



# Science to Management Forum: Overcoming Obstacles to Variable Retention in Forest Management

September 25-27, 2007

Prince George, BC

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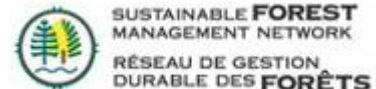
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*Retention Planning for Wildlife Habitat and  
Biodiversity During Salvage Harvesting, and  
Some Obstacles to Implementation*

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# Why Do We Need Stand and Landscape Level Retention ?

1. **Structural Retention = *Biological Legacies* and the *Ecological Memory* of the previous ecosystem**
2. **Clear social expectations that wildlife habitat, biodiversity and ecosystem processes will be protected in BC**
3. **Forest and Range Practices Act – wildlife and biodiversity recognized as subjects**
4. **Objectives in HLP's (LRMP) for non-timber resources**

# Some Structural Consequences of MPB Disturbance

- high density of medium (20-30 cm d.b.h.) and large (>30 cm d.b.h.) PI snags
- between 5 and 50+% of medium and large PI trees left alive
- dispersed snags and live trees
- early and advanced PI and non-PI regeneration
- downed wood widely distributed
- riparian areas with large live trees and more retention
- non-pine largely unaffected
- no change in access

**To be “Consistent” with the Spatial and Structural Patterns of Natural Disturbance, *this should translate into prescriptions that ...***

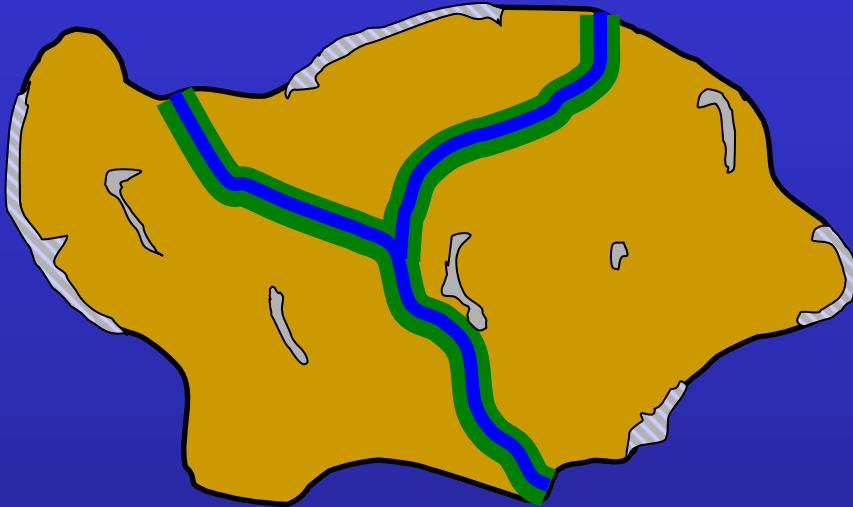
- leave patches and individual dead trees dispersed across the salvage opening
- leave green PI as patches and individual trees
- protect the understory and advanced regeneration
- leave high levels of downed wood well-dispersed across the site
- maintain live and dead PI, and other species in wide riparian reserves and management zones
- use partial cutting in mixed species stands
- clearly address access management



