

Perceptions of Landscape



Nelson-Kootenay Lake
Nov.5, 2014

Perceptions of Landscape

Workshop Objectives:

To gain an understanding of:

- ▣ **Public perceptions** - why it is important to manage for visual quality.
- ▣ **Visual design principles** - their application to forest operations and activities which can create a visual impact on the landscape.
- ▣ **FREP Protocol** – Procedures & recent results.
- ▣ **Visual Impact Assessments** - procedures and content.
- ▣ **Integrated Visual Design** - integrating visual issues into the wider forest planning and design process.

Perceptions of Landscape

Why do we manage scenery?

- ❑ Scenic, natural-appearing landscapes are highly valued.
- ❑ Scenic landscapes provide BC's **tourism industry** with a marketable resource and competitive edge.
- ❑ Well designed landscapes create public confidence by reinforcing the idea that our forests are being **managed with care**.
- ❑ Public planning processes, including HLPs, have made various commitments regarding visual management.
- ❑ Forest legislation focuses on sustainable use, including conservation of scenic values. **Visual Quality is one of 11 core values** to be managed and protected under the Forest & Range Practices Act (FRPA).

Perceptions of Landscape

Why are we attracted to landscapes?

- We have evolved with a dependence on natural landscapes (yes – we too are animals)
- We assign meaning and value to landscapes.
- Our connection to the landscape is influenced by its physical attributes, our uses & interactions with it, and our attitudes, values, and perceptions.



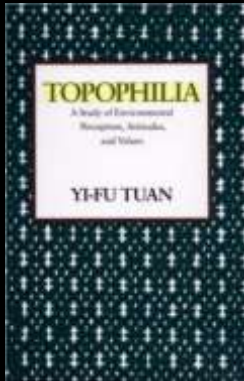
Downtown Vancouver, looking toward the Sunshine Coast and North Shore Mountains.



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Evolutionary Connections:

Maslow's hierarchy of needs
Biophilia Hypothesis (Wilson; Kellert)
Prospect-Refuge Theory (Appleton)



Psycho-Social Connections:

Tuan (Topophilia)
Lynch (Image of the City)
Seddon (Sense of Place)

Health & Well-being:

Roger Ulrich (Stress Reduction & Healing Gardens)
Kaplan & Kaplan (environmental psychology)
Stefano Boeri's *Bosco Verticale*, etc.



Perceptions of Landscape

Perceptions are reality:

- We are highly visual creatures: 87% of what we know about our environment is through our vision.
- The quality of our land management is judged in part by how it looks on the landscape.
- *Not only do we need to care, we need to make it look like we care.*



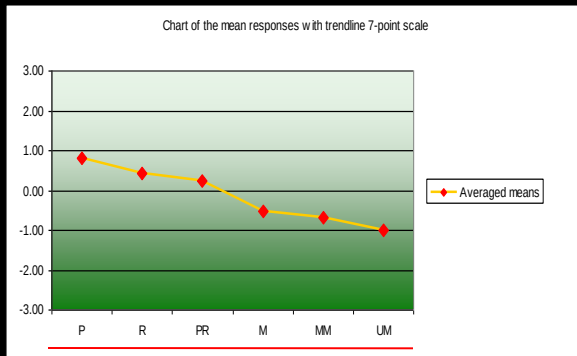
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Perception research related to forestry in BC:

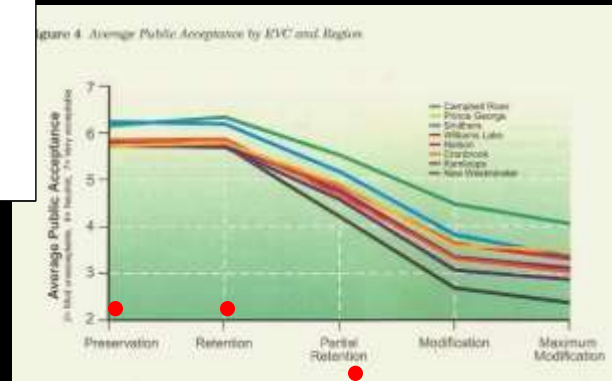


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Public Perceptions of BC landscapes:

