Community Forests and Visual Quality

Presented to the BCCFA
by Peter Rennie, RPF
Clearwater, June 12, 2015

Community Forests & Visual Quality

Topics:

Public Perceptions - why scenery is important.

Visual Impact Assessments – what to do *BEFORE* you harvest.

Visual Design Principles – how to design your harvesting so the public will *LOVE* it.

FREP Monitoring – how are things looking out there?

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Why do we manage scenery?

- Scenic, natural-appearing landscapes are highly valued in BC.
- 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).

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Why are we attracted to landscapes?

- We have evolved with a physical and psychological dependence on natural landscapes.
- 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.

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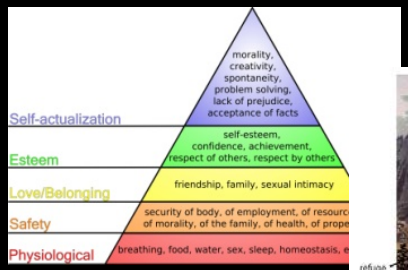
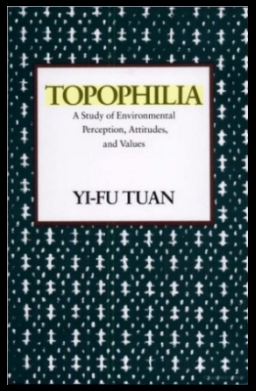
Evolutionary Connections:

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.

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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:

This has been carried out over the past 25 years, focussing primarily on forestry activities.

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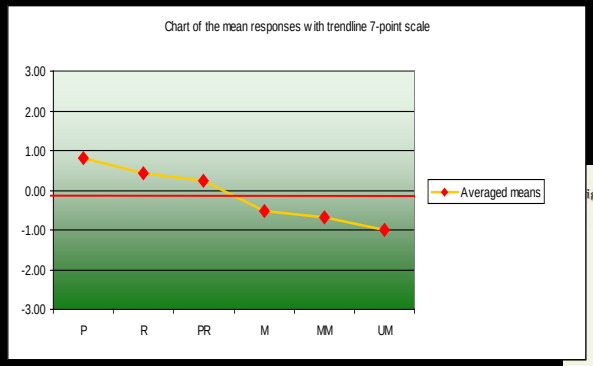
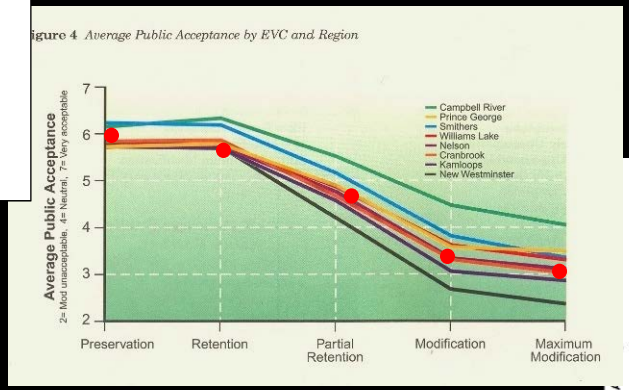
Public Perceptions of BC landscapes:

X axis = Public Preference Rating.

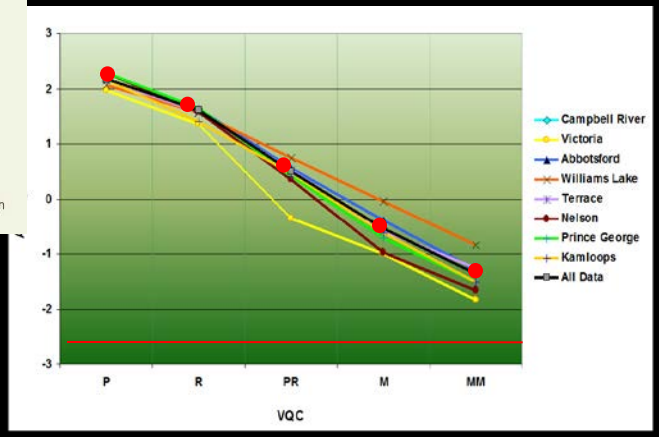
Y axis = Visual quality Class (visual impact)



