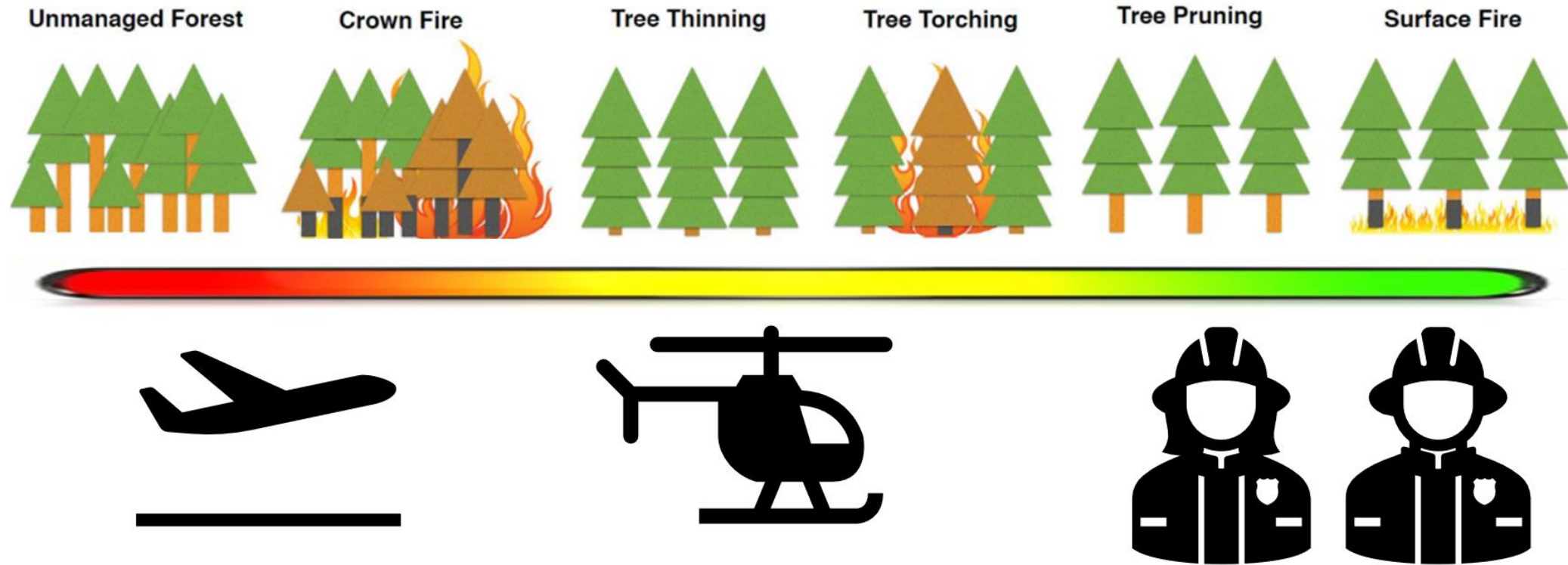


South Island Natural Resource District Crown Land Wildfire Risk Reduction



Devon Barnes, RPF, MSc

Ministry of Forests, Land and Resource Coordinator

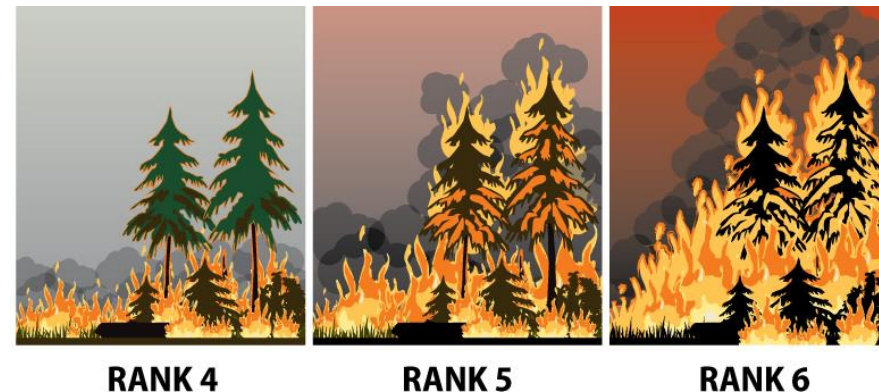
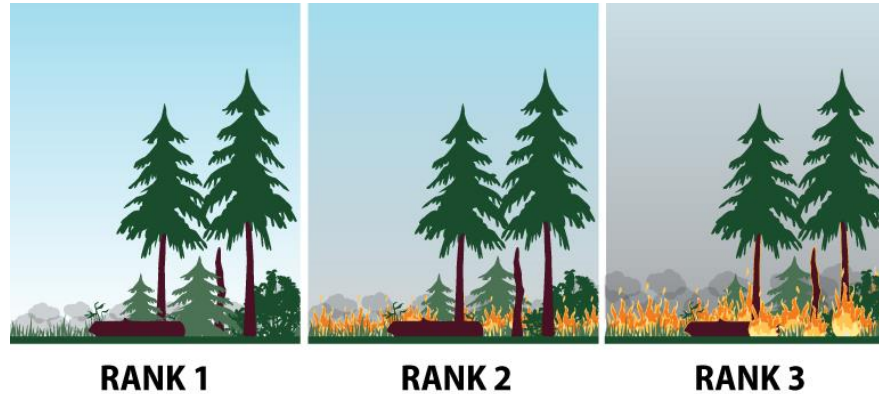
I would like to acknowledge and thank the many First Nations that are within the South Island Natural Resource District for their traditional stewardship of these lands.

Why is Wildfire Risk Reduction Needed?

1. Safety



2. Cost-Effective



3. Ecological Enhancement

- ✓ Forest Succession
- ✓ Wildlife Habitat
- ✓ Nutrient Cycling
- ✓ Ecosystem Protection
- ✓ Forest Health

Who can partake in the program?

Community Resiliency Investment Program (CRIP)

Government of British Columbia started the CRI program in 2018.