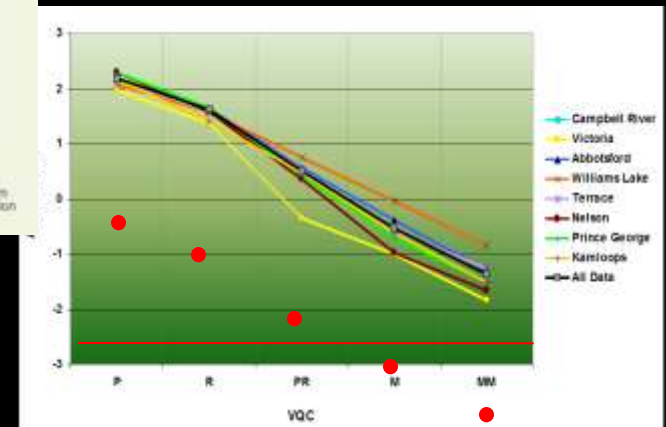


Logging in Kootenay Landscapes 1989

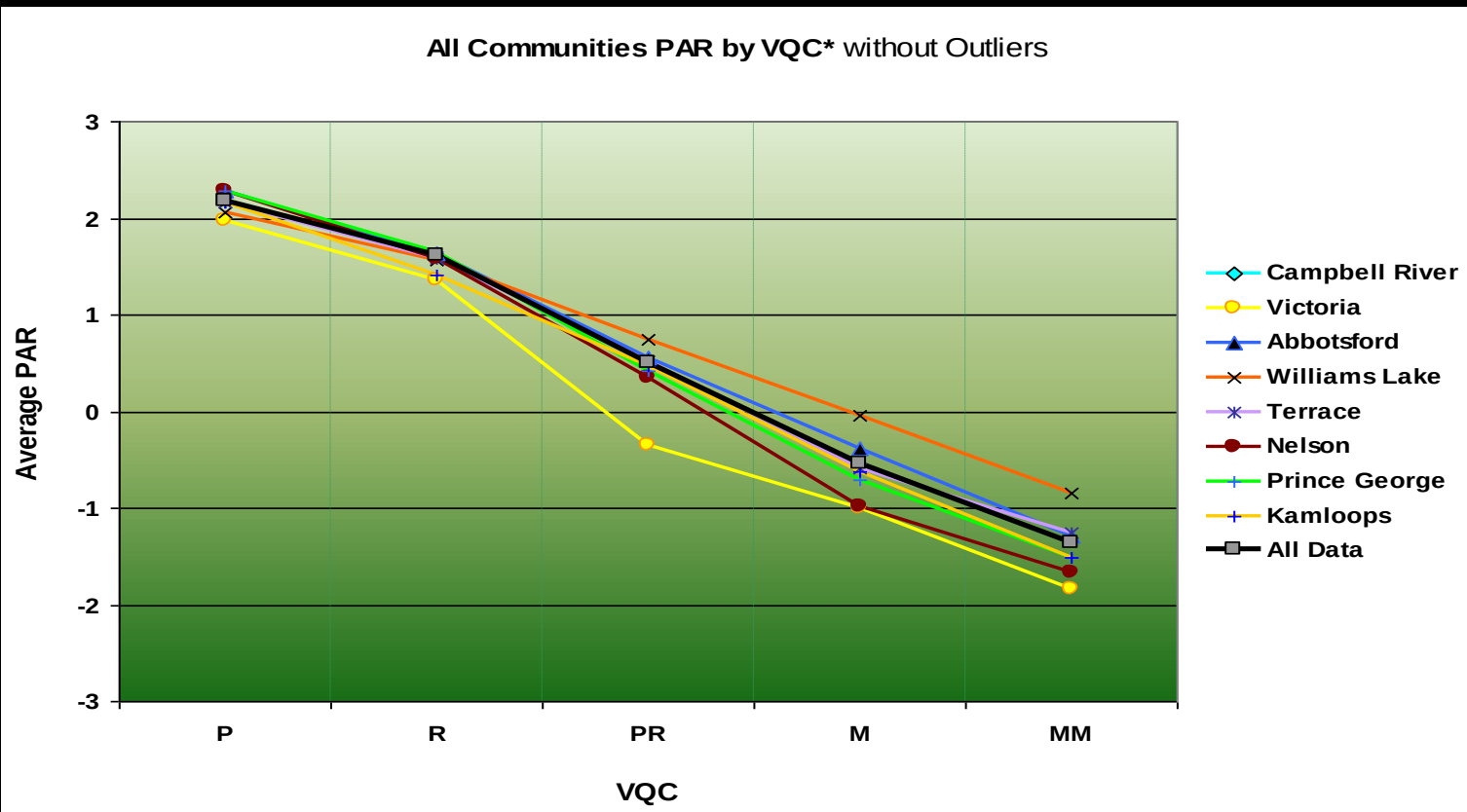


Clear Cutting to meet visual Quality 1996

Almost 30 years of public perception research in BC suggests that residents and tourists consistently prefer natural scenes to altered scenes.