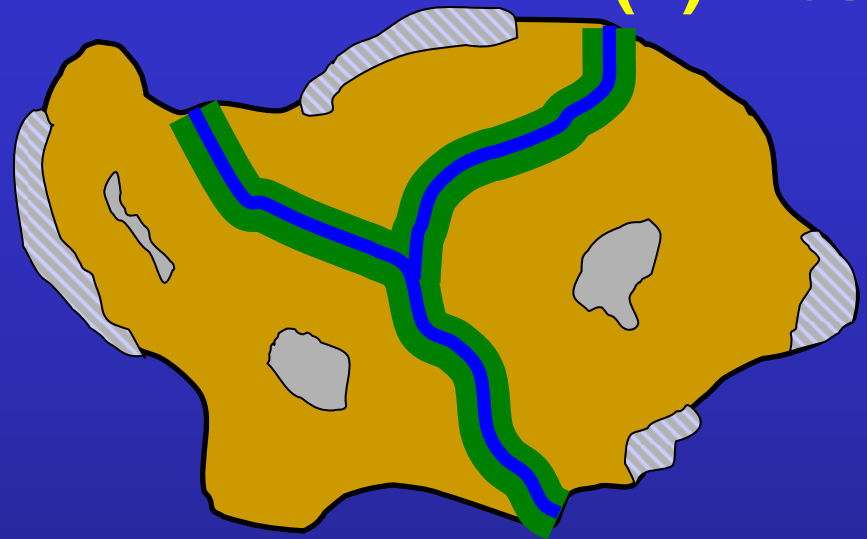


# Stand-Level Retention During Salvage – Conceptual Options

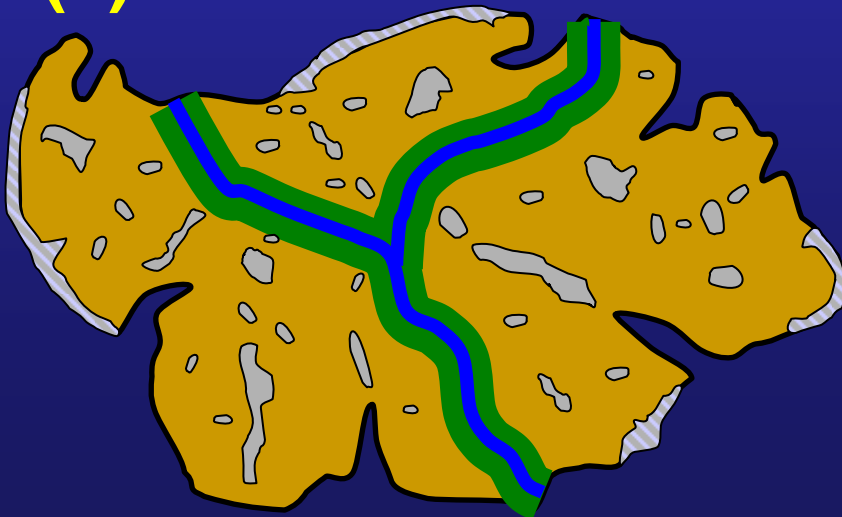
(a) 7.5%



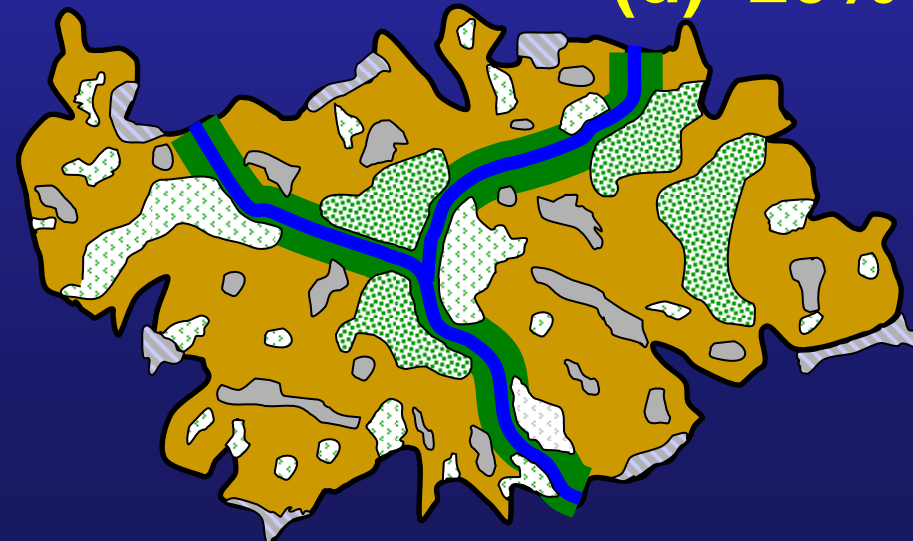
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(c) 15%