There are two funding mechanisms for communities and crown land.

1. FireSmart Community Funding and Support (FCFS)

Administered by the Union of British Columbia Municipalities (UBCM).

Applications reviewed by Community FireSmart and Resiliency Committee.

2. Crown Land Wildfire Risk Reduction (CLWRR)

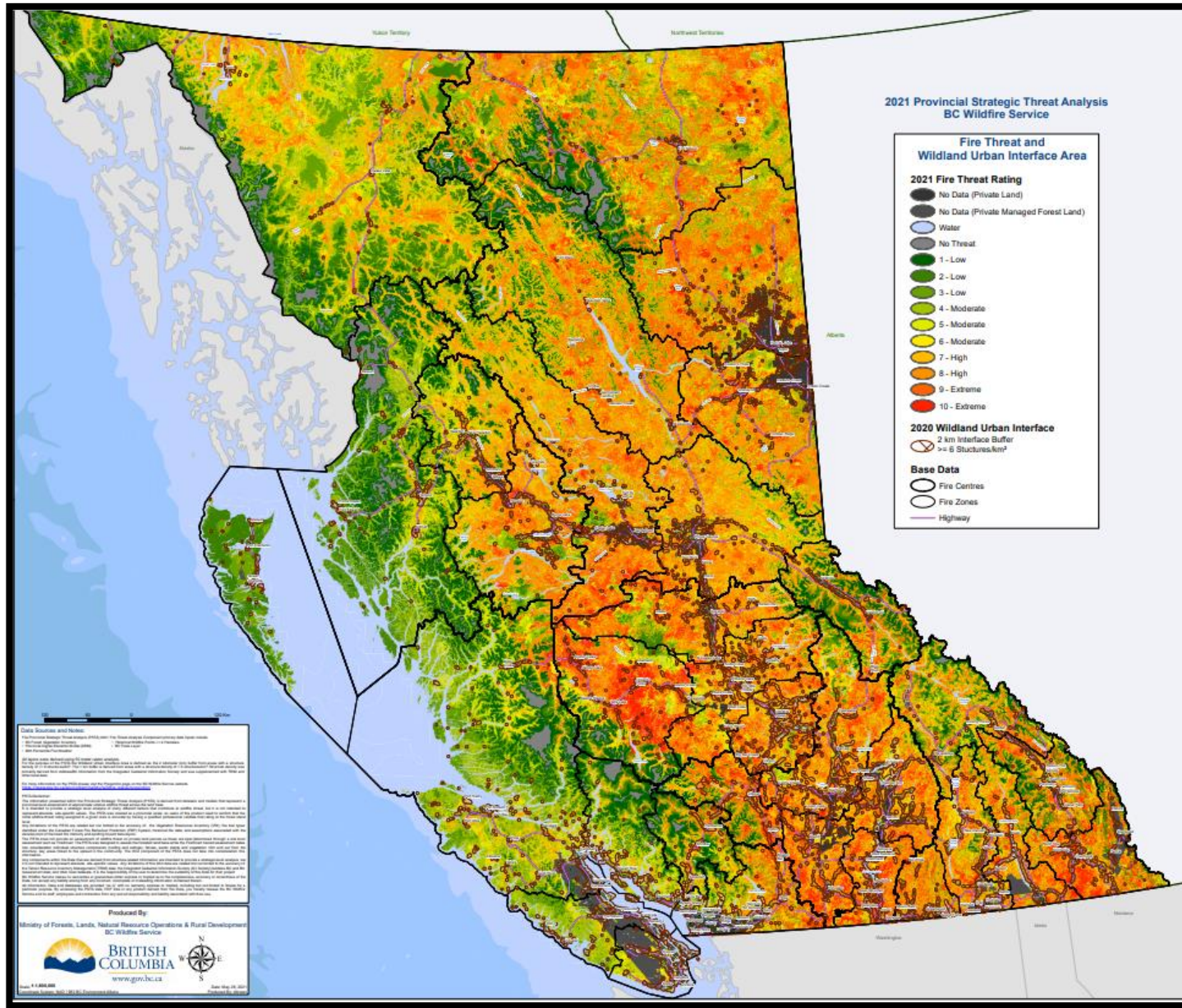
Administered by BC Parks, Mountain Resort, and/or Ministry of Forests.

Projects are approved by BC Wildfire Service and led by the Business Area.

Focus is on the Wildland Urban Interface (WUI) and Critical Infrastructure.

The best projects utilize adjacent partners to take a comprehensive approach!

How are Wildfire Risk Reduction Sites Selected?

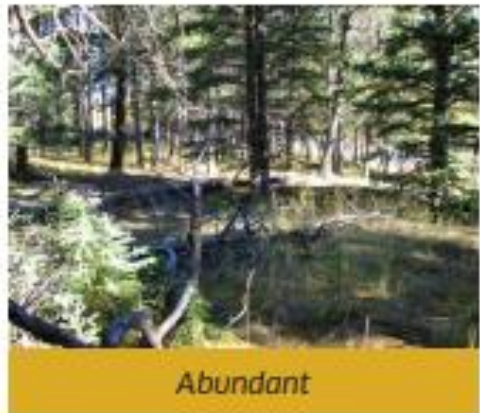
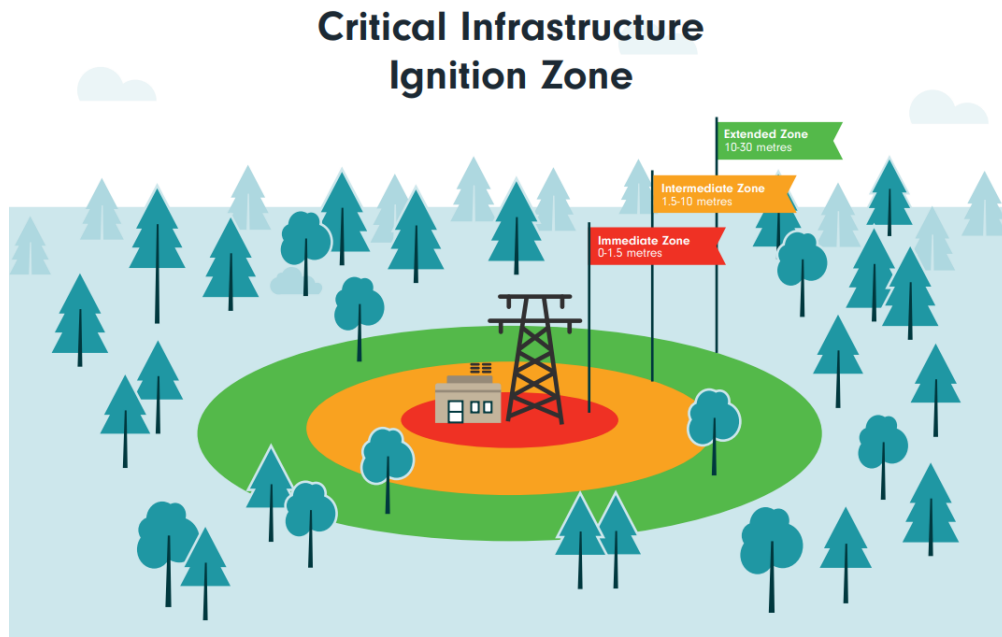