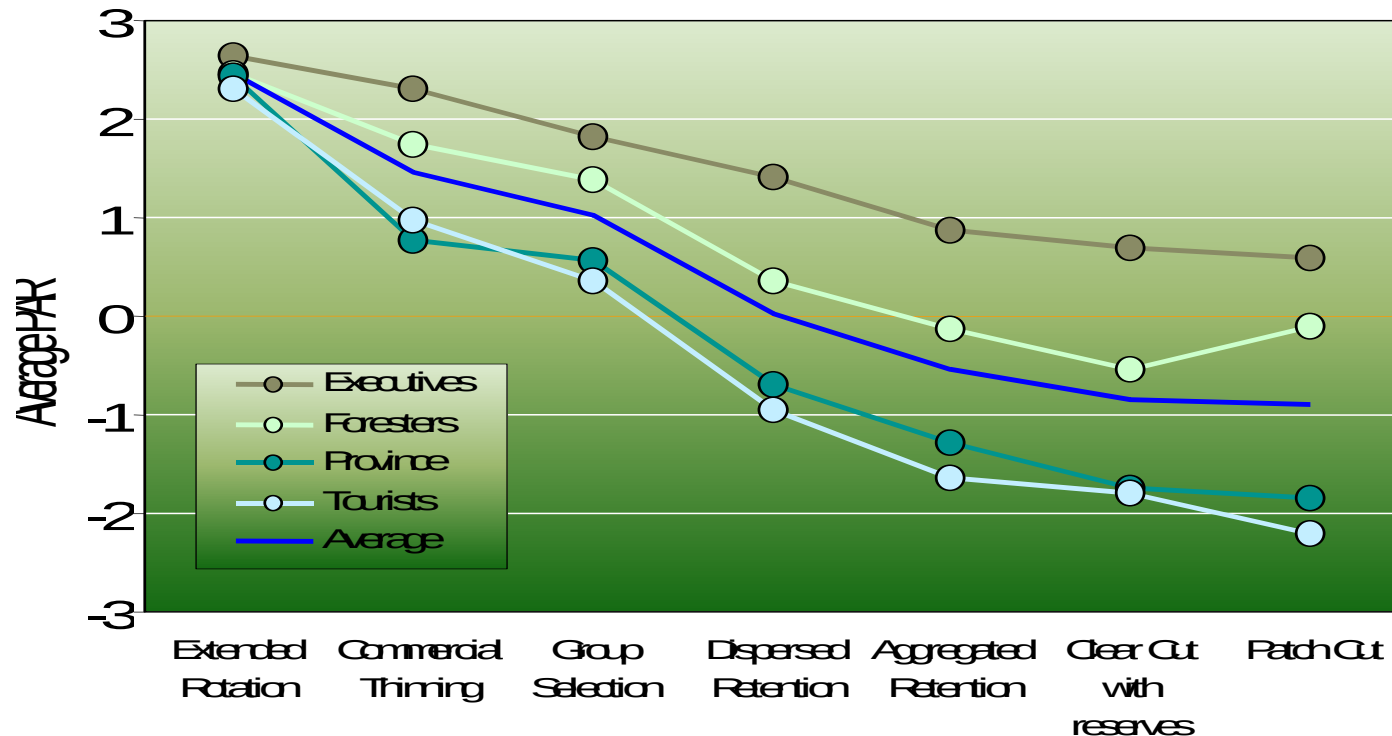
Public Response to Harvest Practices in BC, 2006



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Stakeholder Perceptions:

Foresters and Forest Executives tend to be much more accepting of harvest activities than either tourists or BC residents. The difference is greatest for activities that create the greatest visual impact.



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Nimmo Bay Study:

- **Rate of Return of Guests:**
 - Retention: 77%
 - Partial Retention: 71%
 - Modification: 35%
- **Economic Benefits:**
 - Revenues and employment income are optimized at a Partial Retention level (assuming high risk of lodge closure under Modification scenario).

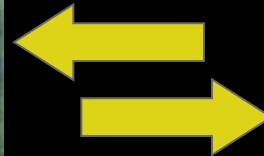
Not only can Forestry and Tourism operate together, but by doing so they can optimize benefits to society.



