



Fire Management Planning in BC

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BC Wildfire Service**



Agenda

BC Context

FMP Response

- Values Identification

FMP Landscape

- Fire Threat and Risk Identification
- Planning for Fire Resilience
- Legislative Tools

Questions and Discussion



Converging Challenges

- Increasing development - more values to protect
- Limits to suppression capacity & budgets
- Mountain pine beetle forest fuel types
- Severe fire expected to double by the end of this century due to climate change





**18 million ha of Dead Pine
Forest Conversion to Grasslands**

**CLIMATE
CHANGE**



“Savanahfication”



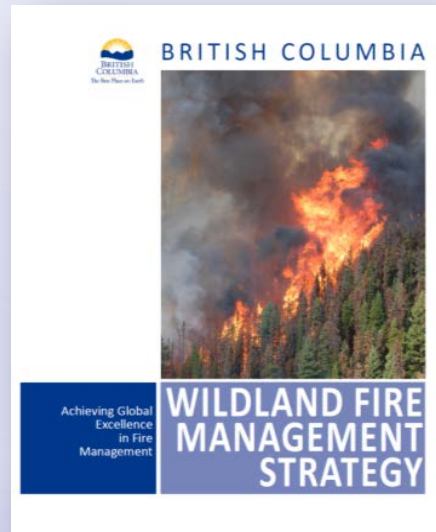


What do we need to do?

From

- Limited response to build-up of hazardous fuels
- Passive approach to ecological benefits of fire
- Limited inter-agency management of wildland fire
- Escalating costs and Impacts

Strategic Shift



To

- Proactive management of fuel build up
- Active management for ecological benefits of fire
- Collaborative inter-agency land management
- More efficient response to wildfire outbreaks



Wildfire Management Future?

1. Economic Decline and Political Dysfunction
 - Government only able to fund the most important things (medical/ education)
 - Catastrophic losses to wildfire?
2. Business as usual
 - Is this sustainable in the future?
 - Relies on social and technical innovation
3. Unprecedented mobilization to deal with climate change
 - Move to resilient forest and communities
 - Return to natural fire regimes (live with fire)



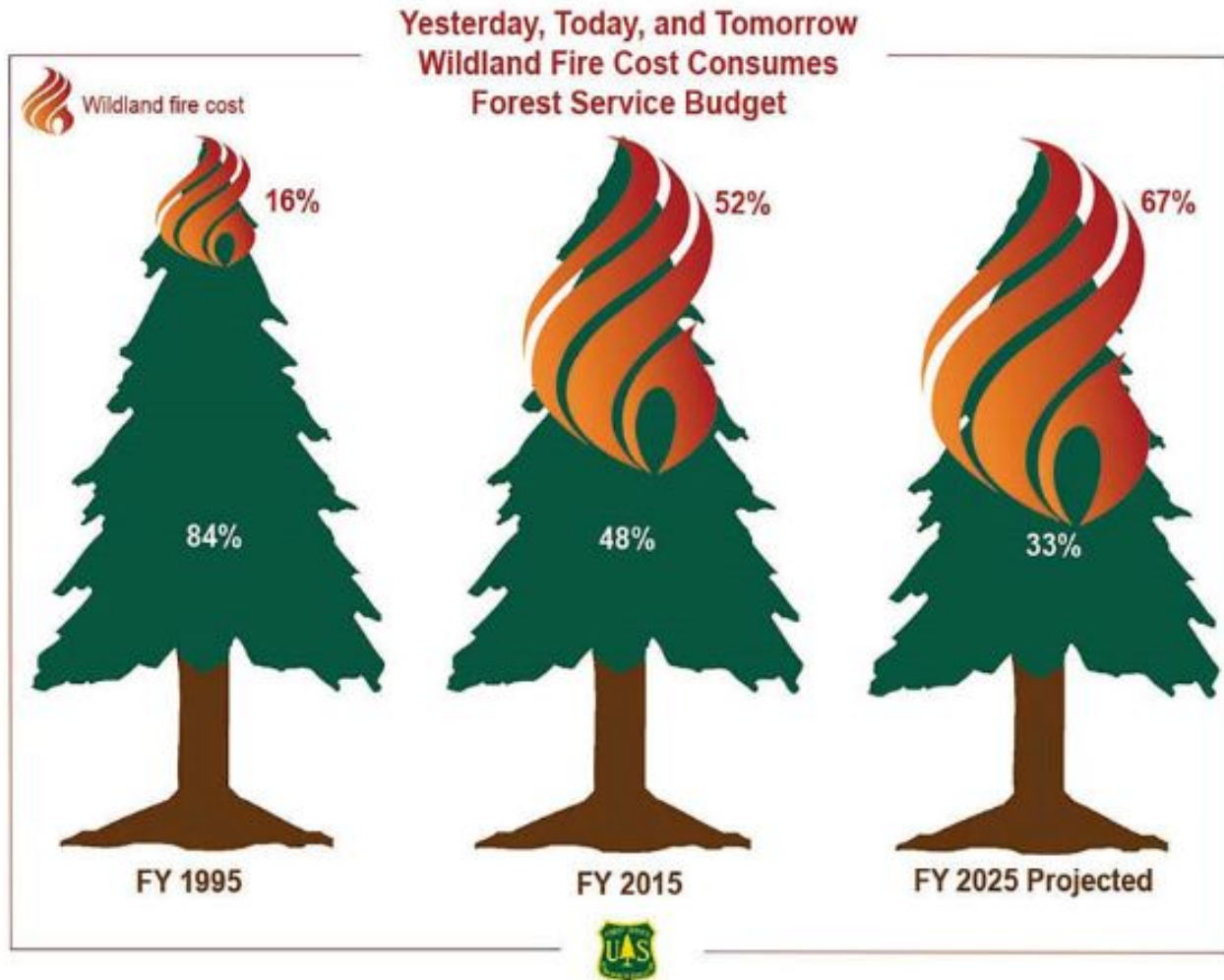
“Accepts fire as a natural part of the landscape with important ecological functions and emphasizes learning to live with fire rather than waging war against it.”



Five myths about wildfires

1. Technology has changed the way we fight fires.
2. Fires are bigger now than at any point in history
3. More firefighters and more air tankers can control wildfires.
4. More wildfires mean more homes burned.
5. Fires must be put out

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Purpose of Fire Management Plans

- Required by Policy 9.4
- Identifies values on the landscape that require protection from wildfire (updated annually, use best information available)
- Organized and Prioritized Values based on RSWAP
 - FMP Theme One - Human Life and Safety
 - FMP Theme Two - Property and Critical Infrastructure
 - FMP Theme Three - High Environmental (SAR) and Cultural Values
 - FMP Theme Four - Other Resource Values (Timber, Range)
- **Provides the information required to make appropriate fire response decisions in complex emergency situations**

