Sustainable Management of Multiple Values from the Ecosystems of Englishman River Watershed: Options

Prepared at the request of Patrick Walshe for Discussion Purposes

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The Challenge

- Identify and implement low cost improvements to current management to increase certainty of sustaining multiple values provided by ecosystems of the Englishman River Watershed
- Concern that cumulative impacts of historic and current practices place multiple values at risk
- @ risk are non timber values (non market)
- @ risk is local economic benefits from forests (goods and services) as currently practiced

Current forest management and ownership

- History of timber harvest with gradual but significant cumulative changes to natural ecosystems (terrestrial and aquatic)
- Ownership
  - 80% Island Timberlands,
  - 10% Timberwest,
  - 10% private residential/ agriculture approx
- Minor (< 2%) of forests have conservation priority. (Matrix management critical)

Relative Environmental Risk Comparisons of Forest Management Governance models in BC

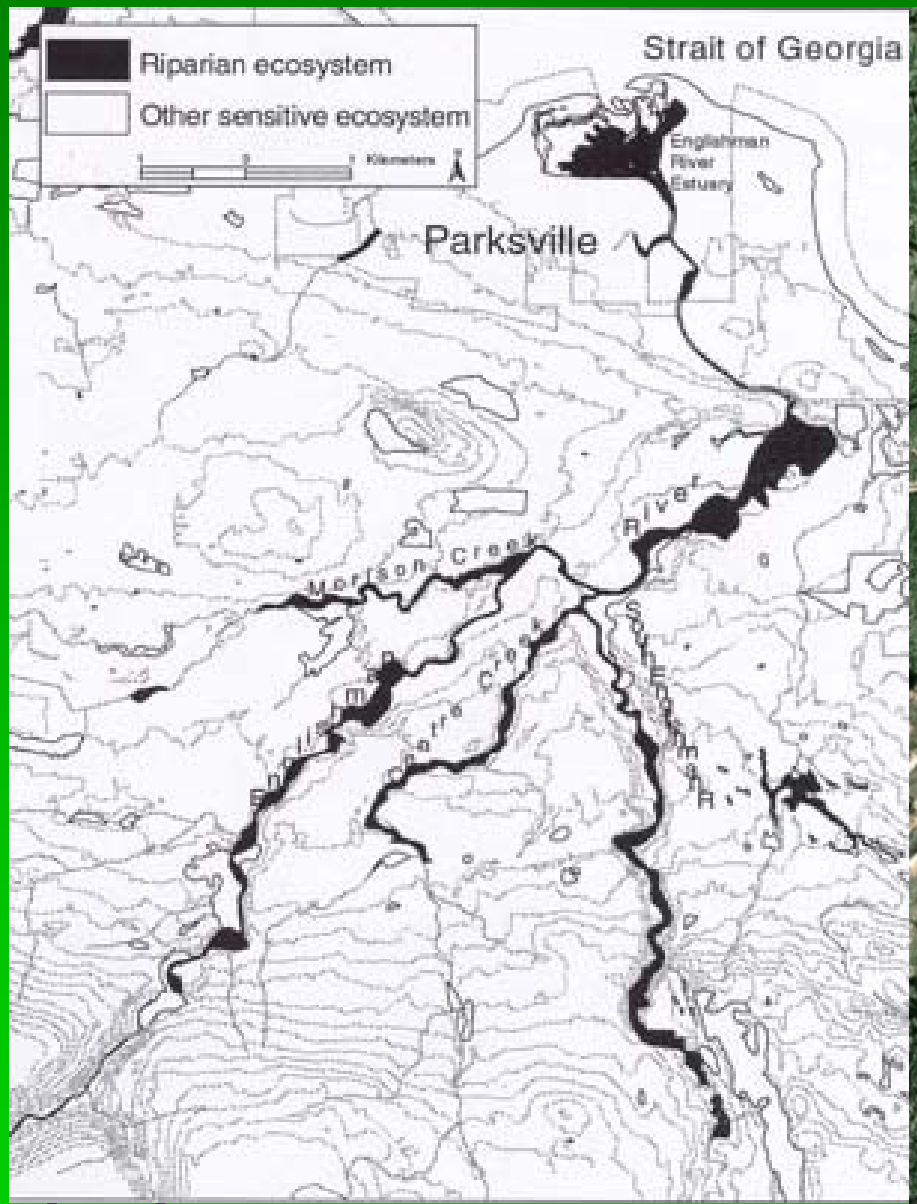
Relative risk comparisons between regulation and certification schemes				
Highest	High	Moderately high	Moderately low	Lowest
Private Land Development	Private Managed Forest Land	FRPA regulations Objectives for 11 forest values	Ecosystem Based Management	Forest Stewardship Council
ie Riparian Regulation (Proper functioning Condition	Non timber value/practices 1. Water 2. Fish 3. Wildlife	Strategic direction Higher Level Plan Landscape units Watersheds	Undevelopment • → Mid coast • → ?	Highest standard and obligations
Non Legal	Sustainable Forest Management Initiative ····· (SFI) (Voluntary performance standards and disclosure)			