(d) 20%



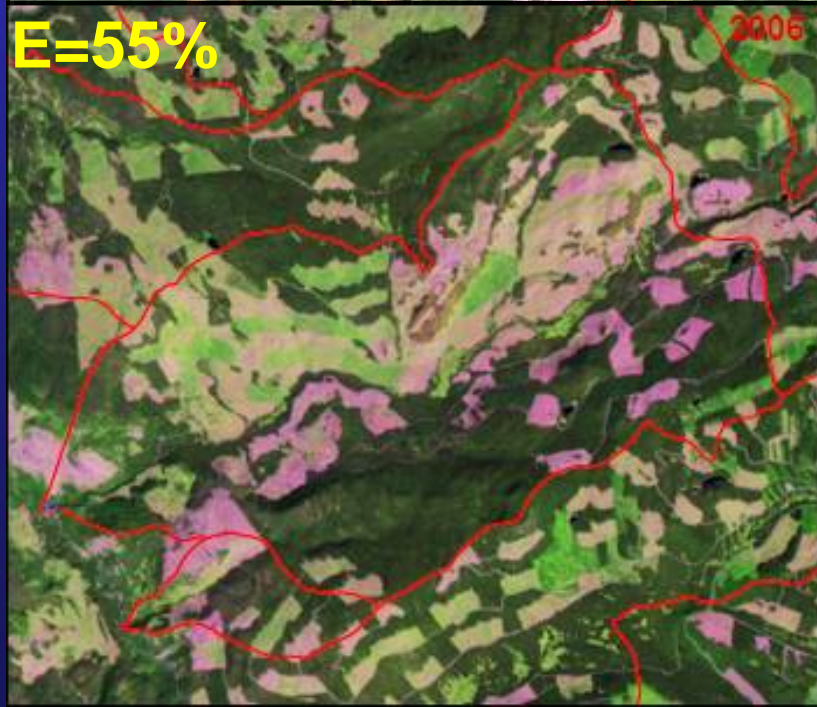
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2010+ ???