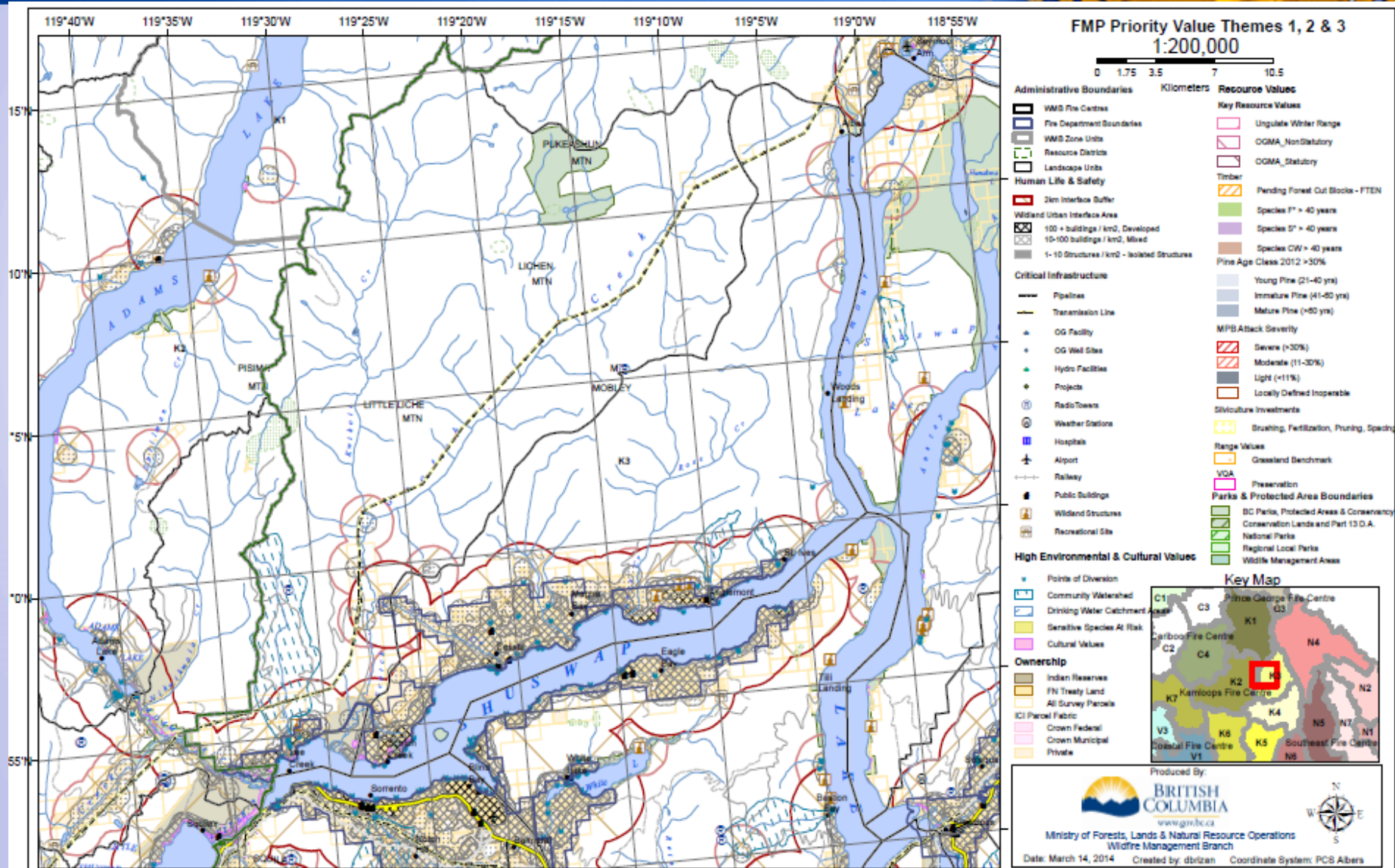


Fire Management Planning – Response

Section 1 – Integrating Resource Management Into Fire Response

- Land management direction from Higher Level Plans
- Identify all values (Human and Natural) and prioritize
 - Delineate on FMP Maps and update the FMPIV Framework
 - Written text supports the maps
- Identify Areas for Beneficial Fire (“Managed Wildfire” / “Modified Response”)

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WAC Bennett Dam

**Value: Supplies Half BC
Power Needs**

Wildfire Threat: High



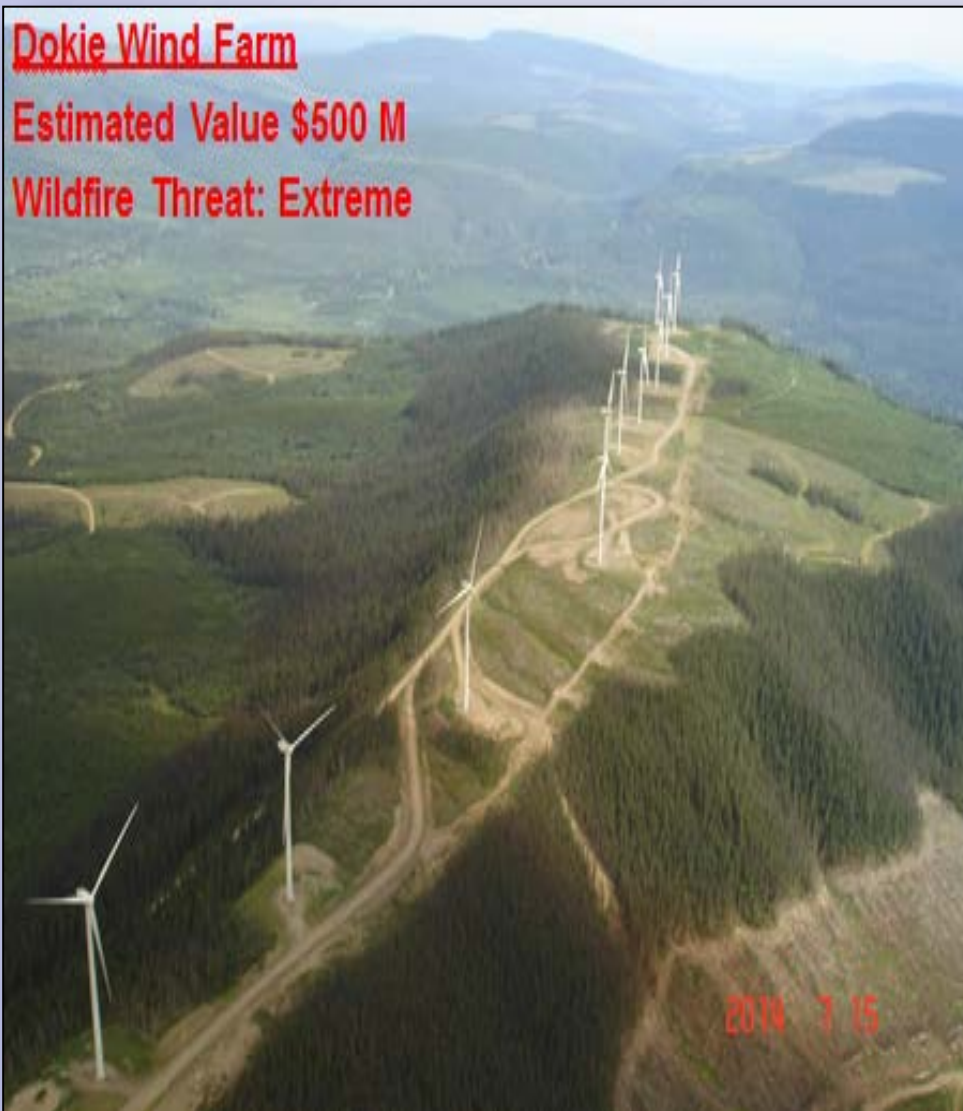
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Dokie Wind Farm

Estimated Value \$500 M

Wildfire Threat: Extreme





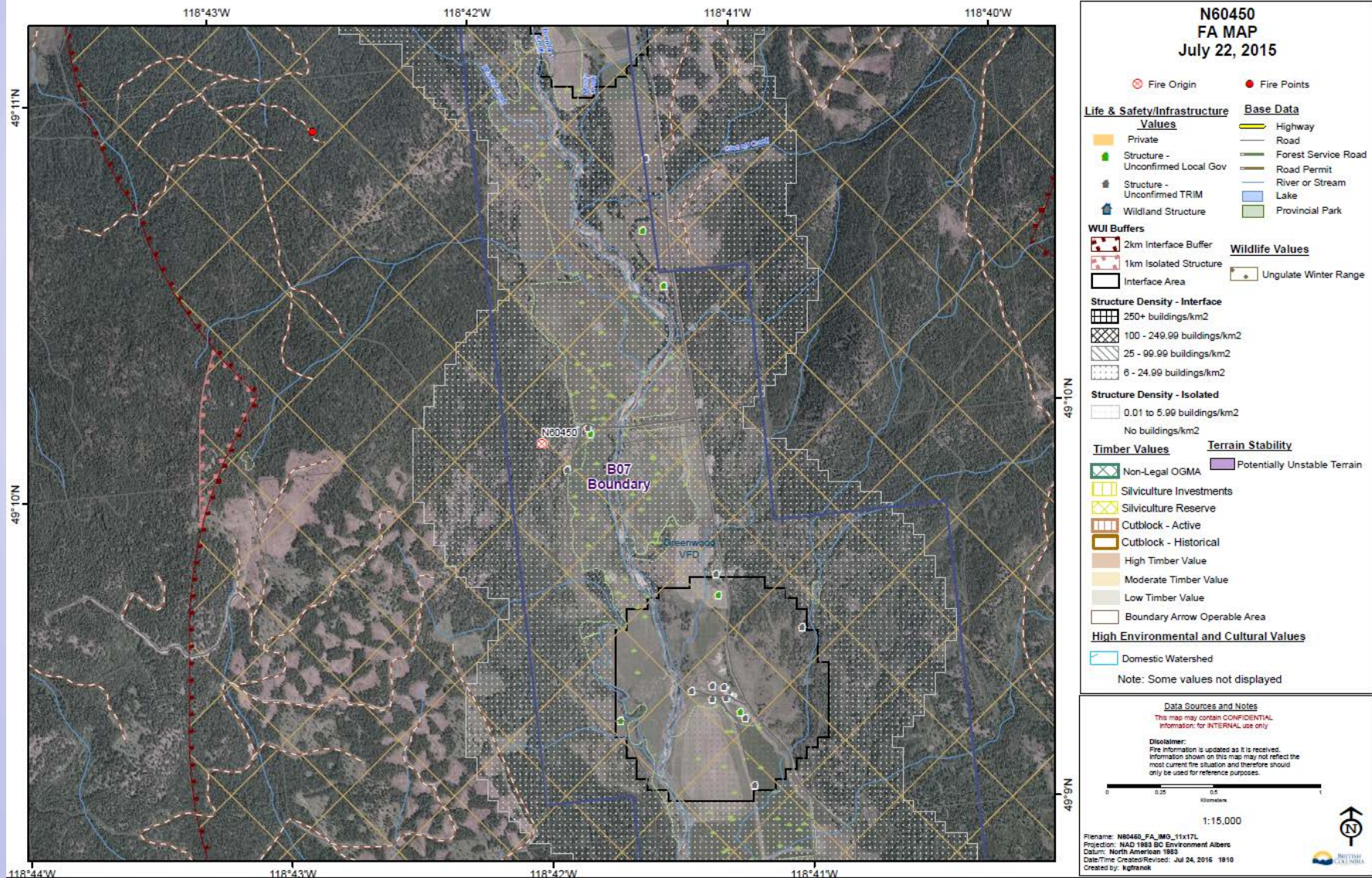
Currently working on integrating BC Parks Values data into the FMP database.

