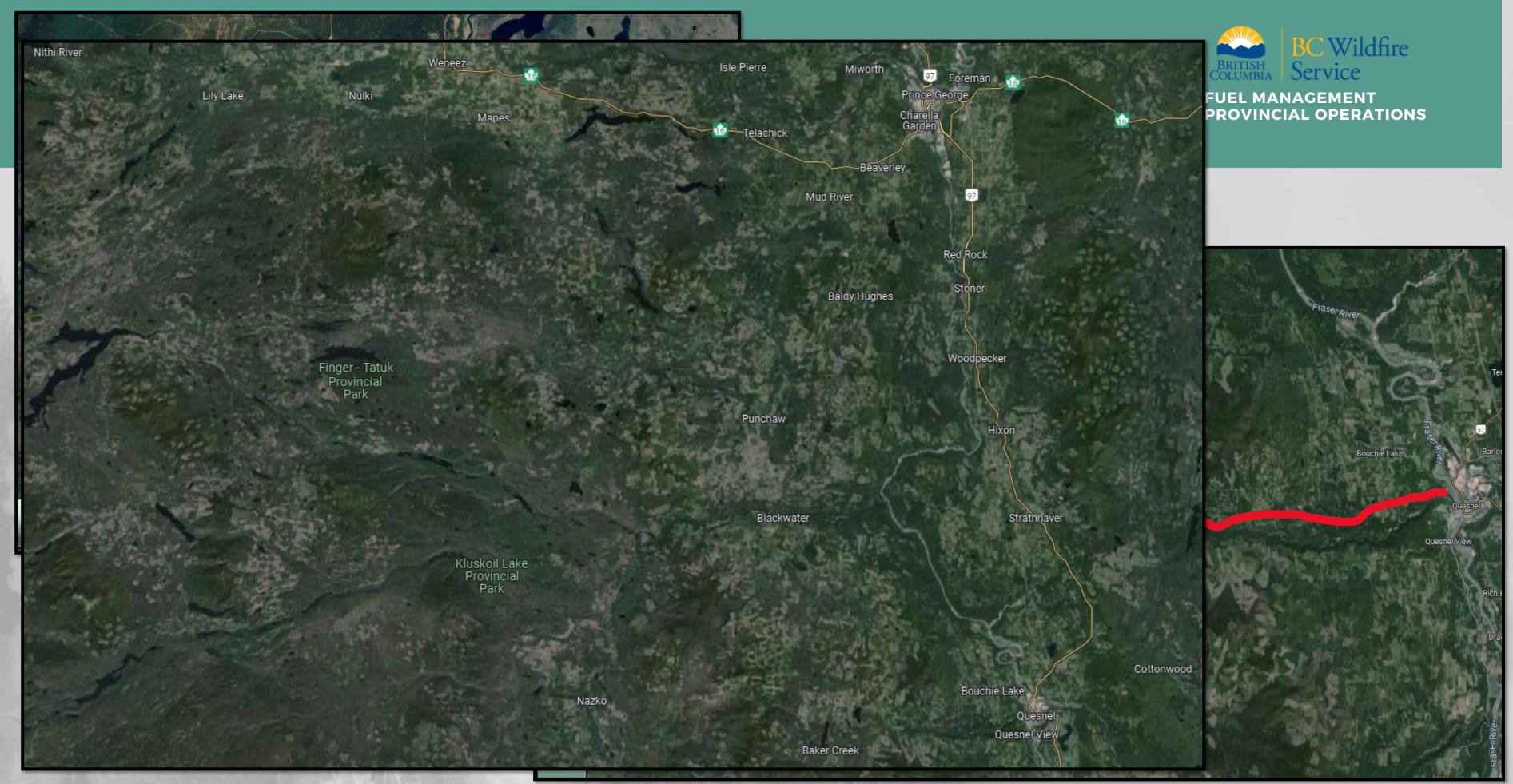


DAY 2 = High wildfire resiliency: 6 vehicles/1 outbuilding



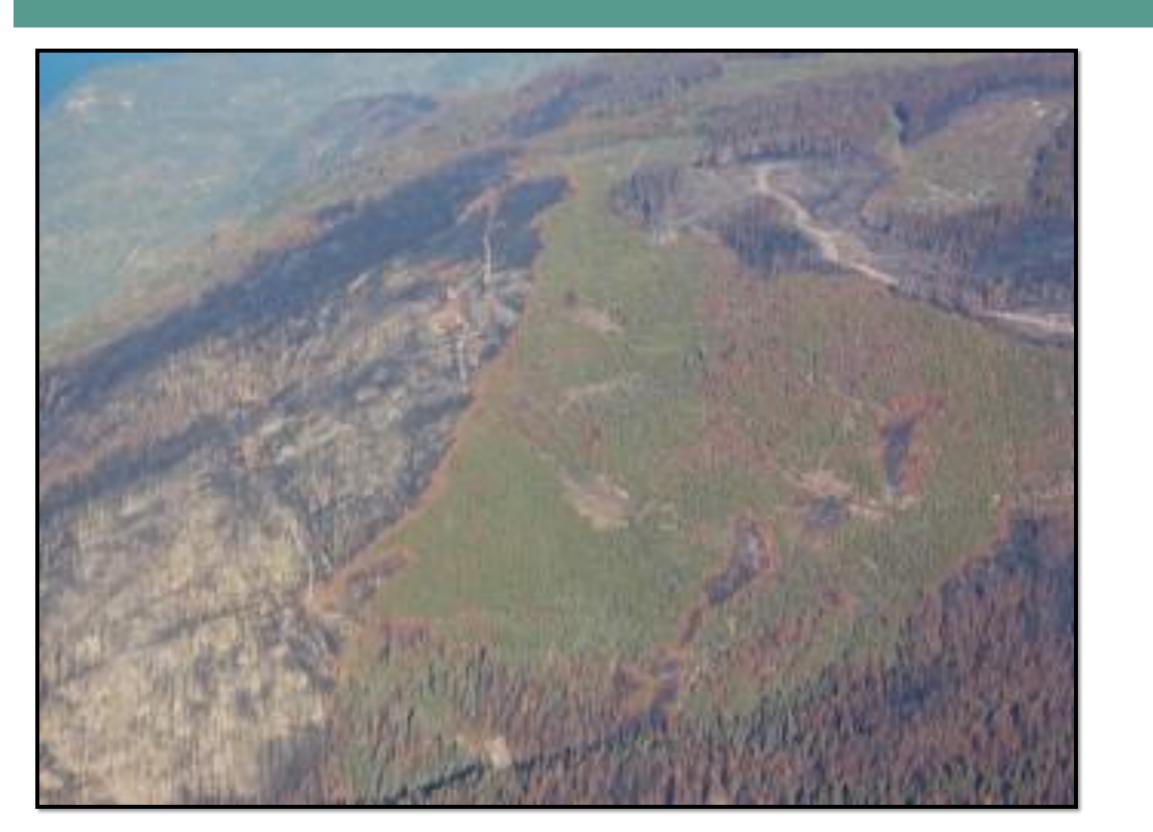


How might we consider a similar scenario in a more controlled and planned way?



Can we afford not to broadcast burn?





Immediate benefits may not always be fully measurable when completing these types of treatment. Nor should they be should discounted.

Perhaps, they are self-evident.

Government/Industry need to start on this together. Let's start small and safe

- but start we must.

Can we afford not to broadcast burn?







Wildfire Resilience and FHAA Questions?