CROWN LAND WILDFIRE RISK REDUCTION PLANNING GUIDE 2024-2025 Community Resiliency Investment Program



- ☐ Wildfire History
- ☐ Fire Behaviour
- ☐ Critical Values
- ☐ Fuels Assessment
- ☐ Climate Assessment
- ☐ Forest Health
- ☐ Wildfire Risk Reduction Plans

Where does Wildfire Risk Reduction Occur?

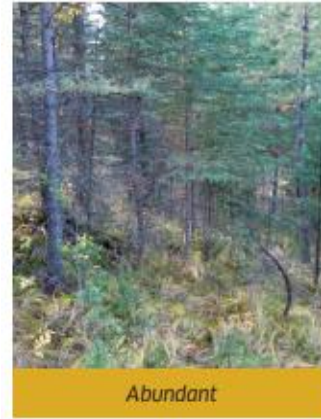


Abundant

HAZARD FACTOR 18:
SURFACE VEGETATION

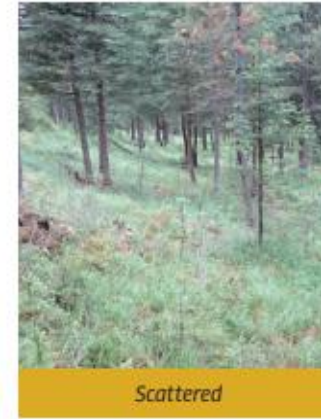


Scattered



Abundant

HAZARD FACTOR 17:
FLAMMABLE SHRUB SPACING



Scattered



Present

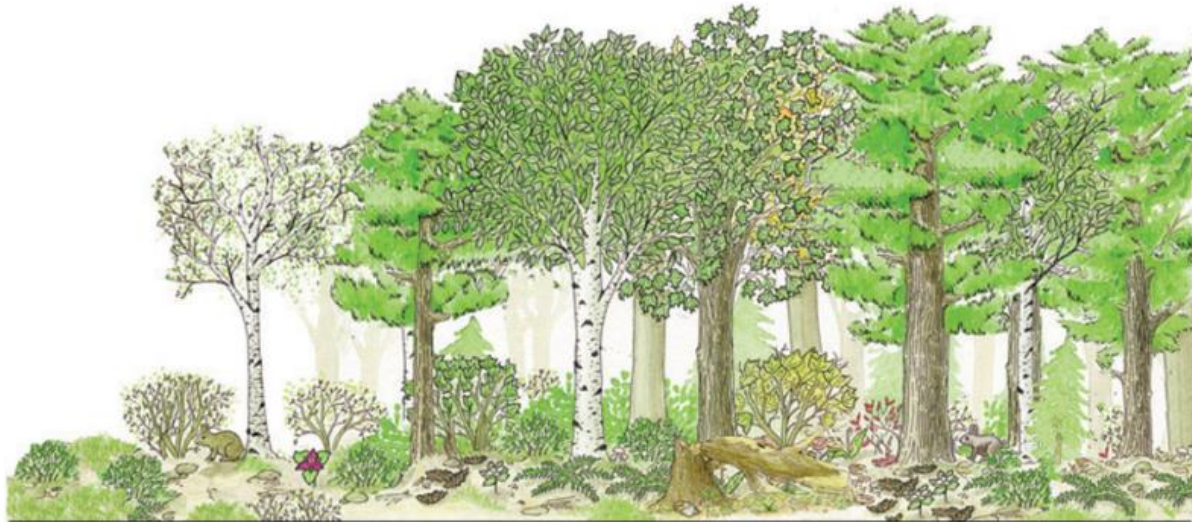


None

HAZARD FACTOR 19:
LOW-LYING TREE BRANCHES



Protecting and Enhancing Ecological Integrity



Plants Stage
First 5 years

Shrub Stage
6-25 years

Young Forest
26 - 50 years

Mature Forest
51 - 150 years

Climax Forest
150 - 300 years

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What is Wildfire Risk Reduction?