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Forestry

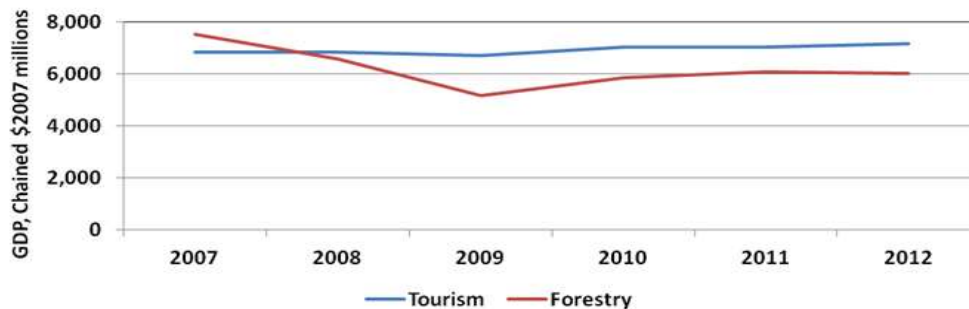


Tourism

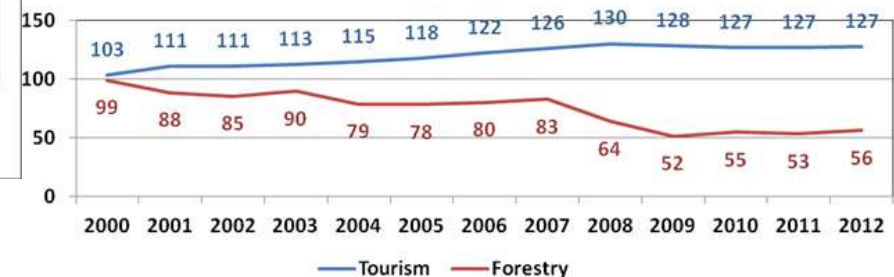


To maintain scenic values while harvesting timber sustainably:

GDP for Tourism and Forestry, \$2007



B.C. Employment for Tourism and the Forest Sector



Perceptions of Landscape

Key Preference Findings:

People's aesthetic preferences are similar:

- People have personal “filters” that influence their perceptions, but **trends are consistent** in what people like and don't like when viewing landscapes.
- Within these trends there can be significant differences in preference between groups (e.g. either industrial or environmental affiliations).
- Research suggests that “scenic beauty” is influenced by both viewer characteristics (individually & collectively) and landscape qualities.

Visual Quality is valued by the public:

- Visual Quality is consistently ranked high in importance by the public (various Sport Fishing Surveys & Outdoor Recreation Surveys; Partial Cutting Study, 1997; Economic Benefits of Managing Forestry & Tourism, 2003).

Natural-looking is preferred over highly altered:

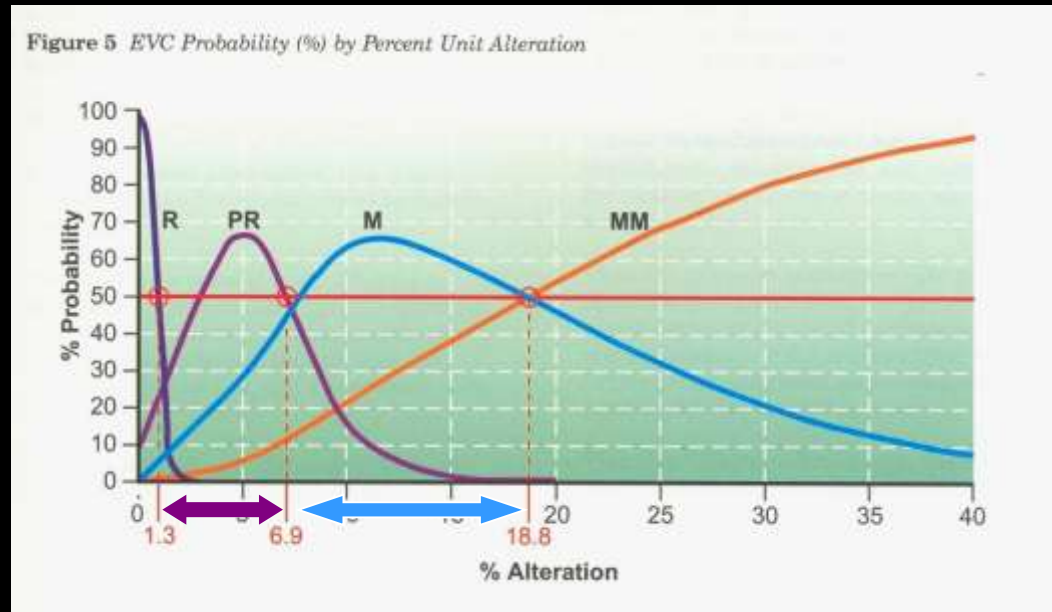
- Scenic and wilderness landscapes in North America are highly valued.
- There is international demand for these landscapes and a shrinking supply.
- Landscapes in other parts of the world that have been settled and developed for long time periods are valued more for their cultural and historic qualities than their natural qualities.

Clear Cutting & Visual Quality

One goal of the Clear Cutting to Meet Visual Quality study, was to determine if scale of alteration could be a predictor of Visual Quality.

The study found that **% landform** was the best single predictor and that Retention and Partial Retention classes could be predicted at a probability of 77.8% and 85% respectively.

This graph shows the probability (50%+1) that that a clear cut would be classified into a particular VQO based on % alt.



Clear Cutting to meet Visual Quality 1996

Note: While % alteration may be reasonable predictor, it must be used in concert with visual design and must be applied to a landform to be effective.

Partial Cutting & Visual Quality

One goal of the Partial Cutting Study was to determine which site and stand variables would best predict Visual Quality.

The combination of variables; % Volume removed, % stems removed and average tree height were found to be the best predictors of EVC.

This table was developed to provide the field practitioner with the ability to predict the outcome of a selection cut based on a specific level of volume/stems removed.