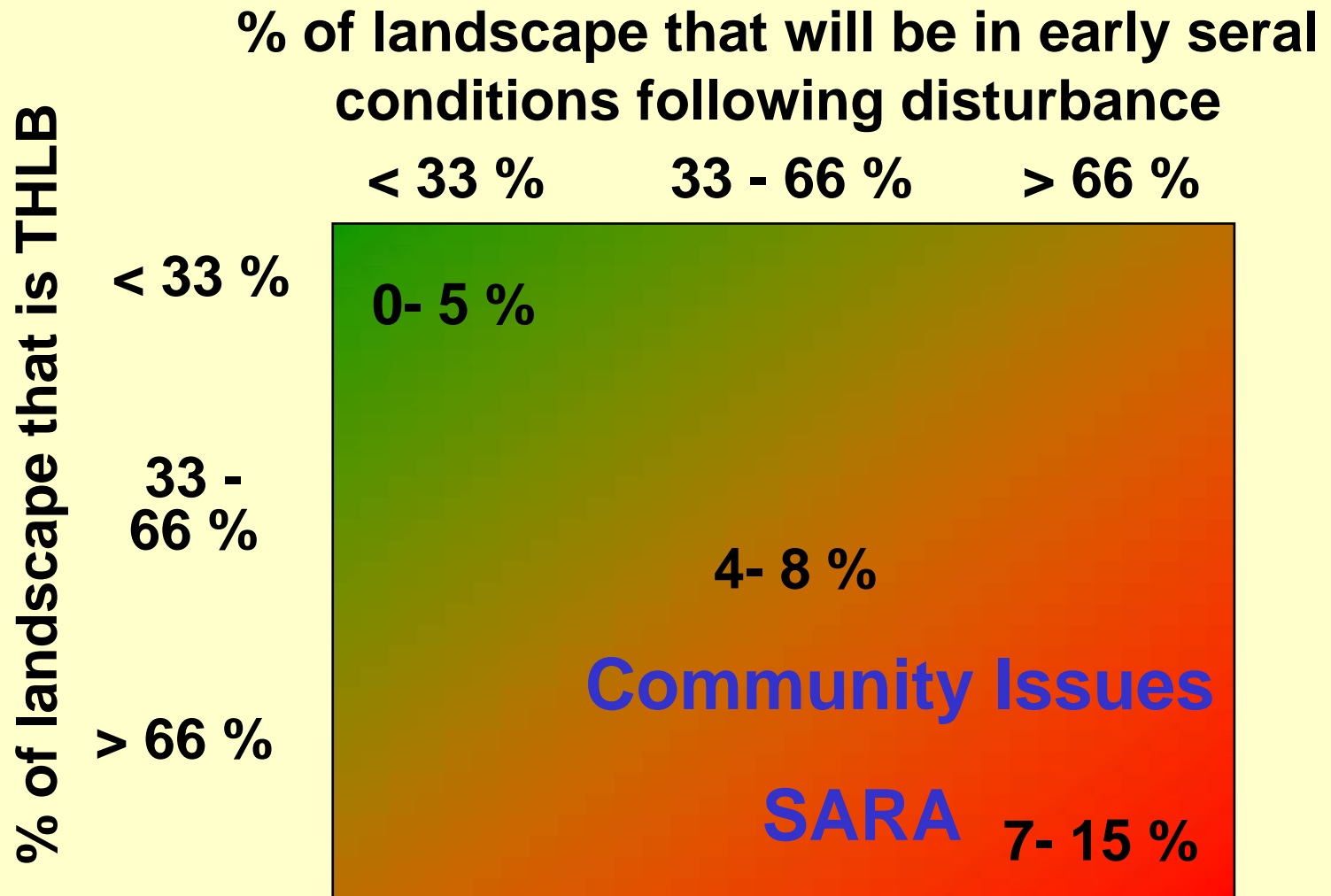
# ***Landscape Habitat Management Issues to Address with Retention***

- (1) Amount of mature and late seral habitat.**
- (2) Patch size.**
- (3) Dispersion.**
- (4) Connectivity and isolation effects.**
- (5) Representation of mature and late seral at PEM level.**
- (6) Roads and access.**
- (7) Heterogeneity of treatments.**
- (8) Within stand structure during salvage.**
- (9) Address Species At Risk, other special considerations.**

# ***Landscape Retention Practices to Offset Losses and Anticipate Future Disturbances***

- 1. Attention to stand-level retention during salvage, and maintain heterogeneity of treatments**
- 2. Re-shuffle the OGMA deck**
  - replace losses where possible - principles of dispersion, patch size, connectivity, etc.**
  - drop some, move others**
- 3. Recognize the role of future disturbances**
  - select replacements with recruitment in mind**
  - representation across ecosystems**
  - redundancy**
- 4) Prompt access management**

# Additional Retention in the Context of Large – Scale Disturbance: General Principles



(Total = “uplift” + 7%)

# **Obstacles to Implementing Variable Retention**

- 1. The benefits to wildlife and biodiversity are not well known and we need more research.**
- 2. Landscape Planning or Who's on First, What's on Second. Co-ordinated planning and implementation of variable retention is either non-existent or inconsistent at best.**
- 3. Incentive? A mechanism to review practices and to give credit for well-designed retention practices is not apparent; appraisal issues; social license.**
- 4. Compliance and Enforcement. Non-spatial FSP's; values balanced by tenure holder; non-binding FP Board investigations; long-term cumulative effects; etc.**

# Removing Obstacles...

- Remember, be a Snowplough not Snowdrift
- Develop Landscape Planning Coalitions
- Incentive... Certification, Social License