Prescription Development



Danger & Wildlife Trees Assessment



Thinning from Above



Thinning from Below



Branch Pruning



Debris Removal



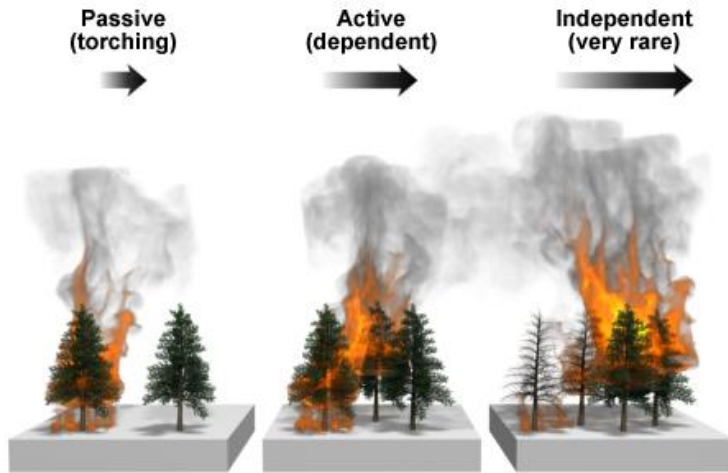
Pile Burning



Broadcast Burning

Principles of Fuel Management and Fire Behaviour

Stages of Crown Fire



NWCG/The COMET program

Van Wagner's (1977) Crown Fire Initiation Model



$I_s < I_o$:
Surface Fire



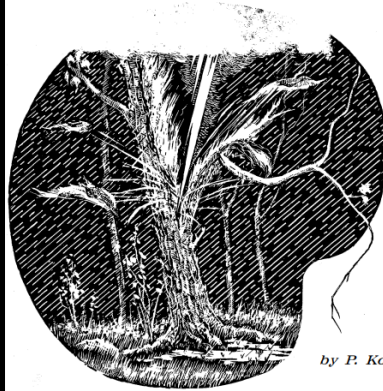
$I_s \sim I_o$:
Surface Fire -
Crown Fire
Transition



$I_s > I_o$:
Crown
Fire!

34

LIGHTNING BEHAVIOUR AND LIGHTNING FIRES IN CANADIAN FORESTS



by P. Kourtz



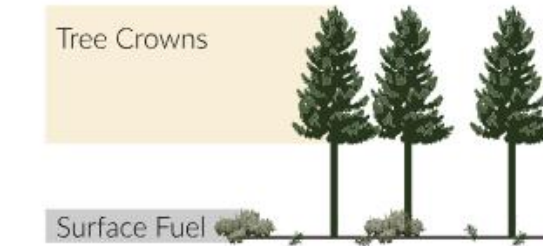
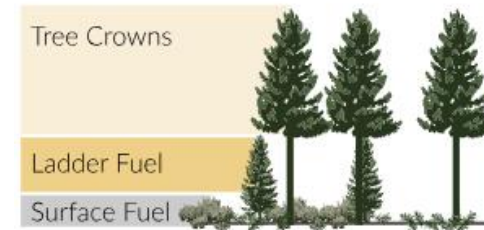
Sommaire en français

FORESTRY BRANCH

DEPARTMENTAL PUBLICATION NO. 1179 - 1987

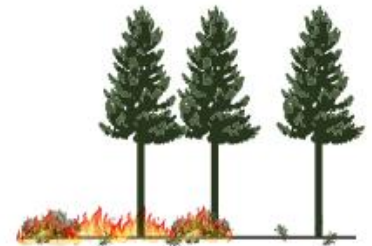
Forest before fuel reduction

Surface and ladder fuels are present.



Higher intensity fire

Fire spreads from forest surface through ladder fuels to tree crowns.



Source: JLARC staff depiction based on diagrams created by the U.S. Forest Service.

Vegetation Resource Inventory Ground Sampling Procedures March 1997 Table 8.1

	Log decomposition Class 1	Log decomposition Class 2	Log decomposition Class 3	Log decomposition Class 4	Log decomposition Class 5
WOOD TEXTURE	CLASS 1 intact, hard	CLASS 2 intact, hard to partly decaying	CLASS 3 hard, large pieces, partly decaying	CLASS 4 small, blocky pieces	CLASS 5 many small pieces, soft portions

How does Wildfire Risk Reduction look?



Ravenhill Adjacent



Ravenhill Treated



Before



After

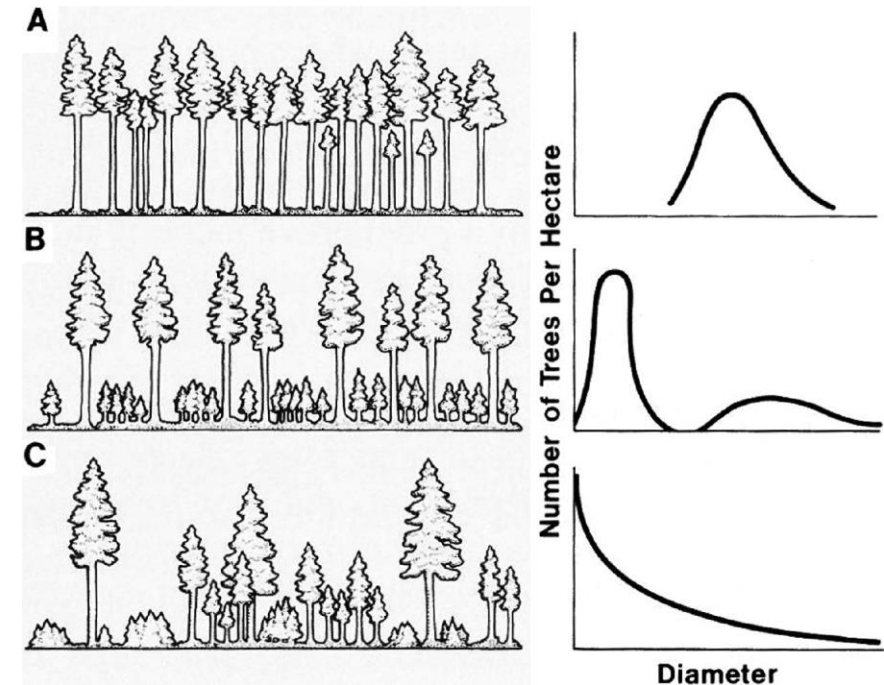
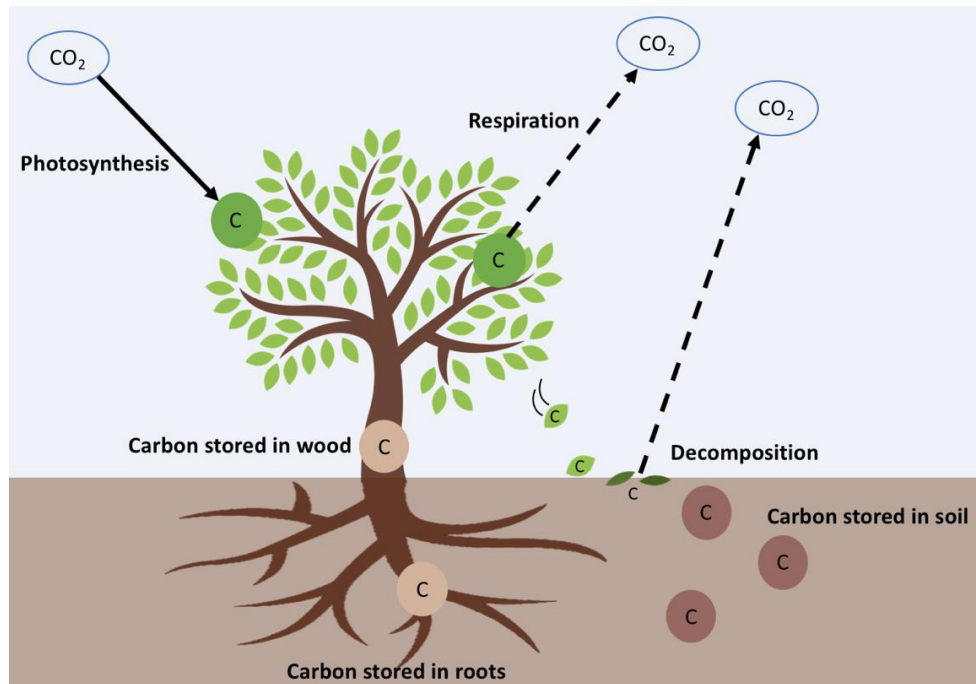
How does Wildfire Risk Reduction look?