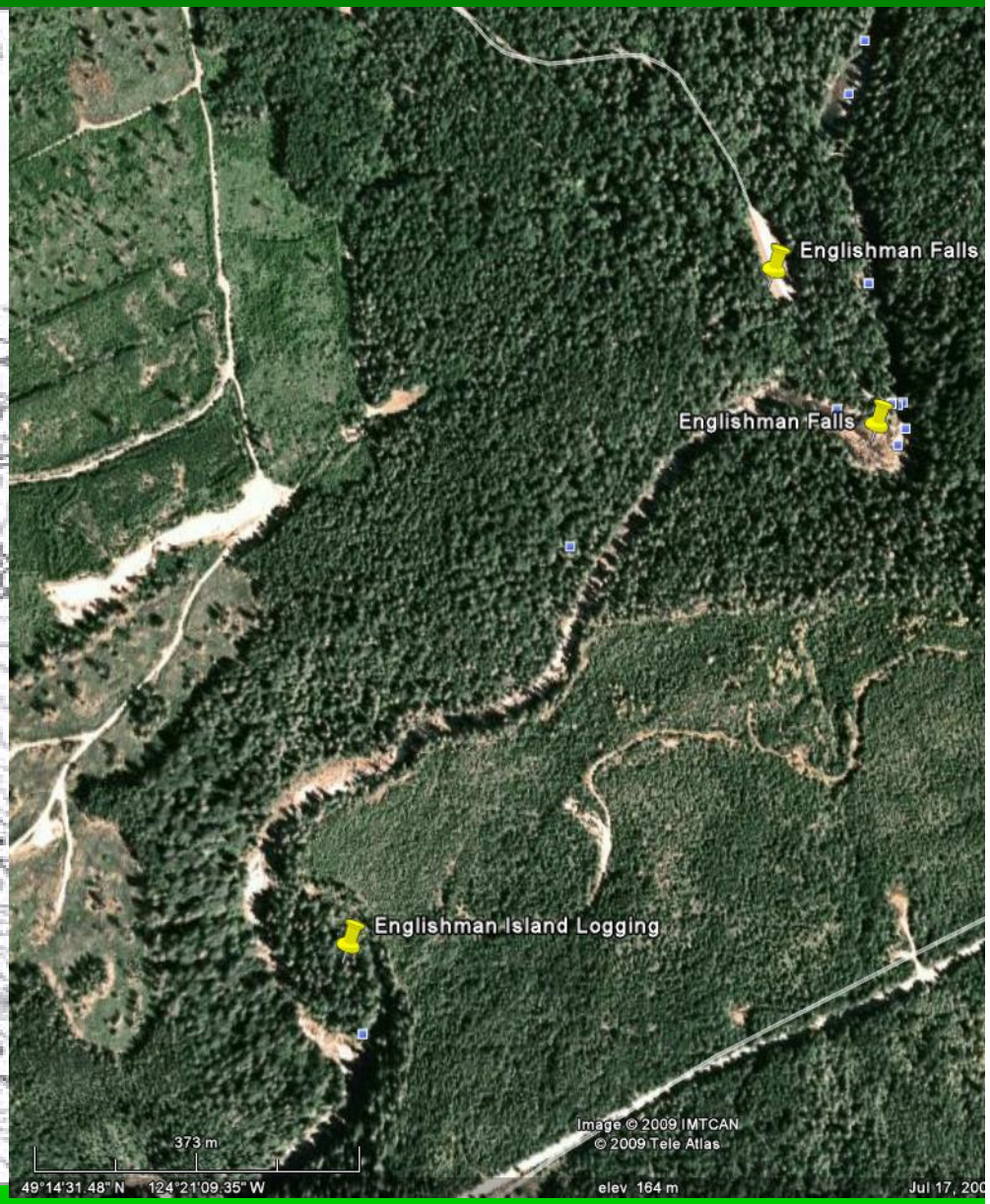
Private Managed Forest Land Regulation

Environmental provisions are

1. Water (maintain quality for human consumption)
2. Fish (riparian habitat consistent second growth management)
3. Wildlife (negotiate with government for incremental habitat protection if endangered species encountered)