		Tree Height (Metres)									
		5	10	15	20	25	30	35	40	45	50
Volume (Stems) Removed in %	10	R	R	R	R	R	R	R	R	PR	PR
	20	R	R	R	R	R	R	PR	PR	PR	PR
	30	R	R	R	R	PR	PR	PR	PR	PR	PR
	40	R	R	PR	PR	PR	PR	PR	PR	PR	M
	50	PR	PR	PR	PR	PR	PR	PR	M	M	M
	60	PR	PR	PR	PR	PR	M	M	M	M	M
	70	PR	PR	PR	M	M	M	M	M	M	M
	80	PR	PR	M	M	M	M	M	M	M	M
	90	M	M	M	M	M	M	M	M	M	M

Visual Impacts of Partial Cutting 1997

Retention Harvesting & Visual Quality

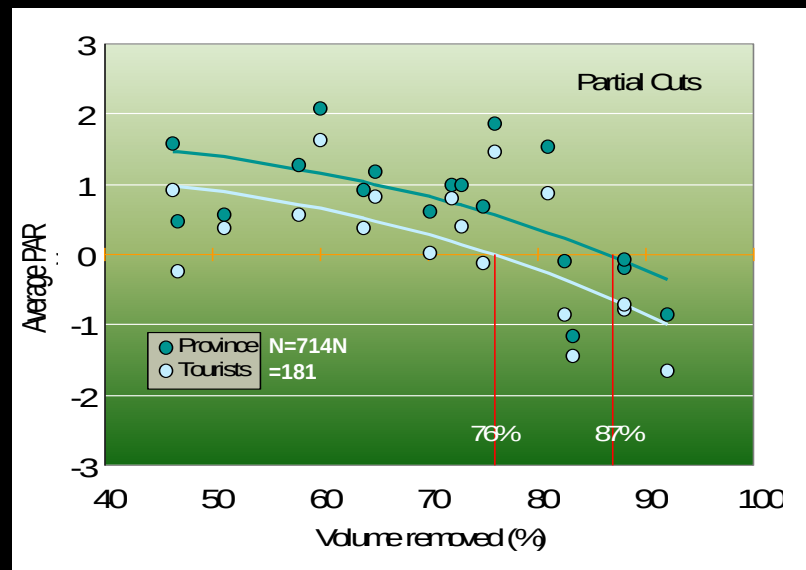
Study 3:

The Public Response to Harvest Practices in British Columbia at the Landscape and Stand Level.

MFLNRO Jacques Marc et al. 2006

Visitors found partial cuts containing 24% or more volume acceptable.

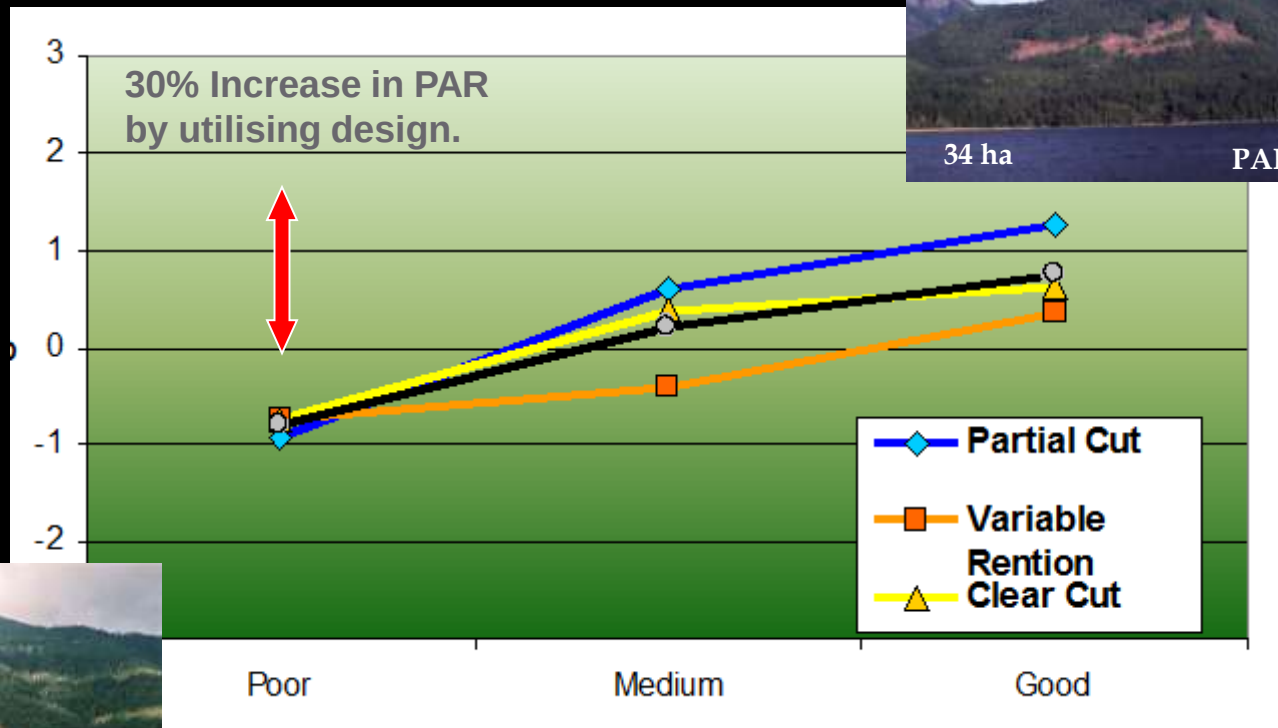
BC Residents found partial cuts containing 13% or more volume acceptable.