Stewardship Monitoring of Silviculture Operations

Hypothesis Testing:

- 1) Retention of woody debris promotes nutrient cycling (decomposition rates).
- 2) Treatment operations are enhancing fuel moisture (moisture retention).
- 3) Treatment operations grow more resilient trees (growth and yield benefits).



Benefits of Landscape Fire Management



BCTS

BC Timber Sales

1. Create plantable spots blocked by logging slash.

2. Reset competitive vegetation complex.

3. Reduce slash creep and snow press on planted trees.

4. Reduce short and long term fire hazard by removing surface fuels.

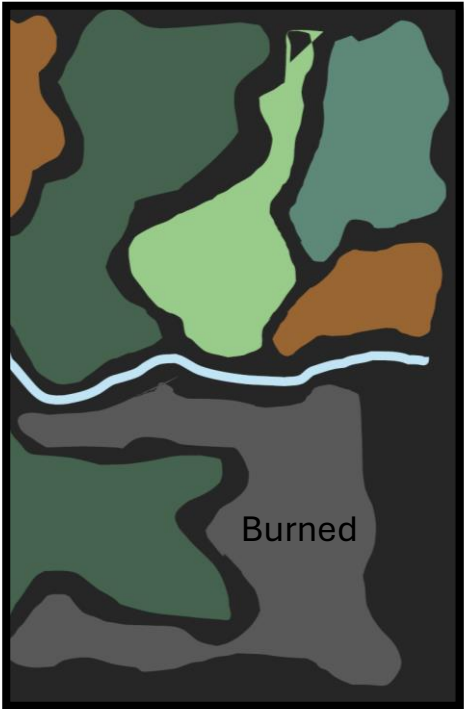
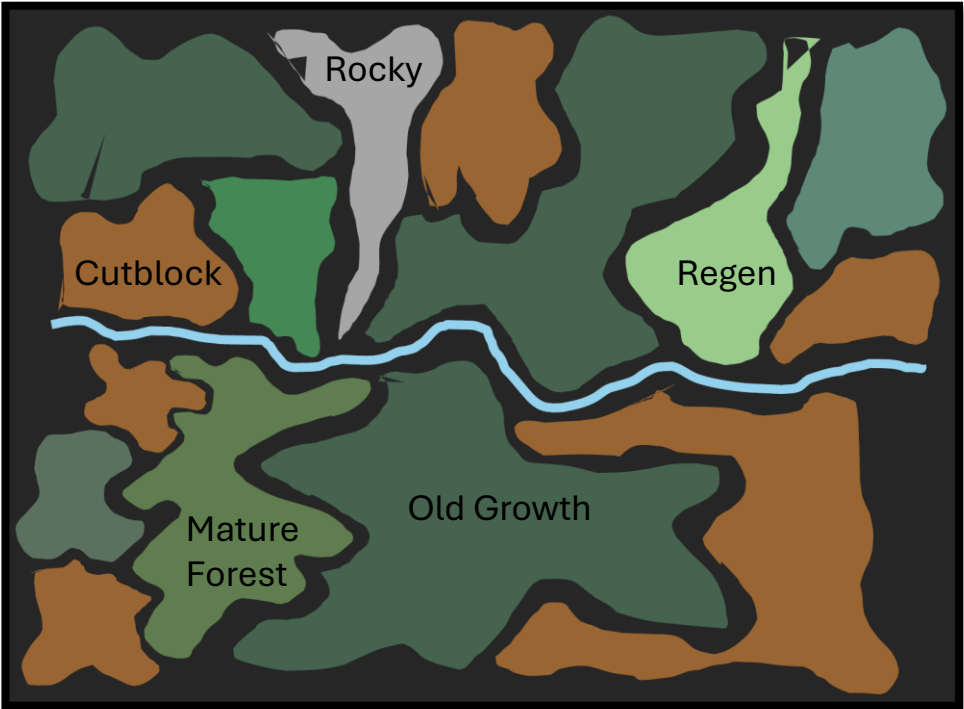
Layout Best Practices for Broadcast Burning