Sensitive Ecosystem Inventory Englishman River Watershed





SFI Certification obligations

- SFI provides an environmental management framework but no defined standards like Forest Stewardship Council standards
- Timberlands committed to maintaining SFI (**http://www.islandtimberlands.com/sustainability/certification.htm**)
- Website states TL will
  - follow sound planning
  - protect key environmental values
    - Soil productivity
    - Species at Risk (Critical Wildlife Habitat),
    - Fish Habitat
    - Water
    - Biological diversity
    - Special sites

Timberlands Environmental Policy (entire list on website)

- Elements
  - Continuous improvement
  - Adhere to all laws and regulations
  - Framework for setting and reviewing Environmental objectives
  - Consider public feed back/involvement reguarding environmental impacts of operations
  - Competent staff and contractors
  - Periodic review of policy and evaluation of effectiveness
- SFI provides a workable framework on which to make significant incremental improvements

Check-list for maintaining ecosystem values across forested landscapes (Fenger et al 2006, p 70)

Landscape/Watershed planning/practices

1. Locate harvesting outside of areas needed for retention of rare and high conservation value old growth forests
2. Ensure harvests do not convert a disproportionate % of landscape to young seral forests
3. Identify habitats of plants and species at risk
4. Minimize effects of forest fragmentation
5. Use harvest systems that most closely retain natural disturbance stand structures
6. Retain mix of tree species common across landscape
7. Set appropriate stand level retention objectives to address cumulative effects

Watershed/Landscape Map good vehicle to show

- Provides a current condition snap shot of seral stages and distribution, roads, and where longer term older forest retention may be appropriate.

Check-list for maintaining ecosystem values within forest Stands (Fenger et al 2006, p 71)