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Bobby Burns CMH Lodge
Estimate Value \$12M
Wildfire Threat: High

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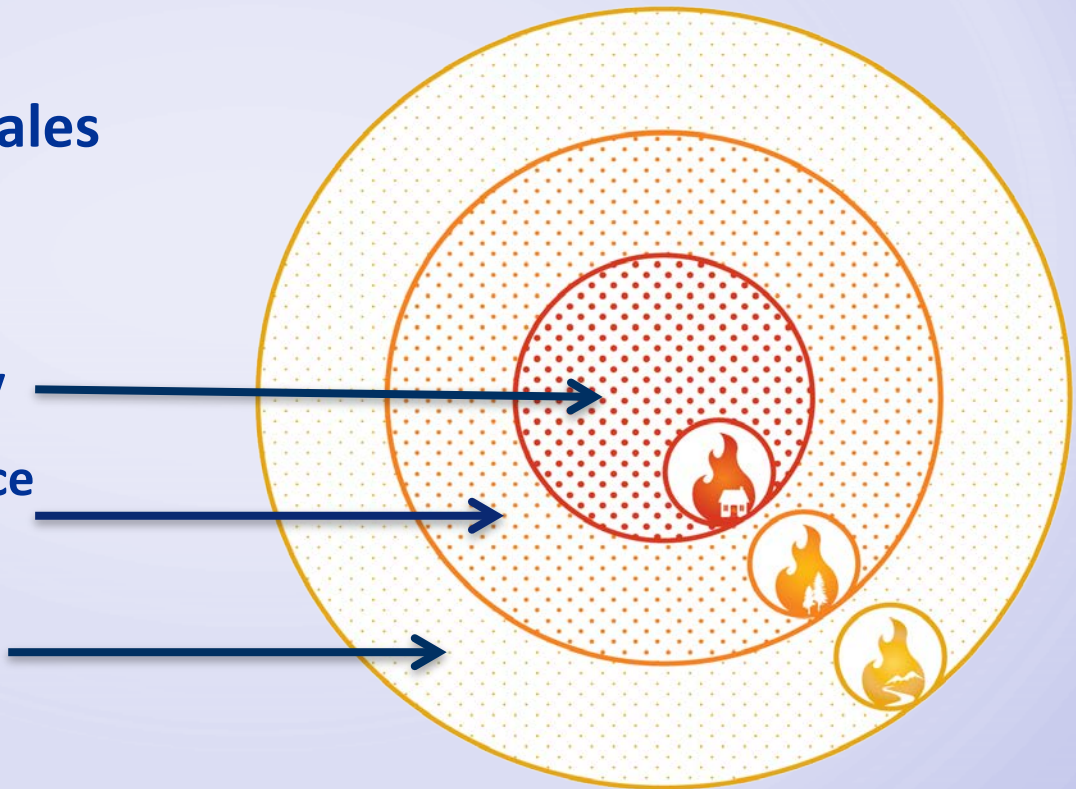




Fire Management at all Scales

Planning and action
required at all scales

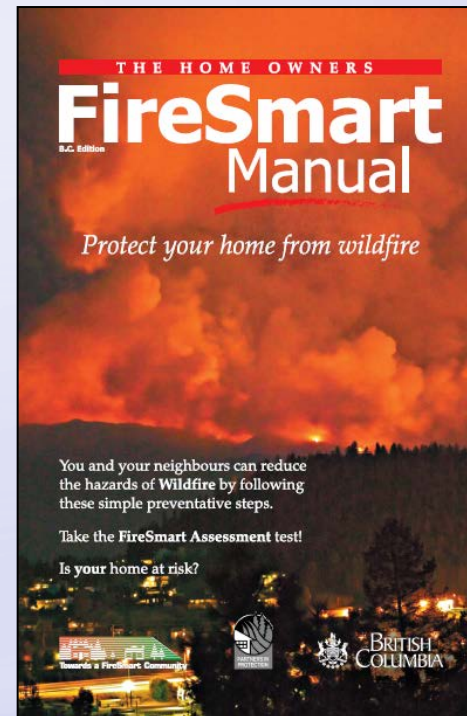
1. Private Land & Property
2. Wildland Urban Interface (WUI)
3. Landscape Beyond the Interface





“Private Land” Scale

Owners responsible for “FireSmart” near their homes; development guided by local building codes; bylaws; design standards; insurance financial incentives





“Community Scale” (WUI) Strategic Wildfire Prevention Initiative

Cooperative Program:

- **Started 2004**
- **Union of BC Municipalities**
- **First Nations Emergency Services Society**
- **BC Wildfire Management Branch**
- **Over 300 community plans in place**
- **68,883 ha. high risk areas treated across province**



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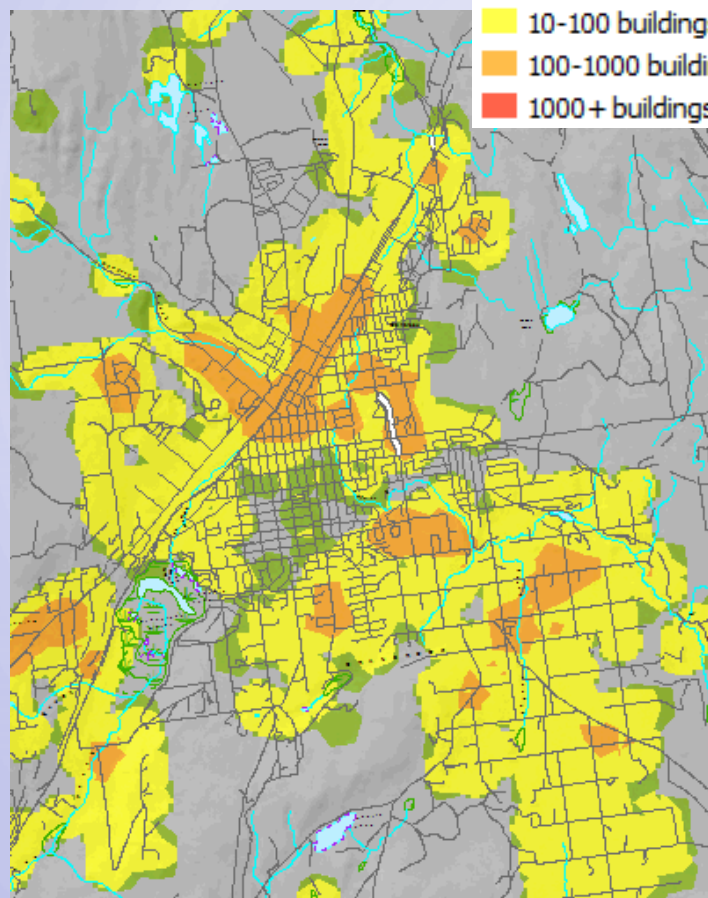
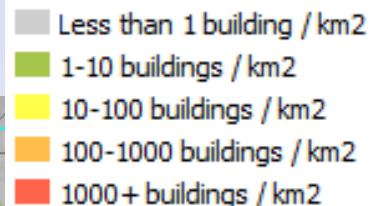