Kootenay Lake Field Team

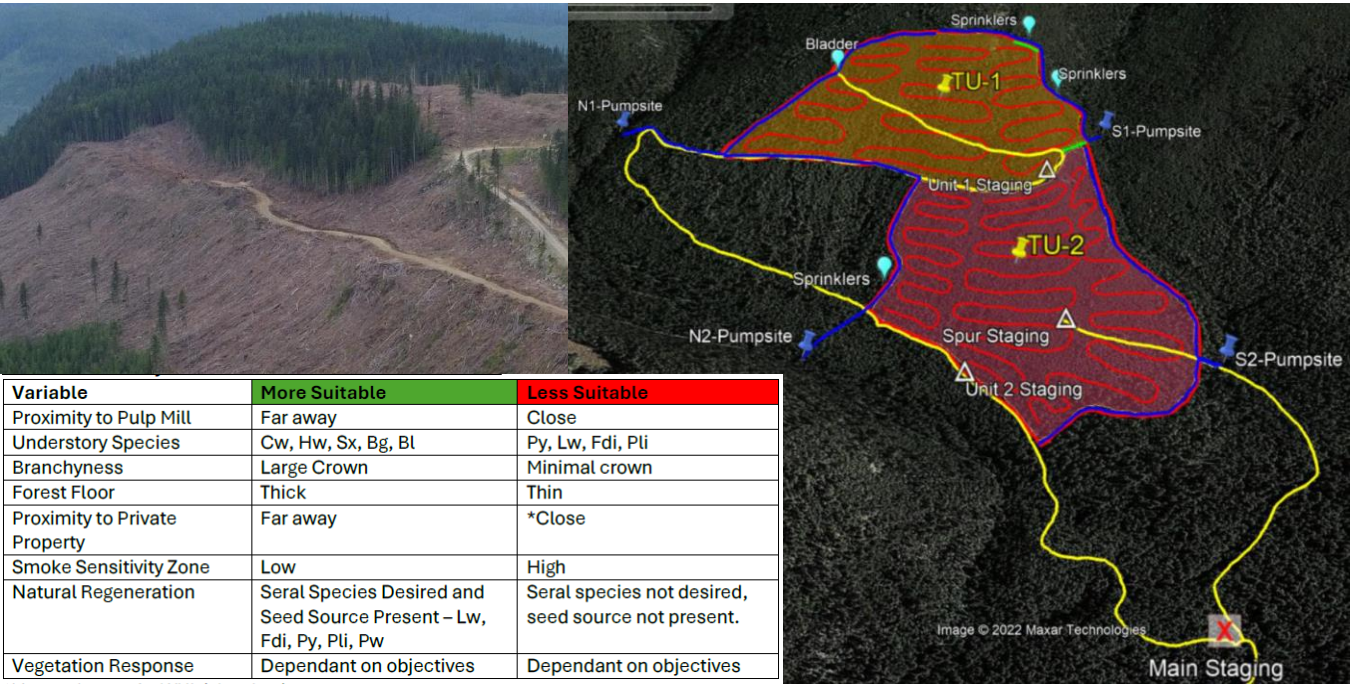
Variable	Good	Bad
Block Edge	Straight, incorporate mechanical fuel-free construction into TSL requirements.	Wiggly, fuel loaded.
Location	Boundary against ridgetop, natural fire breaks or artificial barriers. Upslope of burnable merch timber	Against merchantable timber, especially multistoried stands or against dead standing timber.
Shape	Regular, tall and skinny if no natural or artificial firebreaks present. Square also good.	Irregular, wide if no natural breaks present. Fingers or narrow offshoots.
Roads	Top and bottom. Straighter is better.	Just bottom, or temporary and deactivated at time of burn.



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BC Timber Sales Role



Clear a fuel free along control lines using machines already working in the block (ideal), or by hand later (if necessary)

Dollars and Sense

COST FACTORS: (these can be both positive and negative)

Planning Effort

Staff time, vehicle hours/kms, etc*

*May not be much more than current process with WCFSMP

Training

Staff time, vehicle hours/kms, contracts for equipment, crews, burn boss, etc.

Implementation

Staff time, vehicle hours/kms, contracts for equipment, crews, burn boss, drone scans, etc.

Pre-Burn Operations

Pile/burning (as needed per objectives and Burn Plan), containment line prep, weather monitoring, water handling setup, etc

Post-Burn Operations

Planting delays, planting cost/success rates

Fiscal Year 2025-26 Summary

WRR Plans

- Oceanside
- South Island

Prescriptions

- Glen Oaks Drive
- Shawnigan Estates
- Port Alberni Highway
- Ditidaht Fuelbreak
- Cobble Hill Fire Base
- MOTT Gravel Pits
- Musgrave Recreation Site