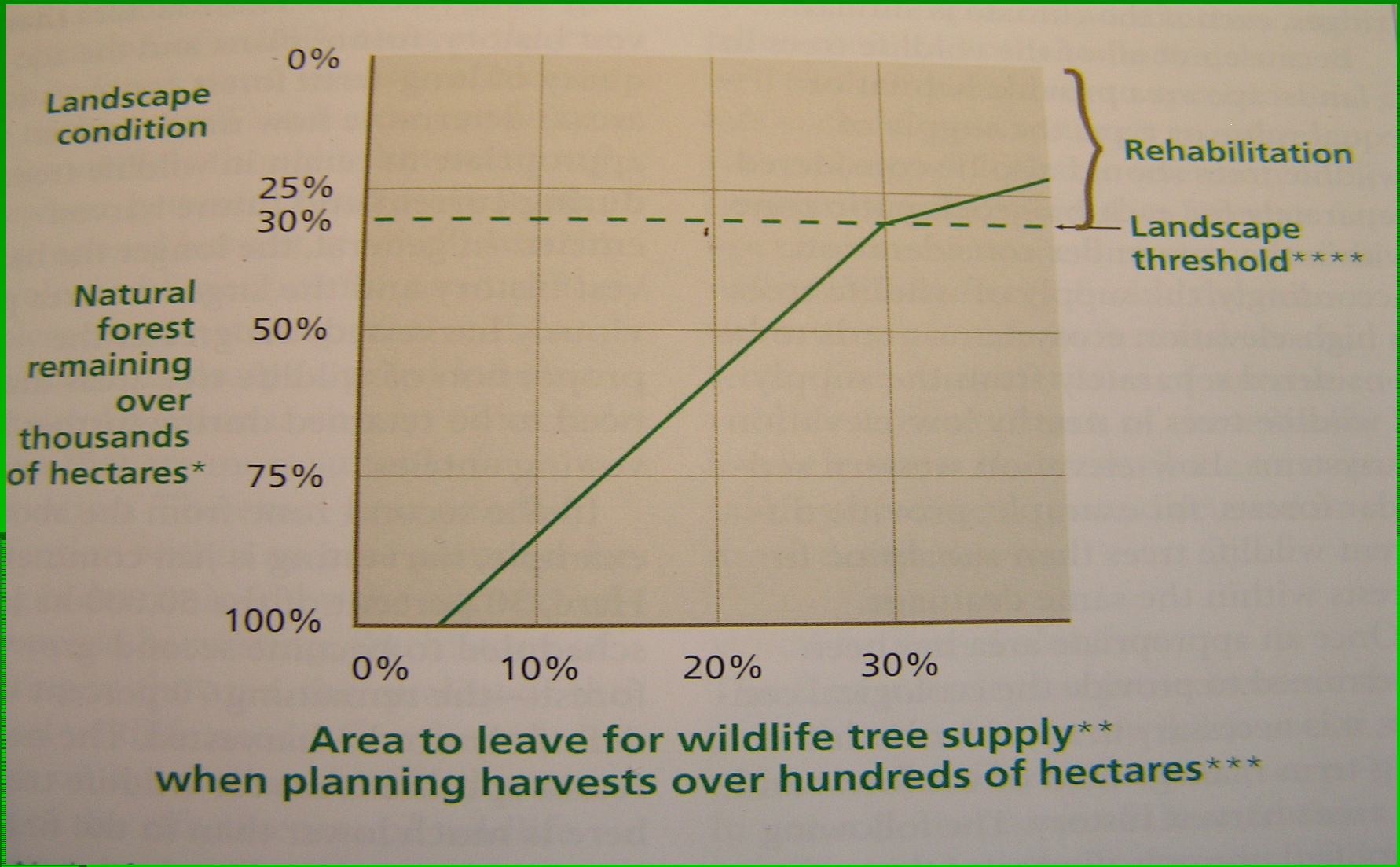
Stand level practices

1. Cutblocks need to meet retention goals set within landscape level context (next slide)
2. Assess stand for higher quality older trees, existing use
3. Critical to pick the right trees (groups) on the ground for retention due to slow recovery of individual trees suitable to use by wildlife.
4. Ensure minimum windthrow risk of retained areas

Watershed/Landscape plan with measurable objectives to guide site level decisions

1. Standard operating procedures and training within SFI possible
2. SFI auditor to verify SOP and consistent practises

Stand level retention, cumulative impacts and landscape retention context



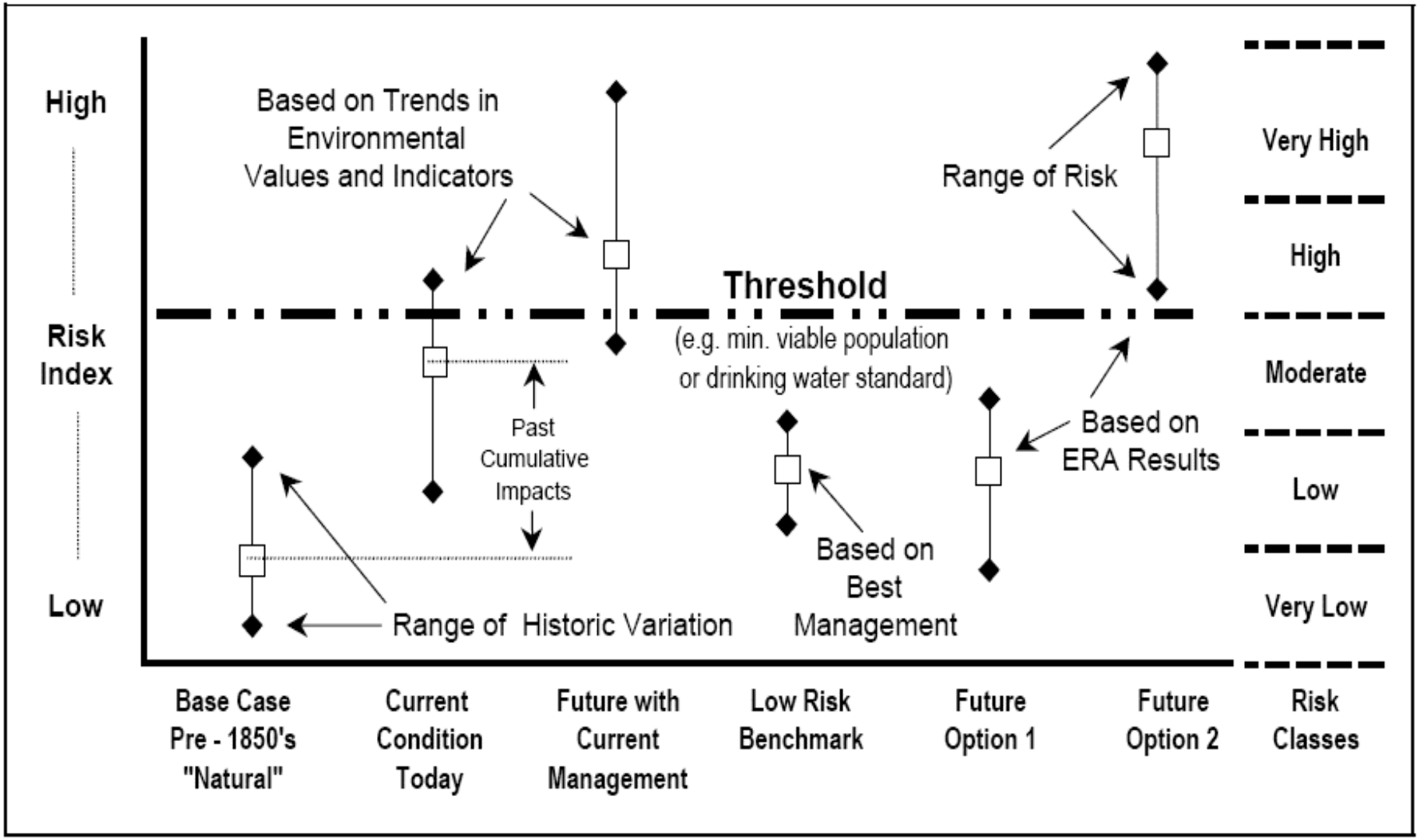
Relative Environmental Risk Assessment and ecosystem indicators