Conclusion based on 181 Visitors and 714 Residents rating 36 images

Visual Design and Public Response

Poorly designed openings are viewed to be less acceptable than blocks with good or medium design.

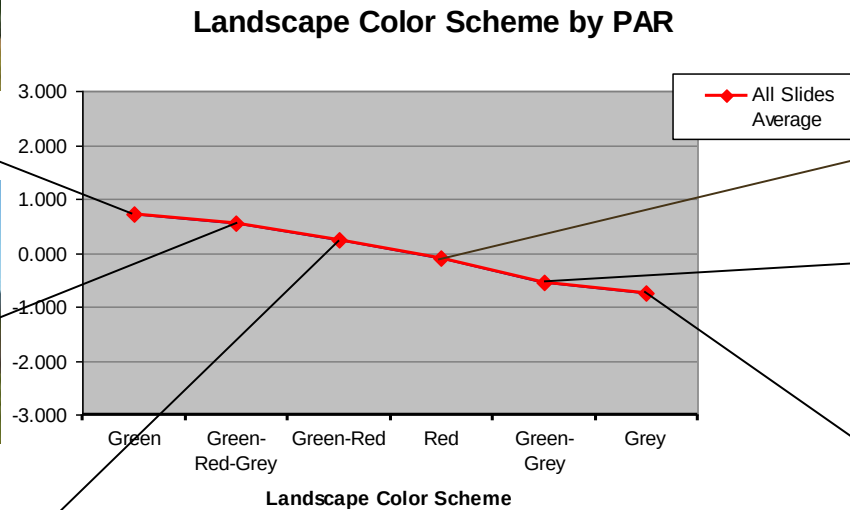


Public Response to Harvest Practices in BC 2006

Conclusion based on 895 respondents rating 50 images

MPB & Public Perceptions

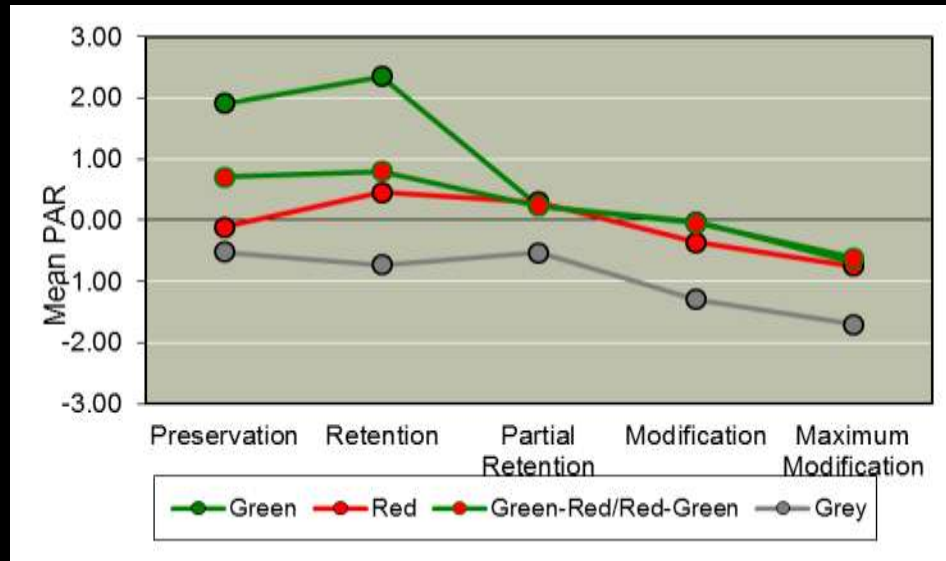
Public Response to Colour Schemes



**Green landscapes most preferred,
Grey landscapes least preferred.**

MPB & Public Perceptions

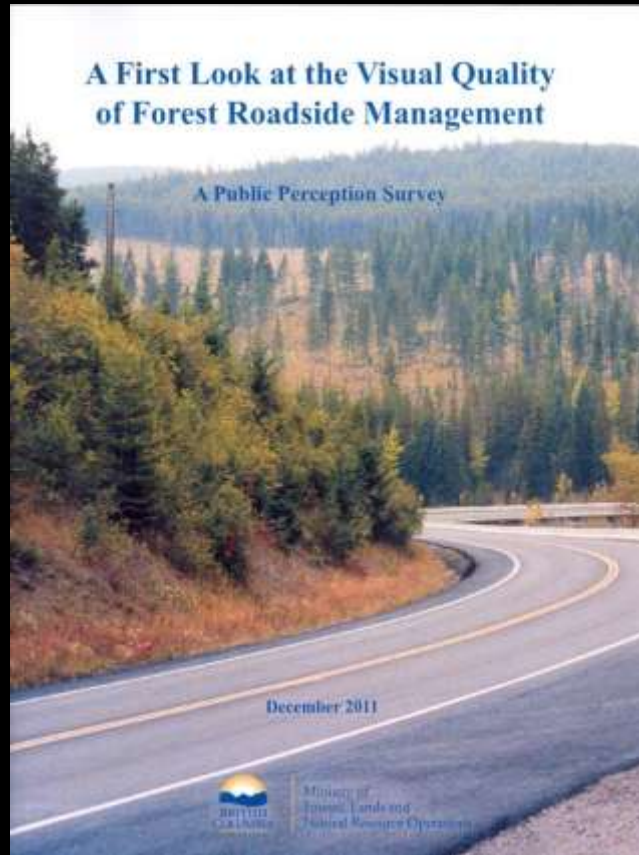
