

# Laminated Root Rot in the Southern Interior



# My Talk

- Biology
- Disease Recognition
- Detection
- Treatment & Management

*Phellinus weirii* (Douglas-fir  
type)

*or*

*Inonotus sulphurascens*

# How it Gets its Common Name



# What is it?

- Fungus that grows on the roots of conifers
- Spreads by root to root contact
- Survives for long periods in stumps
- Losses in BC estimated at over 1million m<sup>3</sup>/yr. (40,000 houses)

# Hosts

| Highly Susceptible      | Susceptible                        | Tolerant | Resistant | Immune    |
|-------------------------|------------------------------------|----------|-----------|-----------|
| Douglas-fir<br>true fir | western hemlock<br>spruce<br>larch | pin      | cedars    | hardwoods |

# Age Effects

- Young trees die → 1-2 years
- Older trees → 15-20 years
- Old Growth → more like a butt rot

# Distribution

- Follows natural distribution of Douglas-fir IDF/ICH (higher hazard in wetter subzones)

## Exceptions

- Chilcotin Plateau
- Quenel District is northern limit

# Life Strategy

- Get there first (first come first serve)
- Protect your turf → gated (zone lined) community
- Wait for the next unsuspecting victim (stealth pathogen)

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# Symptoms (I'm sick!)



# Signs – Ectotrophic Mycelium (first come first serve)



# Setal Hyphae



# Brown Crusty Layer (pseudosclerotial plates)



# Stain



# Decay (& Zone Lined or Gated Community)



# Survival (*Stealth Mode*)



# Fruiting Body



# Outline

- Biology
- Disease Recognition
- Detection
- Treatment & Management

# Root Rot Centers



# Look Up Way Up



# Survey Methods

## Helicopter or Ortho Photos

- Fairly easy to detect with a helicopter
- with good imagery it is often possible to roughly map larger centers from photos