- Needed to understand what may be the most efficient way to incremental change.
- Natural disturbances used as the guide against which to assess relative risk.
- Range of variability in natural systems means that management within the natural historic range are low and the further outside the range the greater the risk.

Natural Disturbance Forest Management Paradigm

- Less risk if managed forests mimics forests created through natural disturbance. (Biodiversity Guidebook 1995). EBM, FSC standards etc
- Coastal Douglas Fir and Coastal Western Hemlock forests are most frequently disturbed by small scale gap dynamics.
- Increase in stand level tree retention such variable retention or single tree selection more closely mimic natural disturbance dynamics than clear cut harvest systems

Relative Risk Concept Diagram (MOE 2000)



Environmental Indicators

Coarse Filter

1. landscape level diversity (seral stages)
2. ecosystem representation (seral stage and sites)
3. ecosystem connectivity (seral stage pattern)
4. watershed hydrology (Equivalent Clearcut Area)
5. riparian ecosystems
6. stand level biodiversity

Fine Filter

1. regionally important species habitat condition
2. species/ecosystems listed as threatened and endangered

Englishman River Watershed (WS) as a forest management pilot under SFI (1)

- Much of the information needed may already exist to meet needs of SFI certification
  - Wider access to information generated for SFI appear consistent to credibly assess sound planning, environmental objectives and allow community input
- Pilot WS will clarify management objectives and evaluate consistency with SFI commitments
- Relative risk assessment needed to identify where and how improvements can be made in plans, practices and marketing

Englishman River Watershed (WS) as a forest management pilot (2)

- High level of commitment needed from TL senior management and staff
- Benefits to TL are that changes can be explored in a portions of TL held lands.
- Possible ways to mitigate impacts could include
  - Differing stand level retention and use of variable retention harvest systems
  - Feasibility of change in portions of the WS to management for the carbon market

Carbon Market is a Potential new revenue source for managed forest lands

- Climate changes poses risks to timber and non timber
  - Tree species die backs expected for yellow and red cedar
  - Increased disturbances insects, fire and disease activities
- Risk can be mitigated by retention of mature and old forest stands (longer term change in forest objectives)
  - Increases in extreme temperature and precipitation events means increased peak flows and erosion
  - Lower summer flows (droughts) means higher stream temperatures lower summer stream flow
- Judicious allocation of older forests can provide revenue and lower risks (New opportunity)

Key references suggested to guide WS-level planning

- Existing SFI reports specific to ER
- Environmental Risk Assessment (MOE 2000)
- FRPA values objectives
- Terrestrial Ecosystems
  - Biodiversity Guidebook 1995
  - Watershed Assessment Guidebook
  - FSC principles 6 and 9 High Conservation Value forests and Environmental Assessment.
- Aquatic Ecosystems
  - Coast and interior watershed assessments procedures
- WS restoration plans on web

Summary

- TimberLands will need to have key role in context of WS level plan as the major land holder
- Specific measures are needed beyond those provided by the PMFL regulation to understand and address perceived risk
- SFI provides a framework that can define higher standards and lead to lower risks
- Adopting higher certification standards such as FSC can also change risks and sustainability of multiple resources
- A WS level forest management plan pilot allows all land holder to develop and share plans with area residents with interests in sustaining values of this area.
- Risk assessment is an appropriate approach to assessing options for sustained forest management
- A planning process needs to be credible but plans do not need to be overly complex
- Clarification of strategic objectives a key starting point and will reveal areas of of common shared interest and results of the ER.
- A pilot may be a good option to bring all interests together.

Thank you

- Questions
- Discussion
- Next Steps?

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