Treatments

- Glen Oaks Drive
- Shawnigan Estates
- Port Alberni Highway
- Wooden Fuelbreak

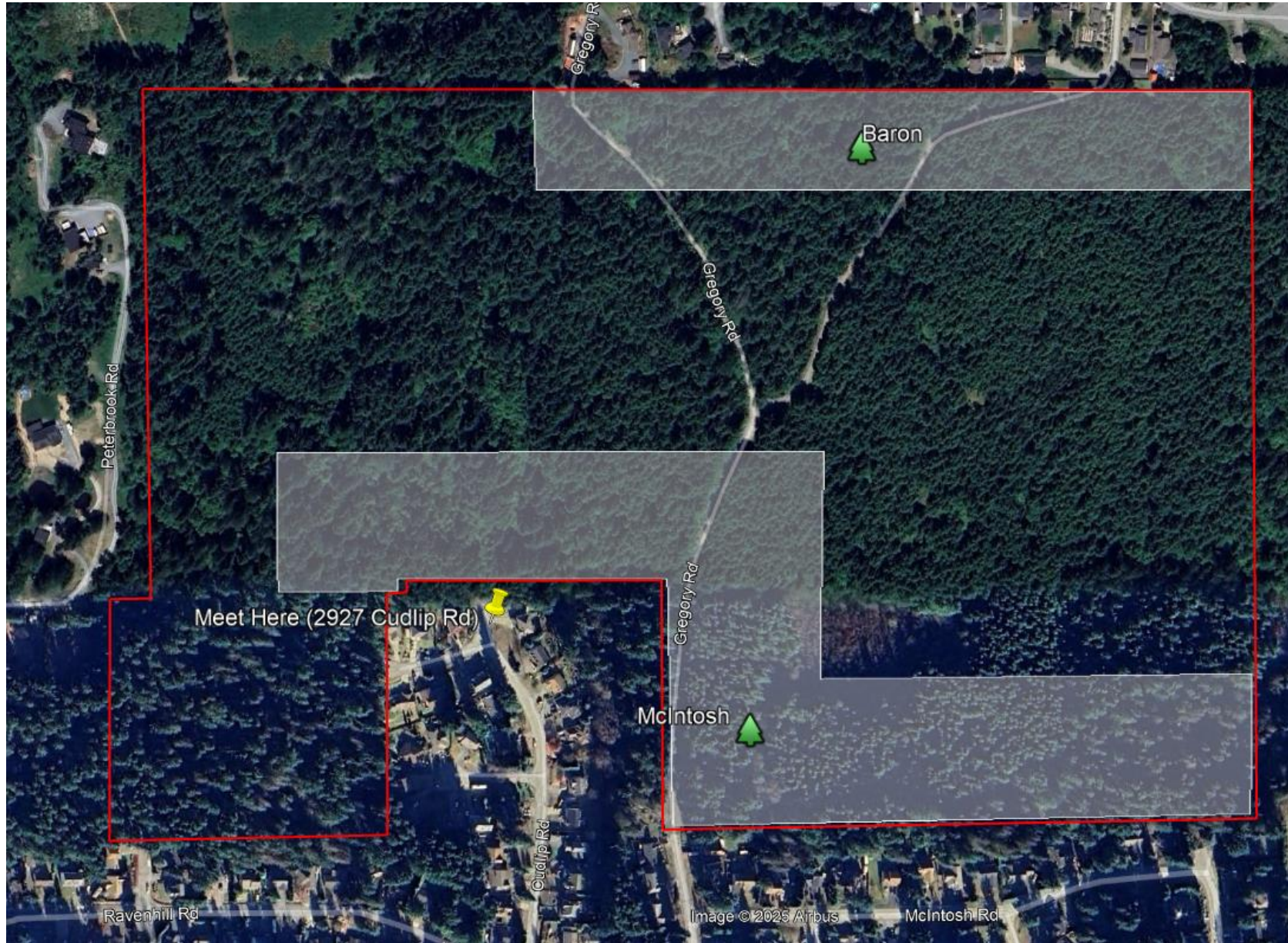
Ancillary Projects

- Stewardship Monitoring
- Landscape Fire Management
- Wildfire Risk Reduction Training Manual
- Sproat Lake Community Forest
- Vancouver Island University woodlot