Smith Creek West Kelowna

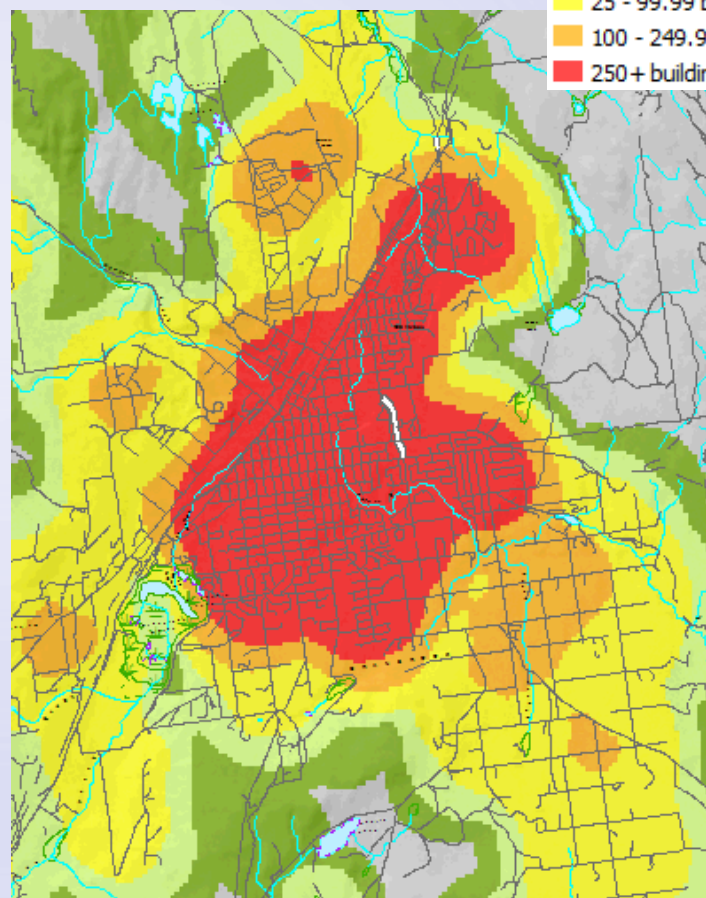
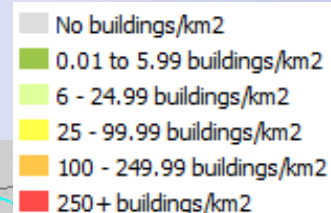


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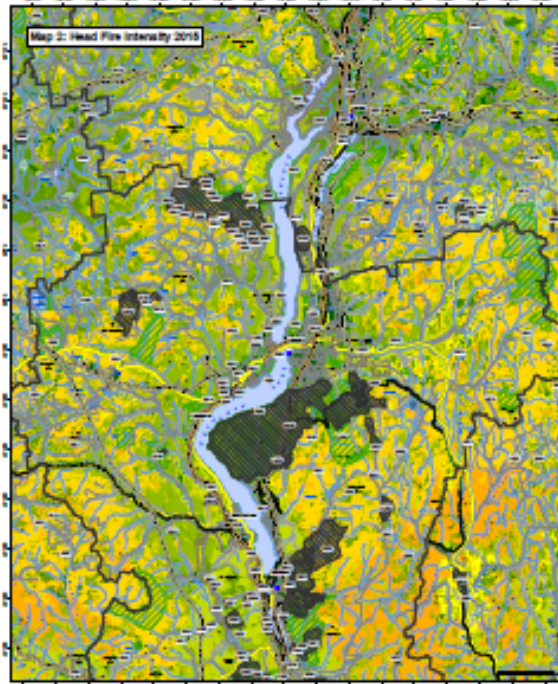
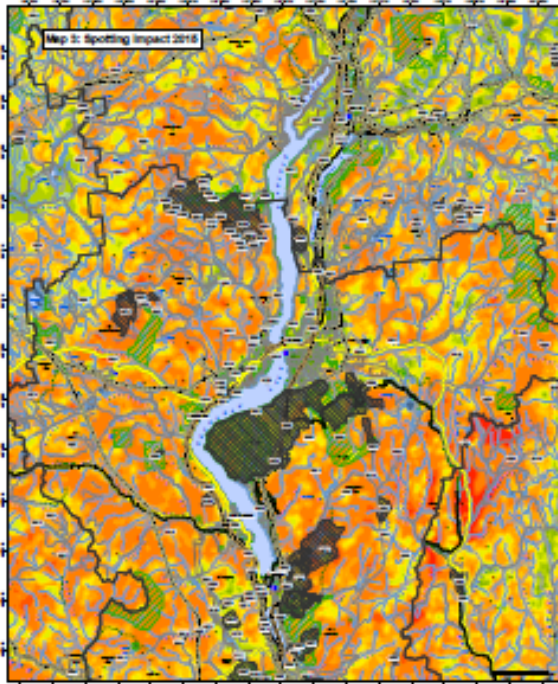
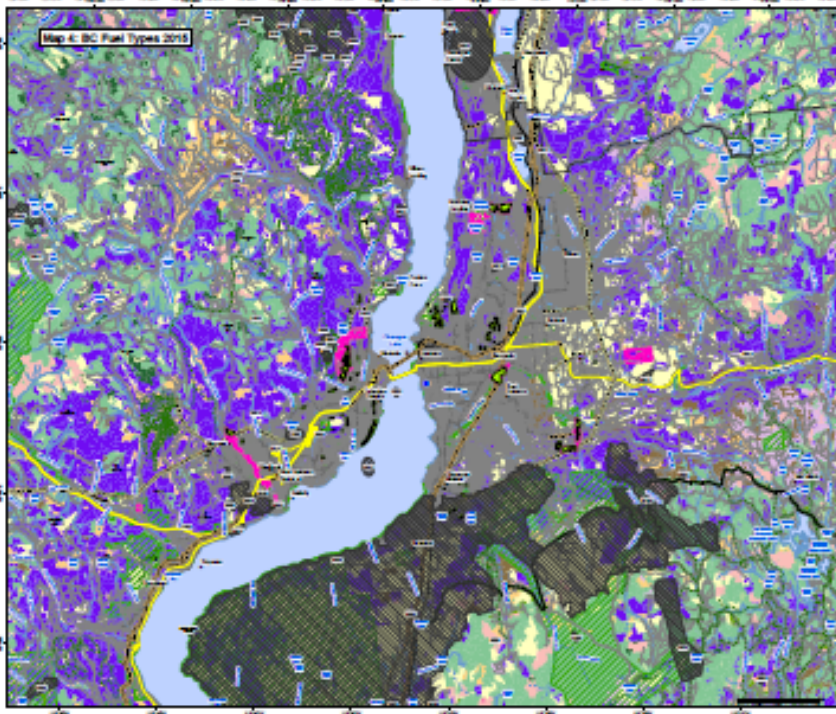
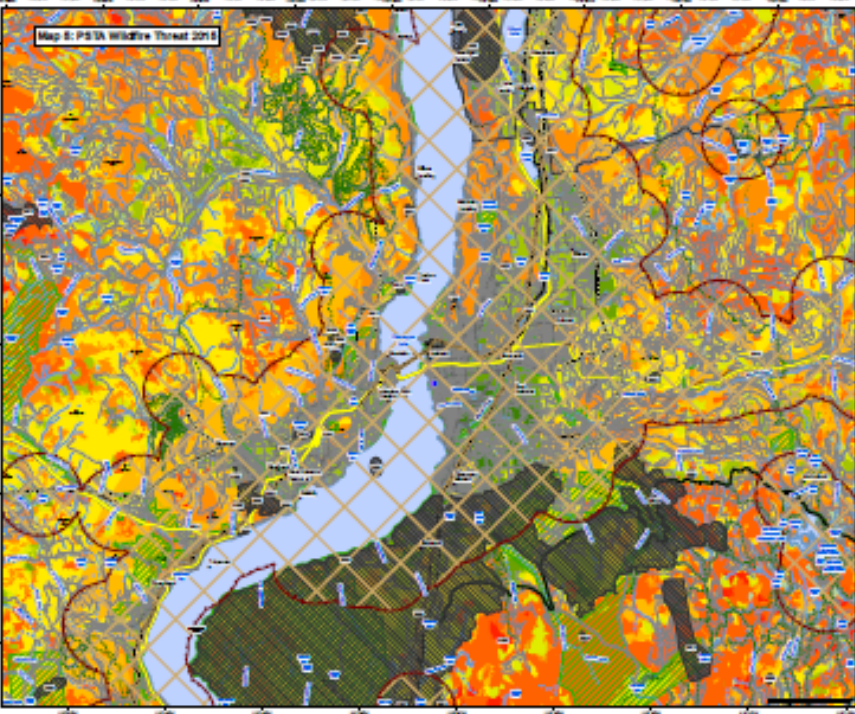
2012