Response to different levels of harvesting within each colour.



The trend within each colour scheme is consistent. As the level of alteration increases there is a decrease in public acceptance.

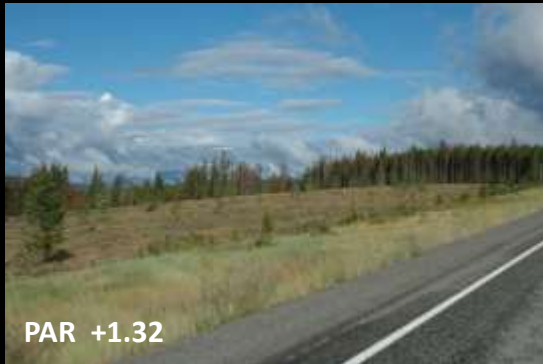
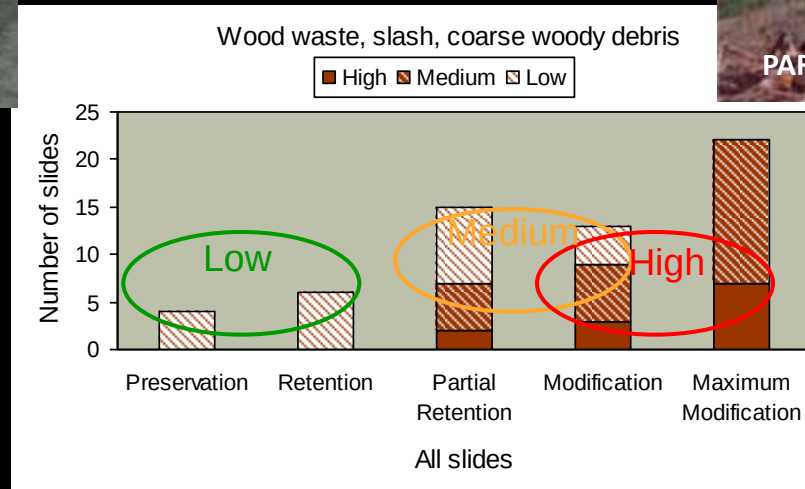
Grey is disliked in the first place, and only becomes more unacceptable with harvesting.

MPB & Public Perceptions



Roadside Harvesting & Public Perceptions

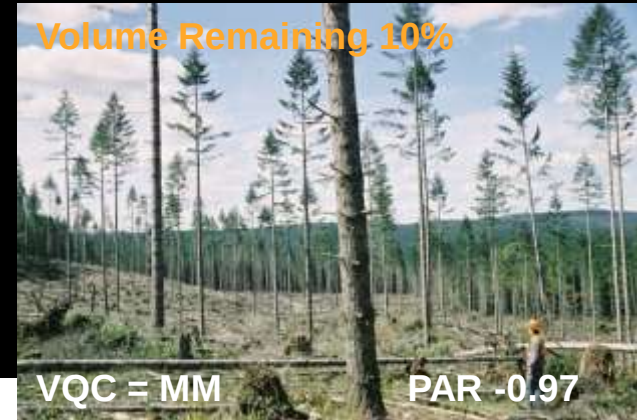
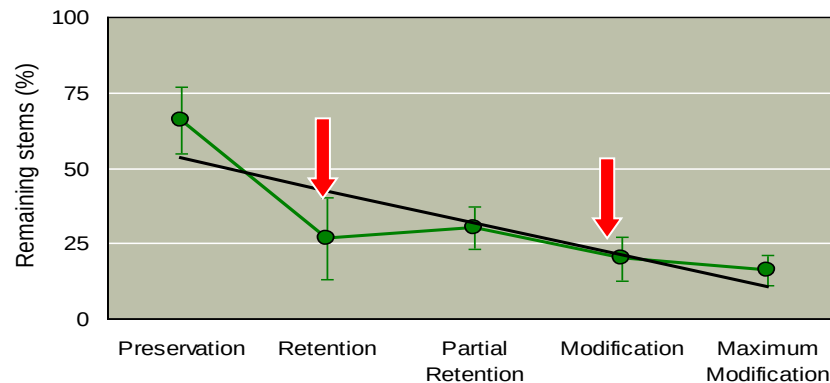
Coarse Woody Debris vs. VSC (Single best predictor)