Glen Oak Drive



Shawnigan Estates



Port Alberni Highway



Ditidaht Fuelbreak



Cobble Hill Fire Base



Broom and Gorse Gravel Pits



Arrowsmith Pit



Larkdownne Pit

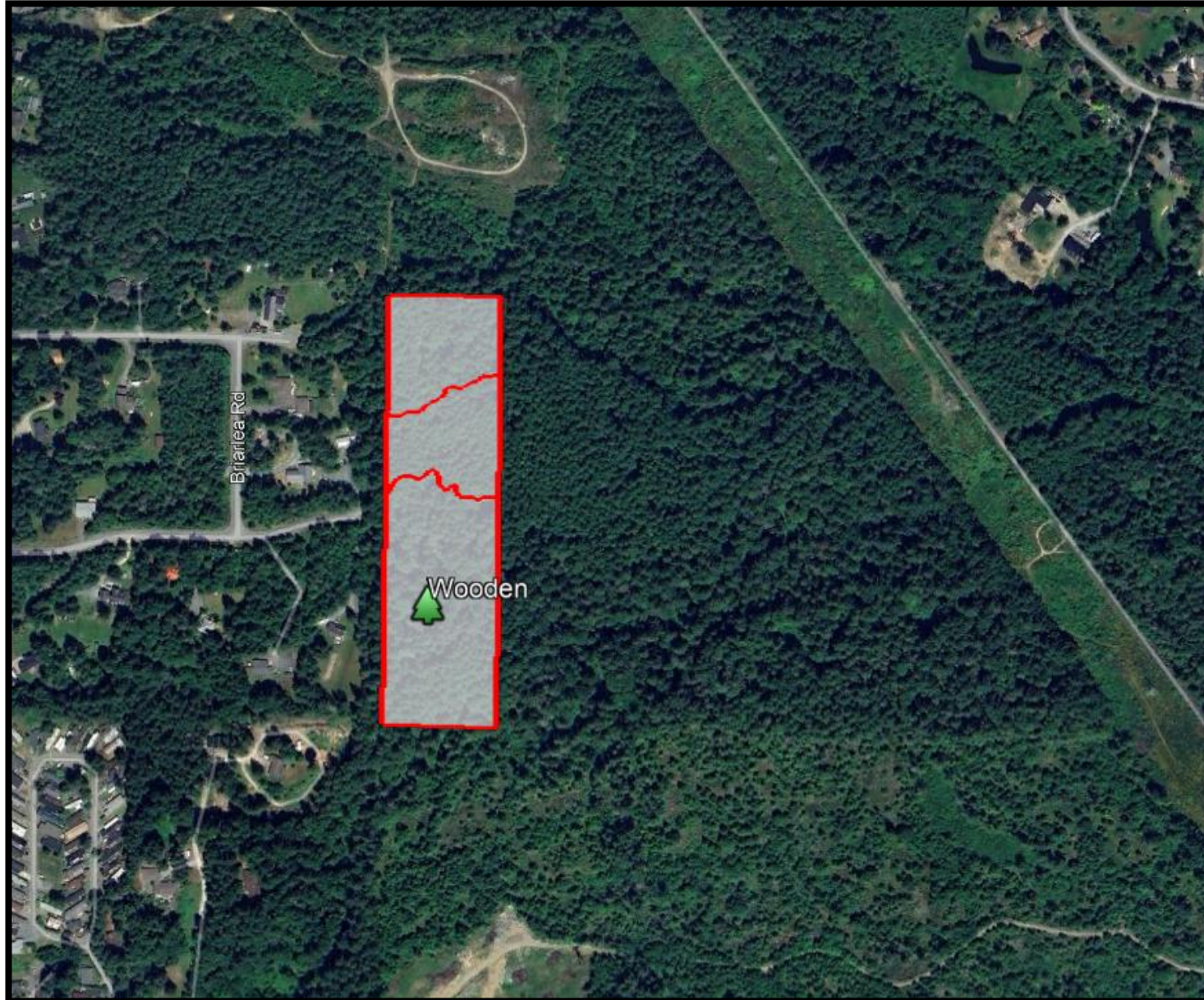


Doumont Pit

Musgrave Recreation Site



Wooden Fuelbreak



Khowutzun Forest Services





Where is the Oceanside Area of Interest?



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Forests

Higher-Level Strategic Plans

*Land Use Plans, Forest
Stewardship/Landscape
Plans, Provincial Level
Risk/Threat Analysis*

WRR Plans

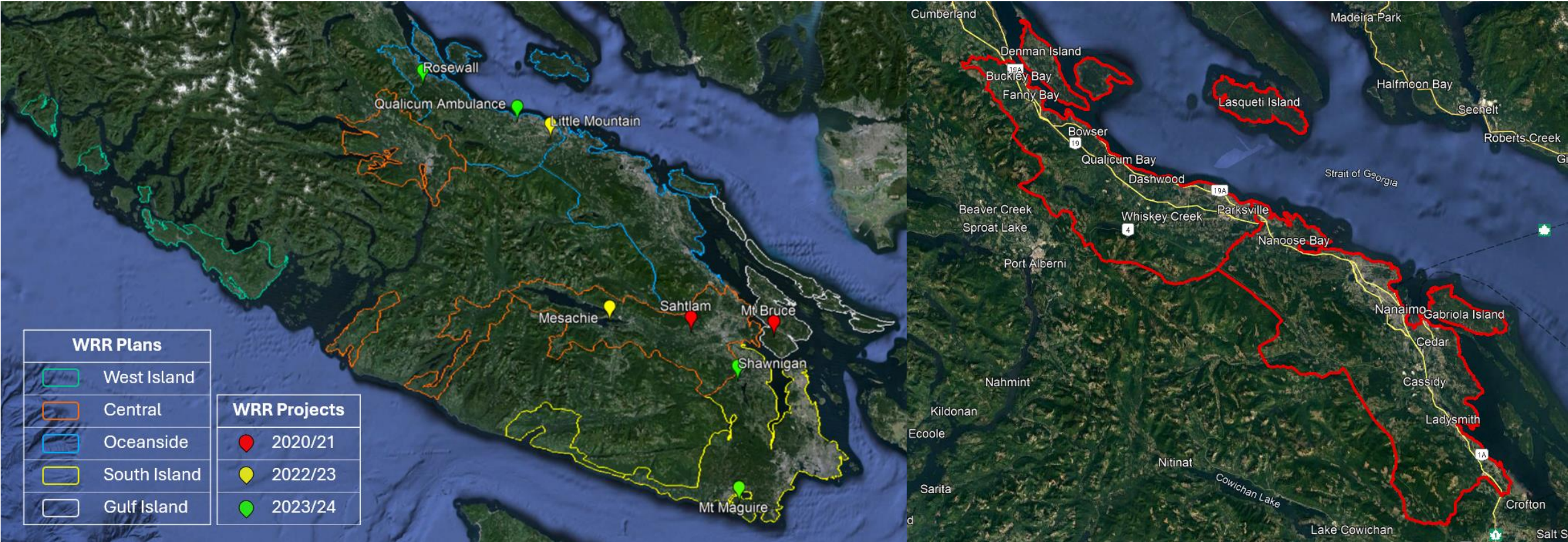
Site-Level Operational Plans

*(Fuel Management Prescriptions,
Burn Plans)*

Plan Type	WUI WRR Plan	CWRP/CWPP
Lead	Provincial Government	- Municipal Government, - Regional Government, or - Indigenous Community
WUI Scale	Entire WUI (+/- logistical bounds)	1km WUI
Administrative Scale	Provincial Crown Land	- Municipal - Provincial Crown Land - Federal/IR
Purpose	Fuel management planning mechanism for provincial land managers implemented through a total-chance planning approach	Wildfire risk reduction planning mechanism for communities implemented through 7 FireSmart Disciplines
Outcome	Identification and prioritization of planning and fuel management units	Identification and prioritization of actions local governments can take to become FireSmart (including prioritizing and planning fuel management units)
Funding Regimes	CLWRR	FCFS
Temporal Scale	~5 years	~5 years

Wildfire Risk Reduction Planning

Oceanside Plan 2024-25



- ✓ Identifies Land Parcels in a Coordinated Approach
- ✓ Field Assessment of Wildfire Risk Reduction Land Parcels
- ✓ Sequencing Fuel Management Parcels for Long-term Funding

Community Protection



Critical Infrastructure



Buffer Escape Routes





What is a Wildfire Risk Reduction (WRR) Plan?



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Community Protection



Buffer Escape Routes



Critical Infrastructure



Strategic Plan Construction

Area Analysis

- Area of Interest
- Computer Modelling
- Land Parcels Identification

Public Engagement

- Local Government
- First Nations
- Resource Industries
- Non-Governmental Organizations

Field Assessments

- Ground Truthing
- Data Collection
- Photo Catalog

Wildfire Risk Reduction Plan

- Project Prioritization
- Budget Scheduling
- Partnership Development

Project Deconstruction

Thank you for listening today!



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South Island Natural Resource District

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