2015



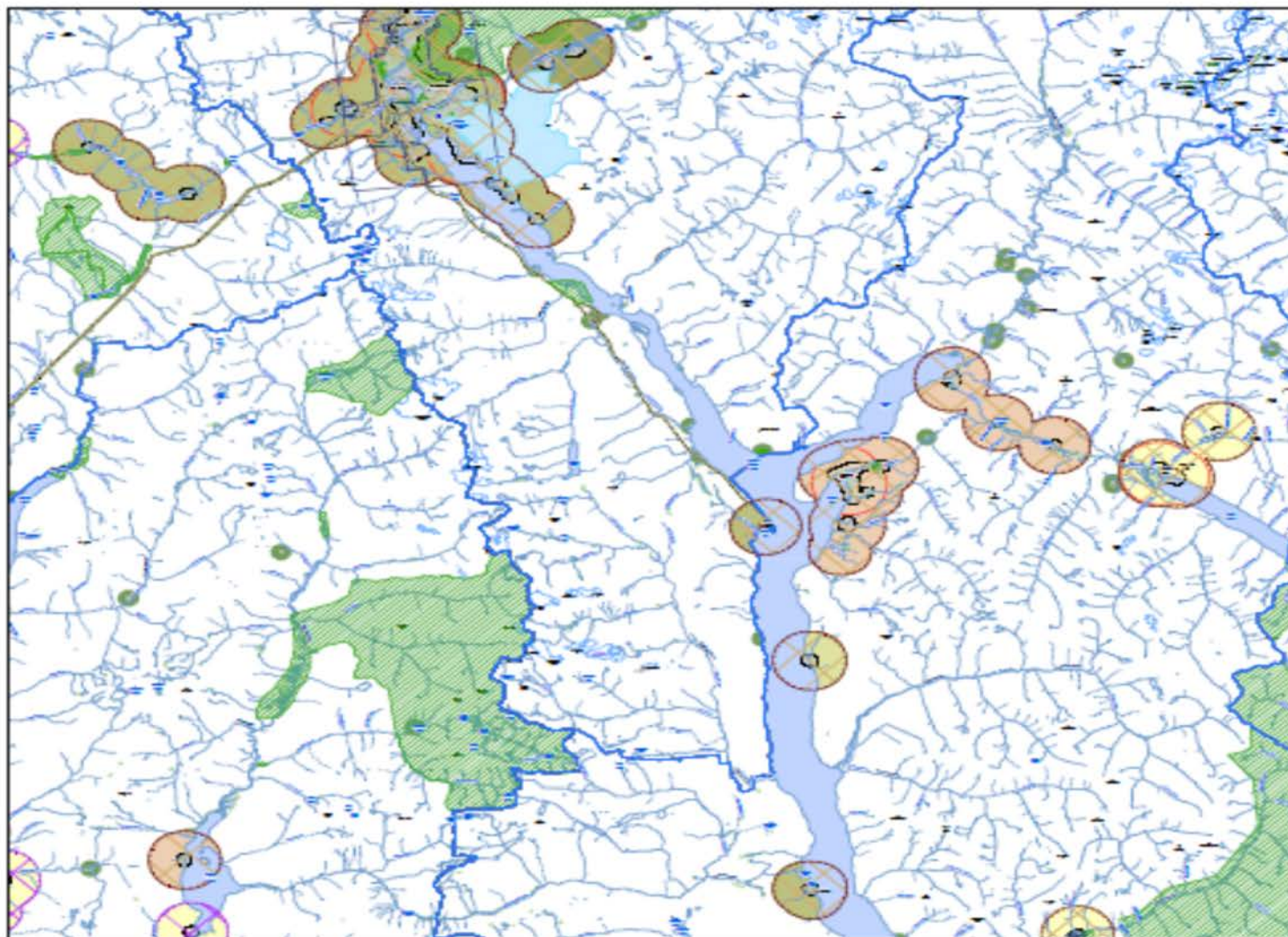
Legend



Map 5: PSTA Wildfire Threat 2015
Scale: 1:50,000
Date: May 2015

Map 5: PSTA Wildfire Threat 2015
Scale: 1:50,000
Date: May 2015

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WUI Buffer Area Relative Risk Review

Kamloops Fire Centre
Salmon Arm Fire Zone
Fire Zone Unit: K3

K3 Page: 3 of 3

Legend



Key Map



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The Landscape Scale

The risks of wildland fire are considered in resource management decisions at all levels.

Proactive landscape fuels and forest management to stop a running crown fire 2 km (spotting distance) from a community

Landscape plans have been completed for the Vanderhoof portion of the Prince George timber supply area and the Merritt and Soo timber supply (Sea to Sky) areas.