The level of wood waste, slash and coarse woody debris was found to be the single best predictor of Visual Quality Class. As the level/quantity of debris increases in a roadside image the VSC moves from Retention to Maximum Modification.

Roadside Harvesting & Public Perceptions

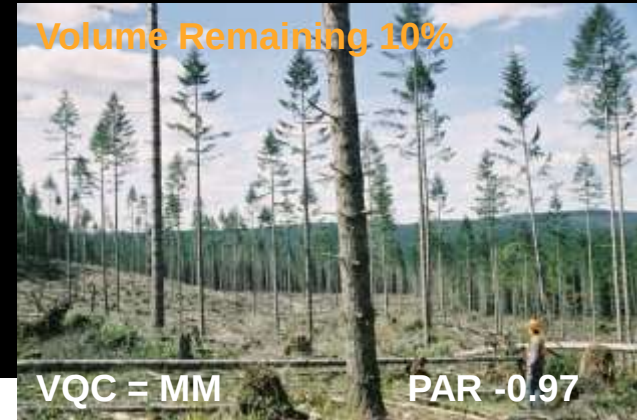
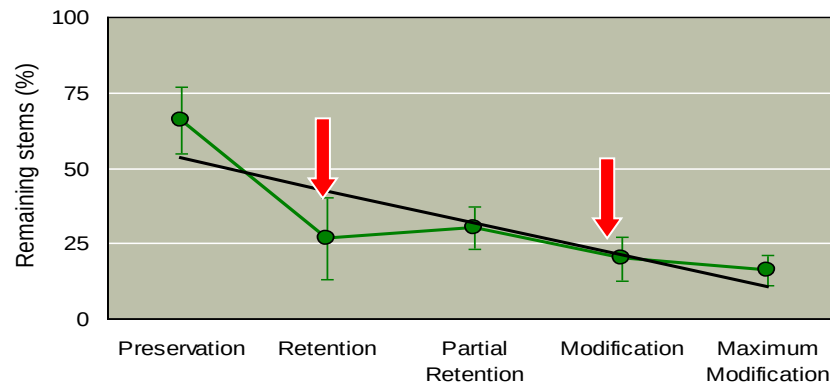
VSC vs. Stems Remaining (Also a strong predictor)



Openings that retain 30% or more stems/volume would achieve a retention VQC. Openings that retain less than 25% stems/volume would be classed as Modification.

Roadside Harvesting & Public Perceptions

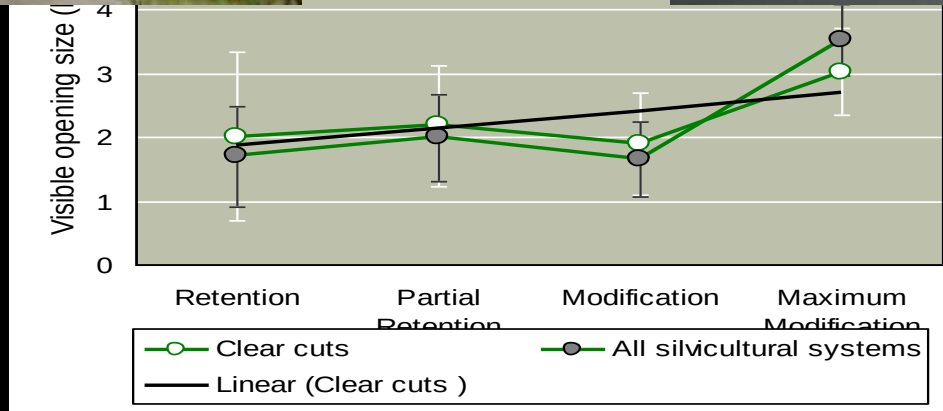
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Roadside Harvesting & Public Perceptions

VSC vs. Opening Size



Openings that are 2 Ha. or smaller will most likely achieve R or PR.
Openings 2 hectares and larger will most likely achieve M or MM.

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Discussion/Questions