## Walkthroughs

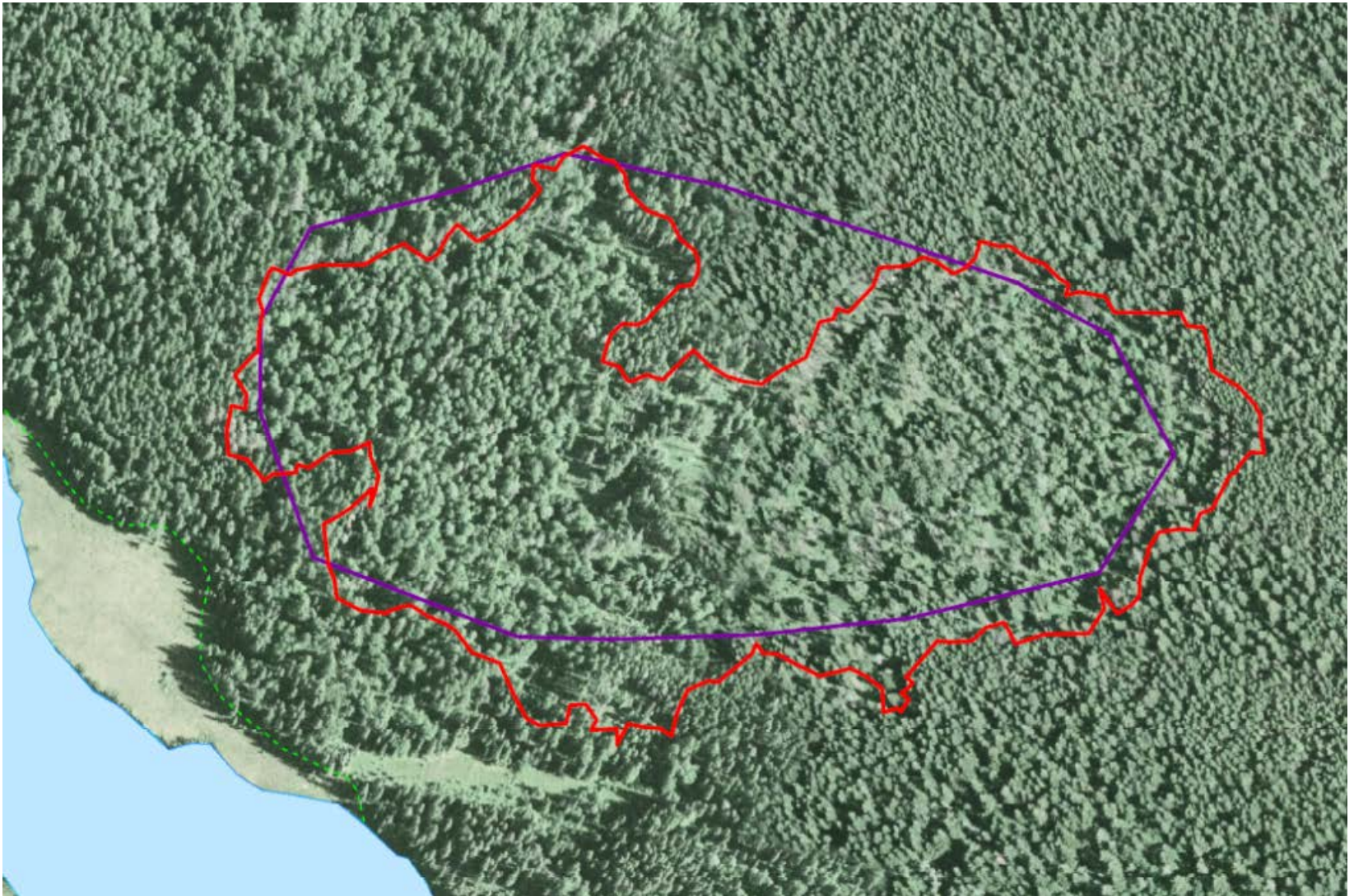
## Detailed Pre-harvest or stump-top

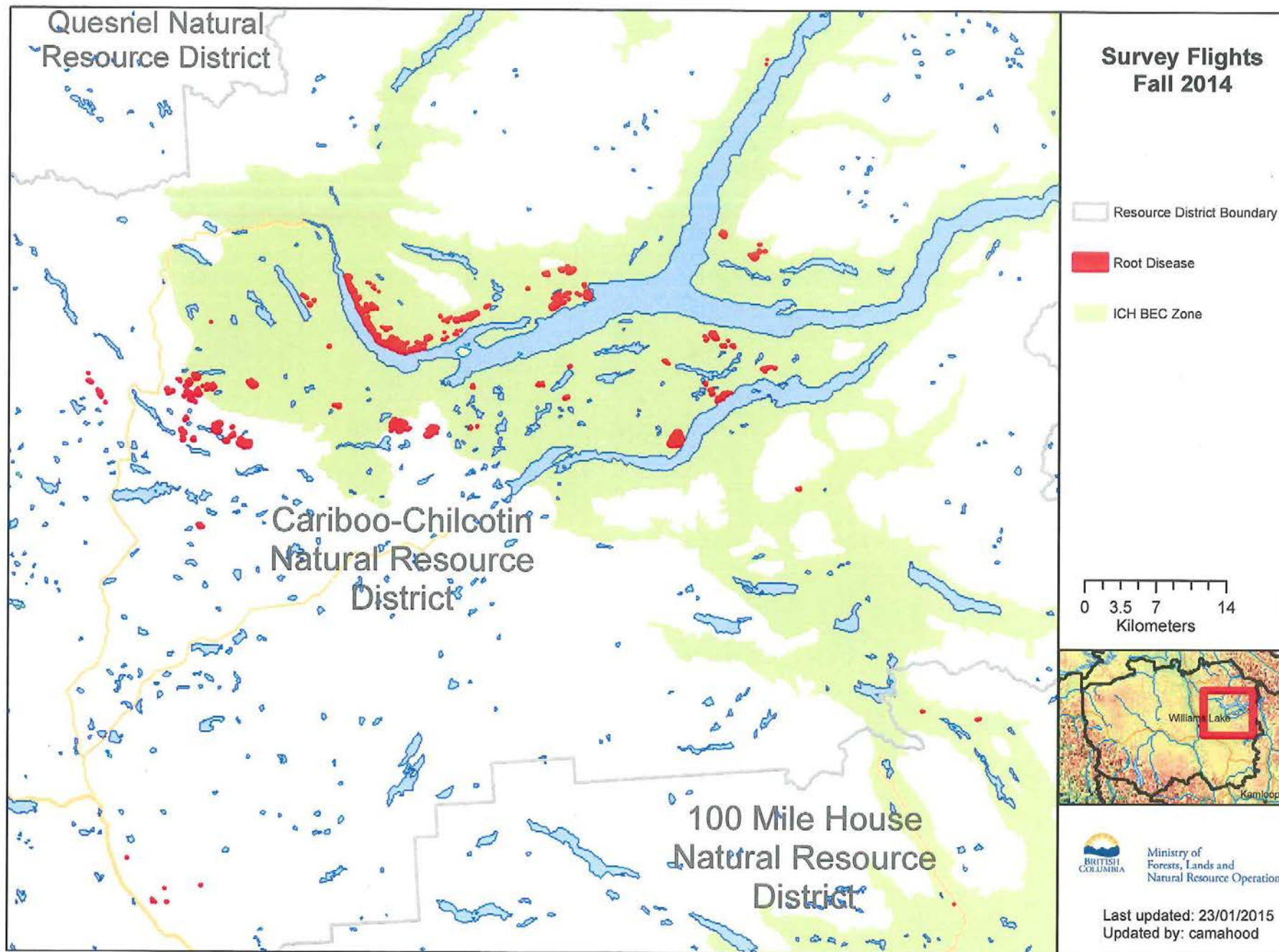
- Transect surveys
- Sketch mapping

# Large DRL Center Google Earth (white) vs. ground truthed (red)

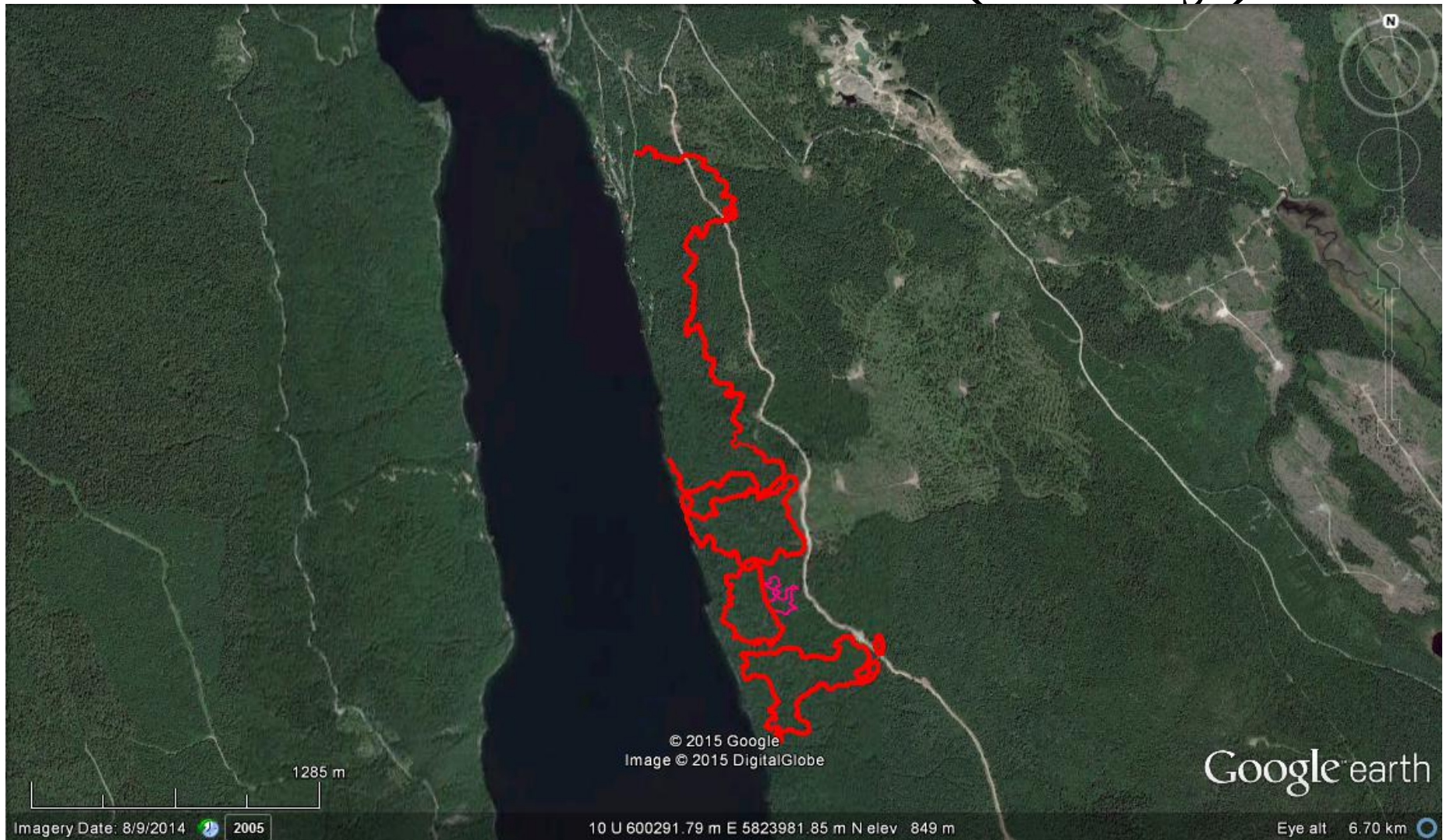


# Large DRL Center Heli survey (purple) vs. ground truthed (red)



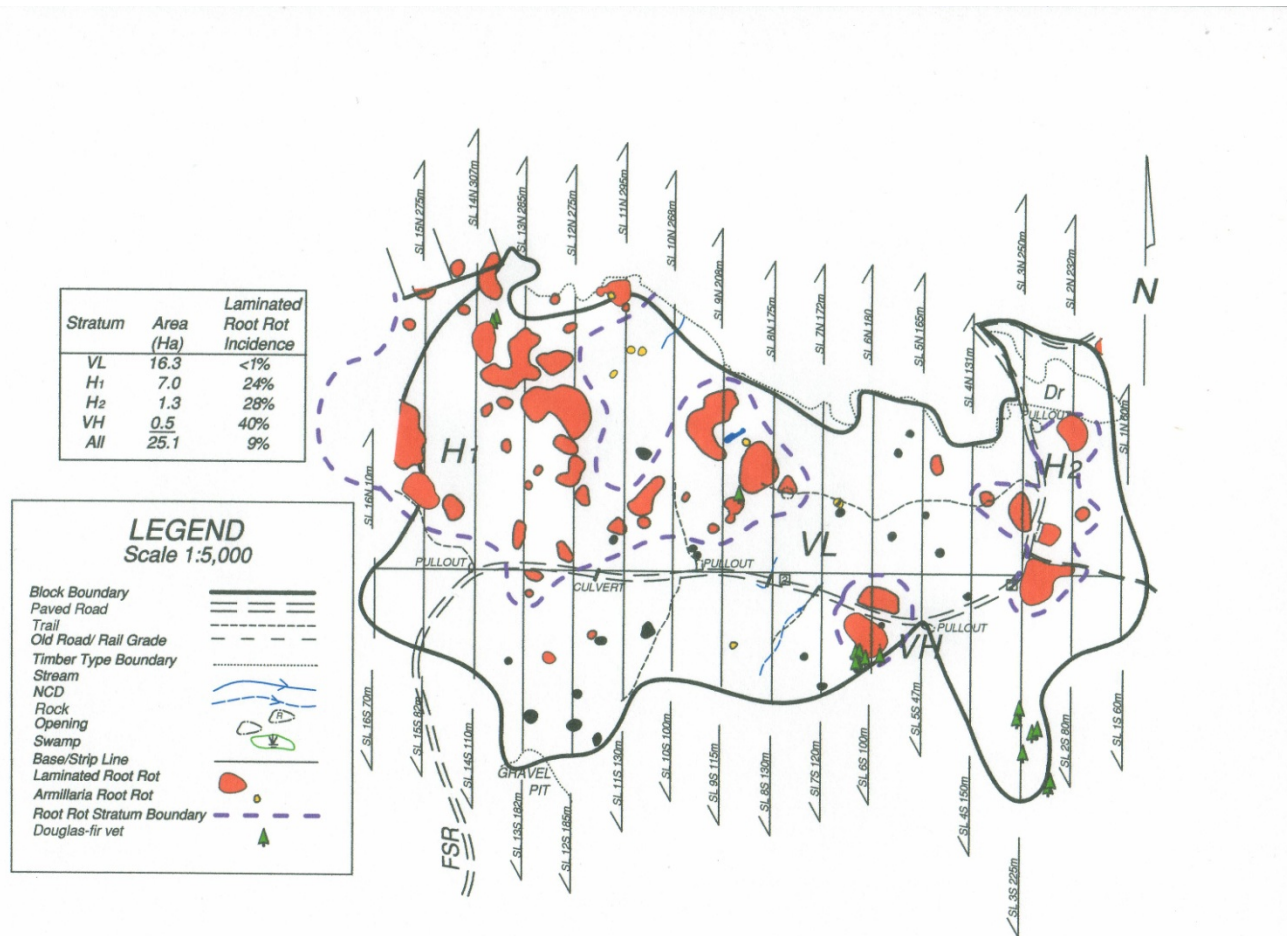


# Laminated Root Rot (Likely)





# Stratification - Blast from Past



# Confounding Factors

- Often plays 2<sup>nd</sup> cousin
- Associated with & masked by Douglas-fir Beetle, Armillaria Root Rot, Deciduous patches
- left out of blocks (crappy cedar)

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# Treatment

- Stumping
- Alternate Species

# Limiting Factors

- Fine textured soils
- Wet sites
- Steep slopes
- Large stumps
- Shallow soils
- Riparian areas



# Alternate Species

| Highly Susceptible      | Susceptible                        | Tolerant | Resistant | Immune    |
|-------------------------|------------------------------------|----------|-----------|-----------|
| Douglas-fir<br>true fir | western hemlock<br>spruce<br>larch | pin      | cedars    | hardwoods |

A close-up photograph of a large, weathered log with peeling bark, surrounded by green leaves and moss. The log is the central focus, with its light brown, flaking bark showing signs of decay. Several green leaves are scattered around the log, some showing signs of damage or decay. A small, reddish-brown leaf with dark spots is visible in the lower left. The background is dark and filled with more foliage and branches.

Any  
Questions?