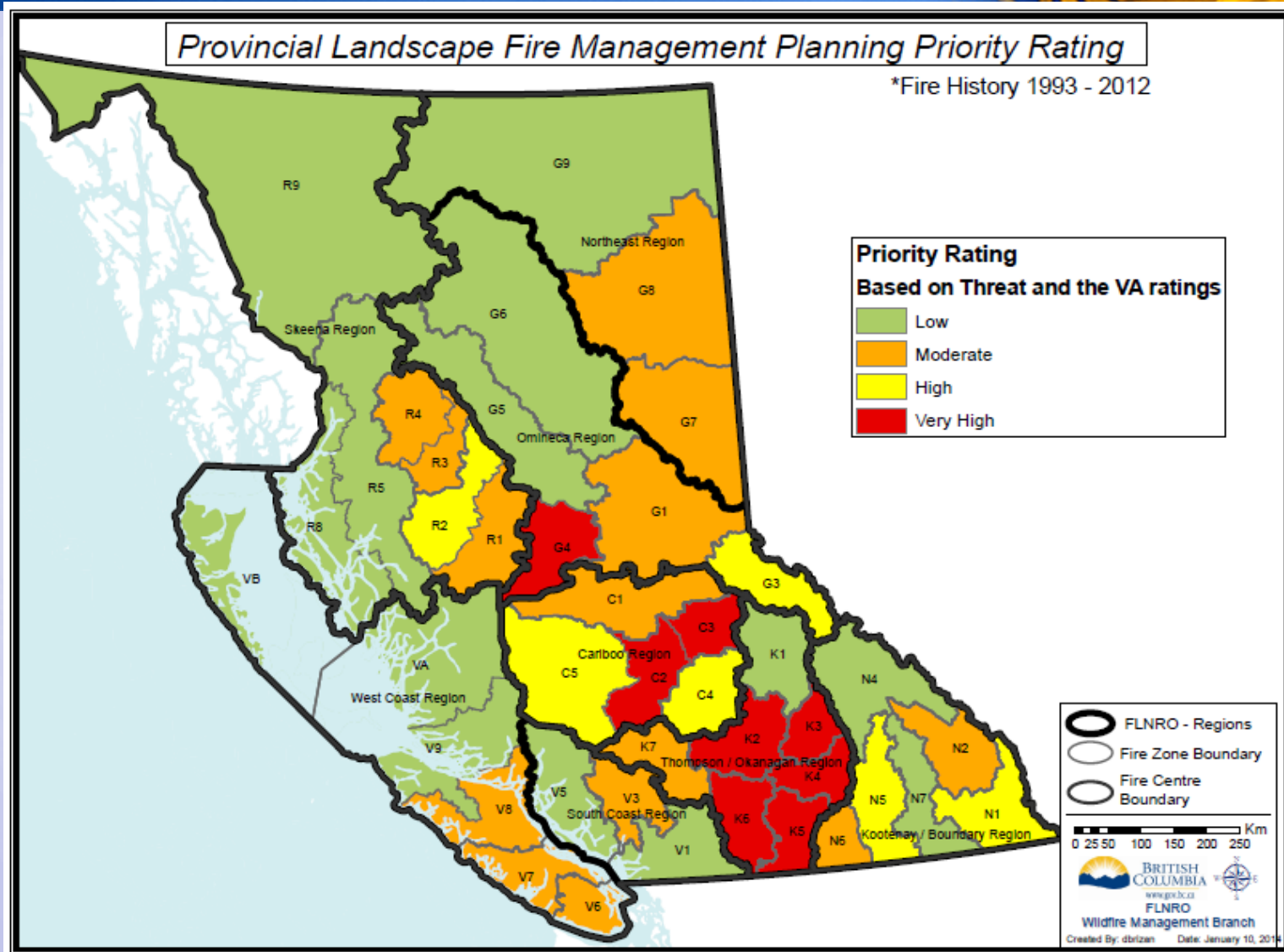


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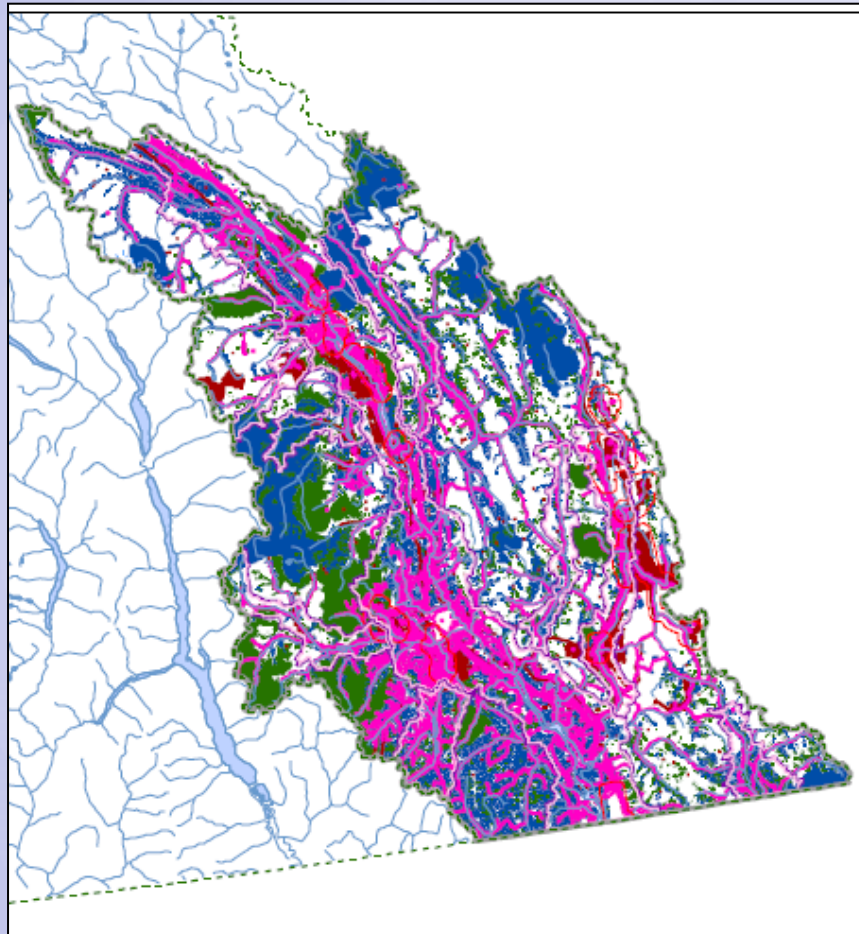
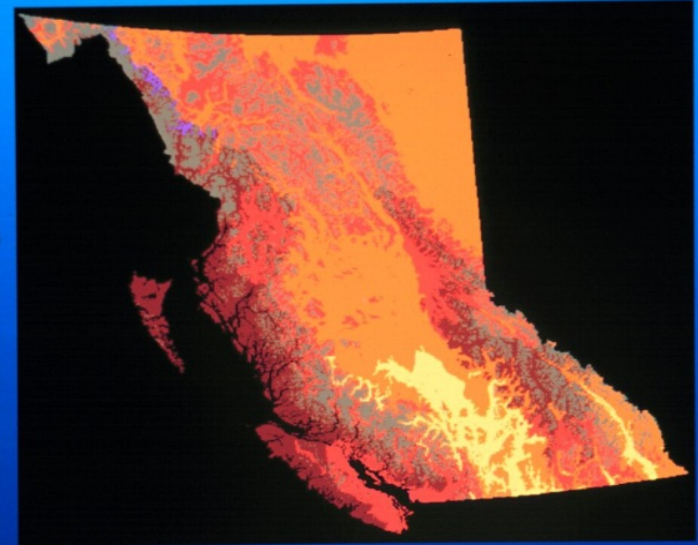


Provincial Landscape Fire Management Planning Priority Rating

*Fire History 1993 - 2012



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British Columbia

NDT1	Rare stand-initiating events
NDT2	Infrequent stand-initiating events
NDT3	Frequent stand-initiating events
NDT4	Frequent stand-maintaining events
NDT5	Alpine Tundra and Subalpine Parkland
Unclassified	

ADAPTED FROM BIODIVERSITY GUIDEBOOK, 1995

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Fire Management Zones and Objectives

- FMZs are based on relatively constant factors, such as the level of human development, the ecological role of fire, and the location of identified environmental, cultural, and resource values that are negatively impacted by fire.
- Fire Management objectives and strategies should more broadly convey what managers are trying to achieve within the Fire Management Zone.
- FMZs in BC are based on a combination of proximity to communities, and ecological processes and are then superimposed upon the PSTA Fire Threat Analysis Component to determine the current relative risk for each area.

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1. **WUI Fire Management Zone:** Wildland Urban Interface (WUI) areas and a 2 km buffer surrounding the WUI.
2. **Wildfire Resiliency Fire Management Zone:** Adjacent to the buffered Wildland Urban Interface (WUI) area, extending out an additional several kilometers depending on PSTA threat rating, and other factors.
3. **Identified Values Fire Management Zone:** Areas outside of the Wildland Urban Interface (WUI) and Wildfire Resiliency FMU's that have identified values that can be negatively impacted by wildfire and would benefit from suppression.
4. **Fire Maintained Ecosystem Fire Management Zone (NDT 4):** NDT4 areas outside of the WUI Fire Management Unit and the Wildfire Resiliency Fire Management Unit.
5. **Managed Wildfire Fire Management Unit (NDT's 1,2,3 and 5):** NDT 1, 2, and 3 areas outside of the WUI Fire Management Unit and the Wildfire Resiliency Fire Management Unit where no values are identified.

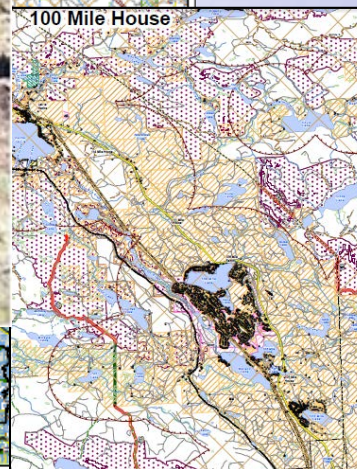
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Fuel Break Planning

The figures illustrate the differences between fire behaviour that can be achieved through fuel modification.

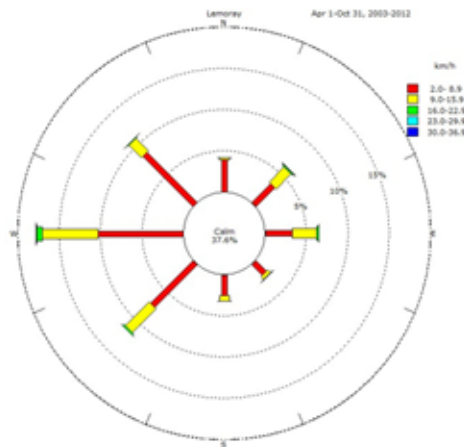
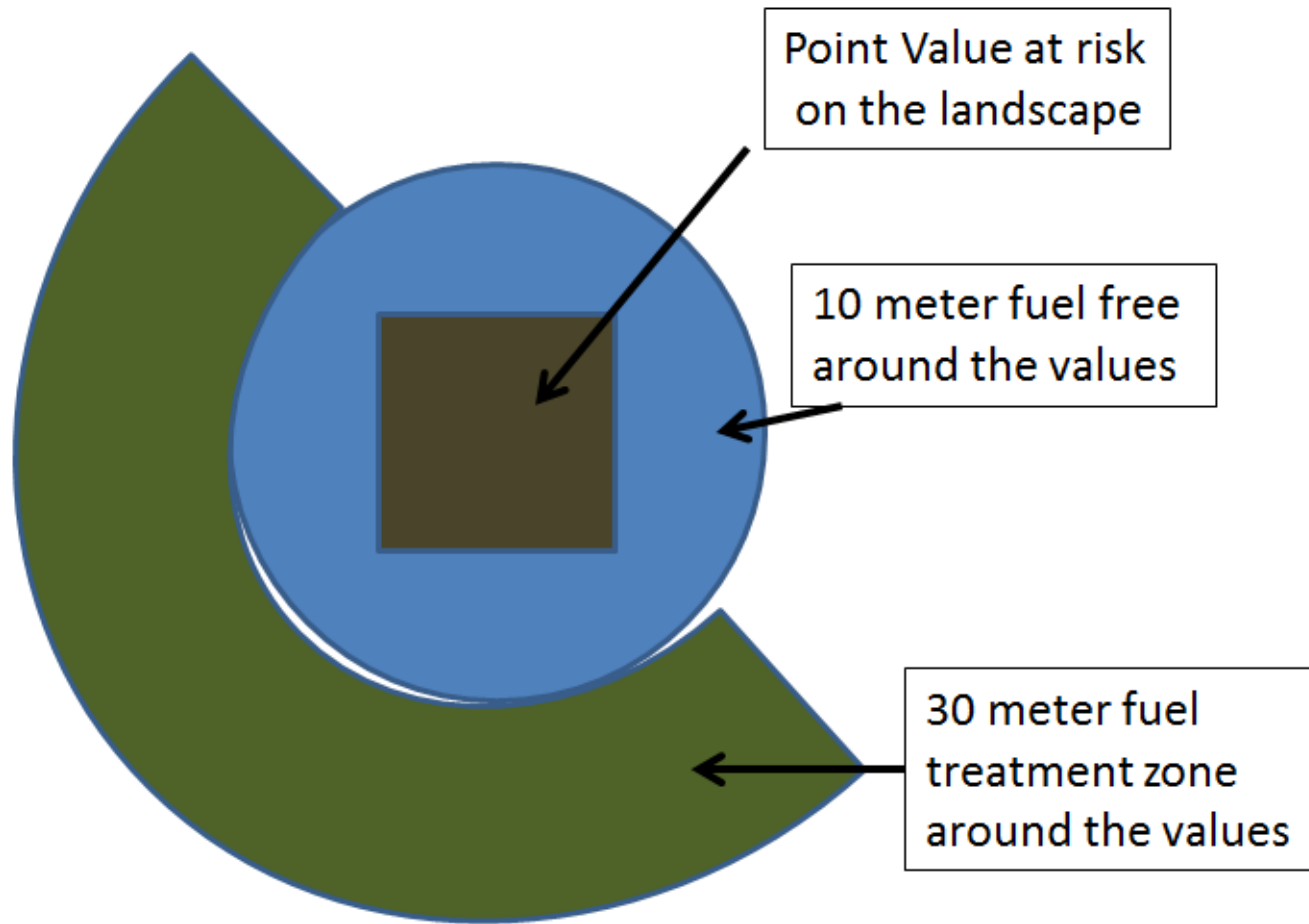






“FireSmart” Landscape Fuel Treatments

Fuel treatment
criteria would be based
on prevailing winds,
slope etc.





Legislation

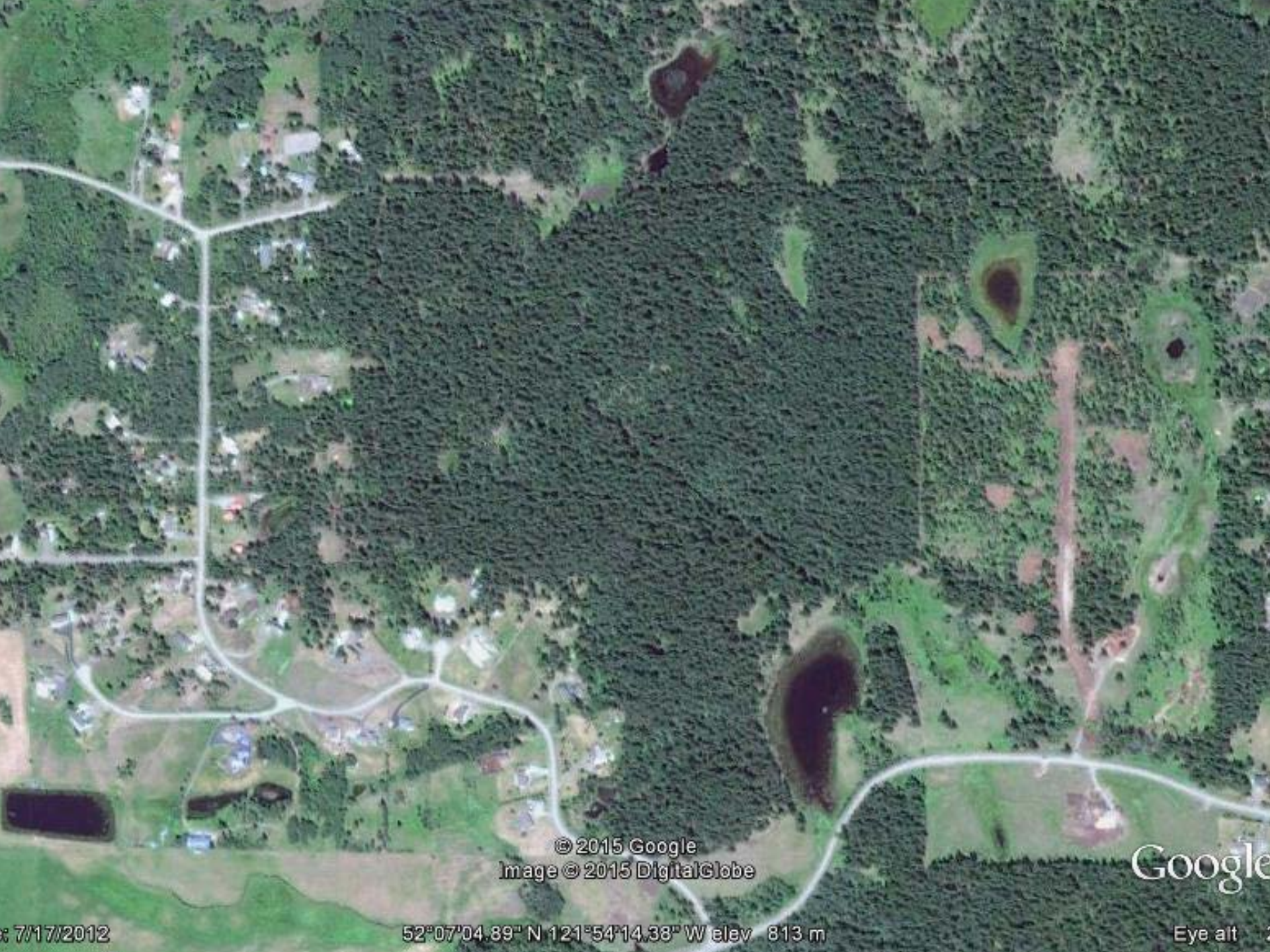
- Wildfire Objective under FRPA
- Fire Management Stocking Standards
- Fire hazard assessment under the *Wildfire Act*



Wildfire Objective

- There is no requirement under current legislation for forest companies or other land managers to integrate fuel management considerations into plans, prescriptions or stocking standards.
- As values at risk in the interface increase, and as fire suppression costs trend upward, it is important to manage towards fire resilience in the forest and especially in the wildland-urban interface (WUI).
- The deputy minister has approved a pilot project for the Cariboo Region, to test legislation and policy options that provide direction to forest managers on fire management considerations as they prepare operational plans and undertake resource management activities.
- The pilot will require licensees operating in the WUI to consider fuel management in their harvesting prescriptions and stocking standards, if they opt in to the pilot.
- It will also provide for some management or manipulation of forests in OGMA & MDWR. The nature and extent of that management is to be determined by this drafting team in the form of guidance.





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x: 7/17/2012

52°07'04.89" N 121°54'14.38" W elev 813 m

Eye alt 2





- Landscape (Fire Management Unit Based)
 - Provide protection to fire sensitive “values” on the landscape
 - Provide landscape and local options for fire control and suppression
 - Provide options for desired “managed wildfire
 - etc
- Fire Behaviour Related
 - Reduce likelihood of crown fire
 - Reduce surface fire intensity”



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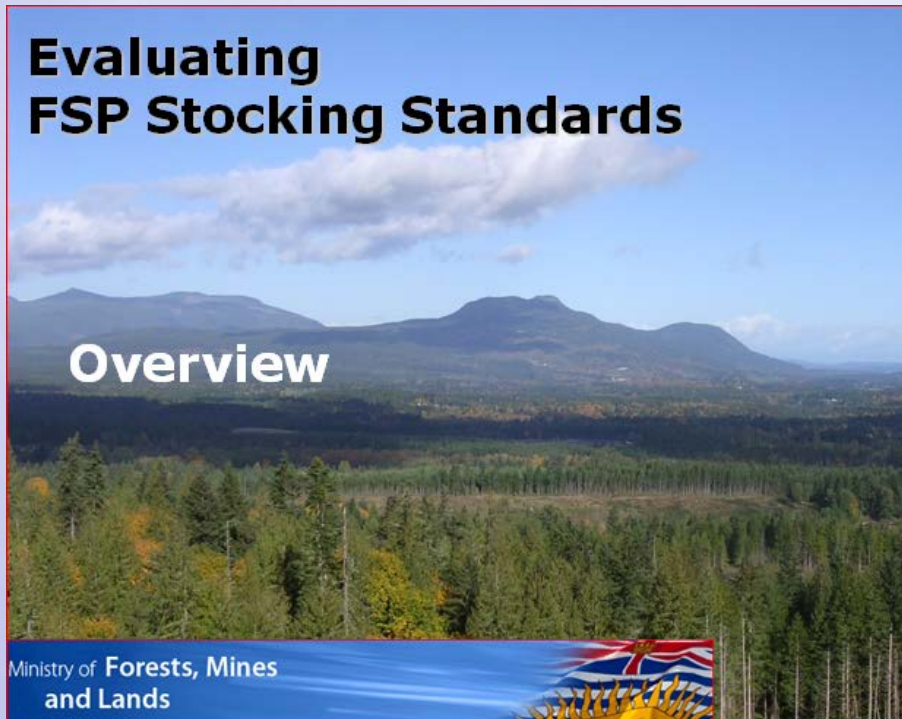
Begin with an overview

FPPR s.26 / FRPA s.16



Evaluating FSP Stocking Standards

Overview



The Tests

- 1. Addresses established objectives. Meets content requirements.**
2. Includes ecologically suitable species
3. Poses no immediate or long-term forest health risks.
4. Maintains or enhances economically valuable commercial timber supply.
5. Is consistent with TSR analysis and assumptions.



Fire Management Objectives

- Landscape (Fire Management Unit Based)
 - Provide protection to fire sensitive “values” on the landscape
 - Provide landscape and local options for fire control and suppression
 - Provide options for desired “managed wildfire”
 - Reduce fire size
- Fire Behaviour Related
 - Reduce likelihood of crown fire
 - Reduce surface fire intensity”
 - Reduce rate of spread





Fire Management Stocking Standards - Where

- Relative to values negatively impacted by fire on the land base
 - Within approx 2 km of interface
 - Provincial strategic threat analysis (PSTA) map
 - Within approx 2 km of other high value infrastructure on the land base
 - Fire Management Plan Values Maps
 - Additional defined by Designated Decision Maker
 - Where identified by fuels management plan as part of a fire management plan
 - Based on local or landscape scale fire management objectives (e.g. fuel breaks)



Fire Management Stocking Standard Development

- Did not try to provide specific stocking standards by BEC type
- Instead the approach to developing fire management stocking standards consisted of providing appropriate background and an example procedure for developing fire management stocking standards
- Professional reliance and consulting appropriate expertise – fire and silviculture – is encouraged



Fire Management Stocking Standards - When

- At different forest successional stages
 - Regeneration/ Free growing
 - Partial harvest with regeneration objectives
 - Intermediate Cut

- When identified by fuels management plan as part of a fire management plan
 - Based on landscape scale fire management objectives
 - May apply to any/all phases of forest production



“Necessary” Complementary Activities

- Hazard abatement
 - *Wildfire Act* and regulation
 - Fine fuel loading and continuity
- Maintenance of hazard free conditions – retreatment
- As a “best practice” practice professional reliance and seek out and use appropriate expertise!

WILDFIRE MANAGEMENT BRANCH

**A Guide to Fuel Hazard Assessment
and Abatement in British Columbia**





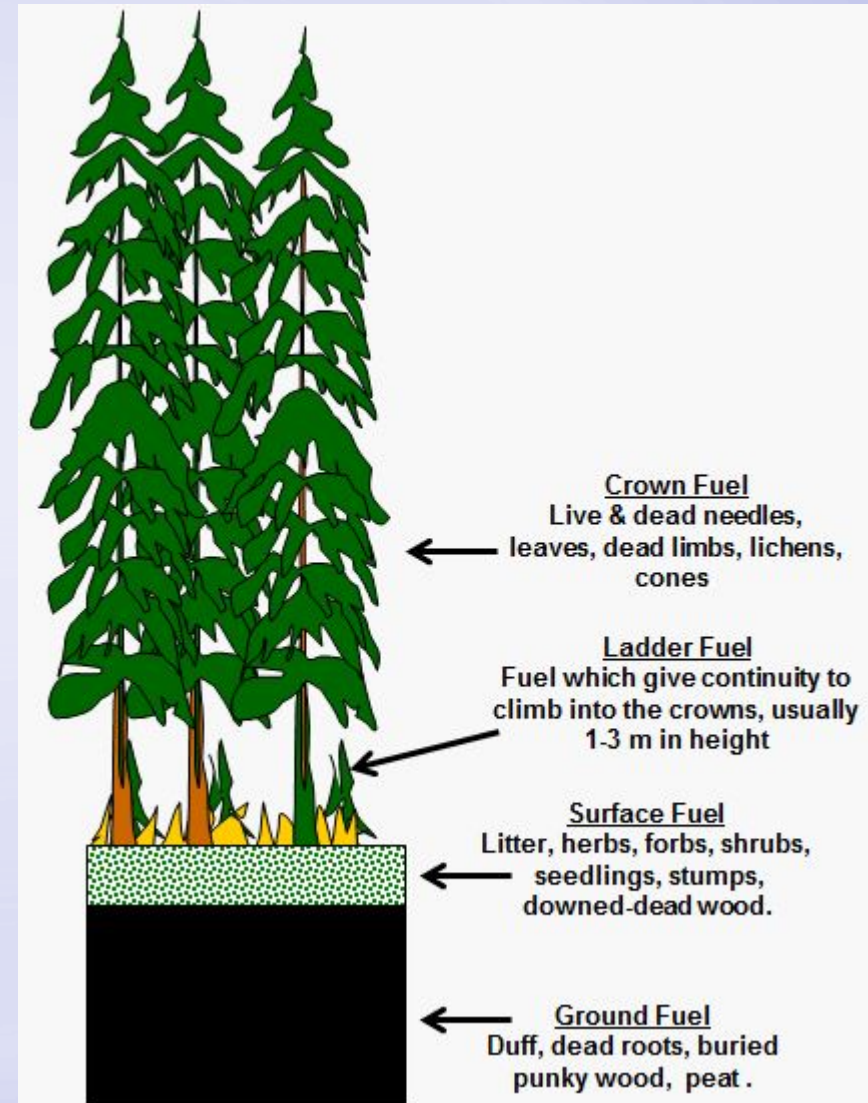
Hazard Abatement

Opening # 94C025-004
L 1989 (winter)
Piled and Burned 1990
Planted 1991



Thought Process on Forest Practises

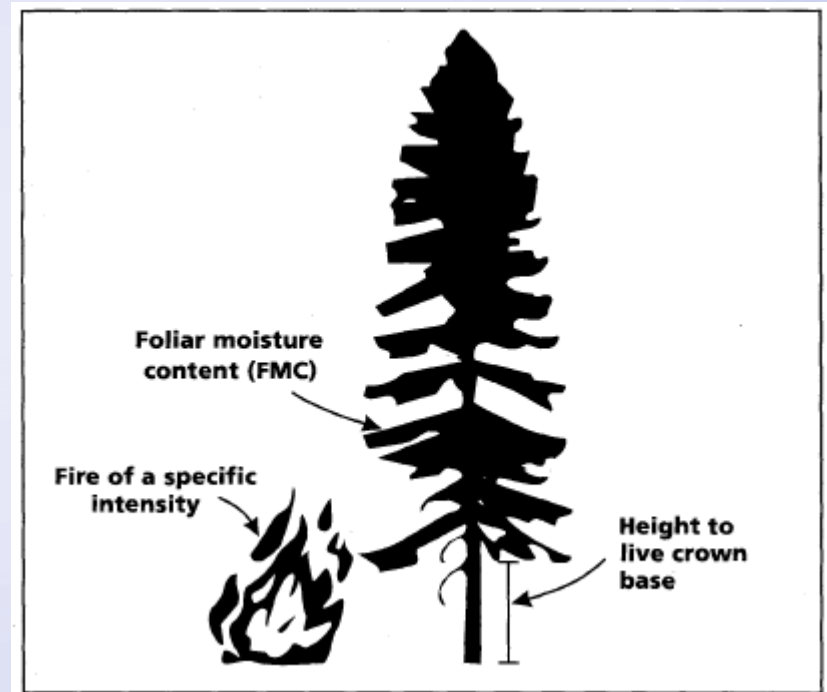
- Are you adding to the surface fuel loading?
- What are you doing to the vertical fuel arrangement?
- What are you doing to the horizontal fuel arrangement?





Critical Surface fire intensity

- All fire start as surface fires, once the intensity (flame height) builds to a point where the crown fuels are engaged you have a crown fire.
- The fuel treatment should decrease the fuel available for the surface fire to reach the crown fuel and increase the height of the crown fuels



Questions?

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