Logging in Kootenay Landscapes 1989



Clear Cutting to meet visual Quality 1996



Public Response to Harvest Practices in BC, 2006

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

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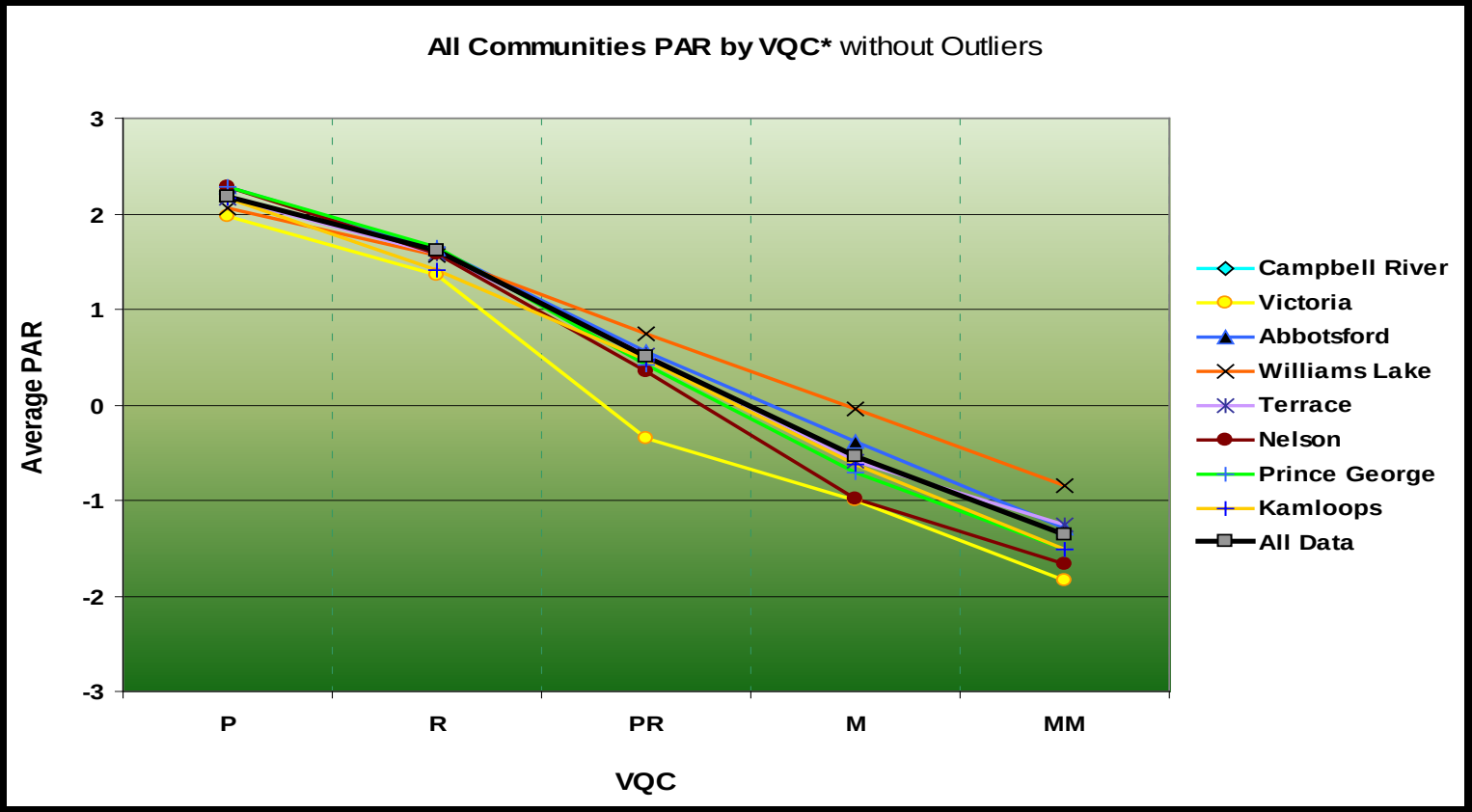
Community Perceptions:

There are some differences in preference between BC communities, but the trend is the same.



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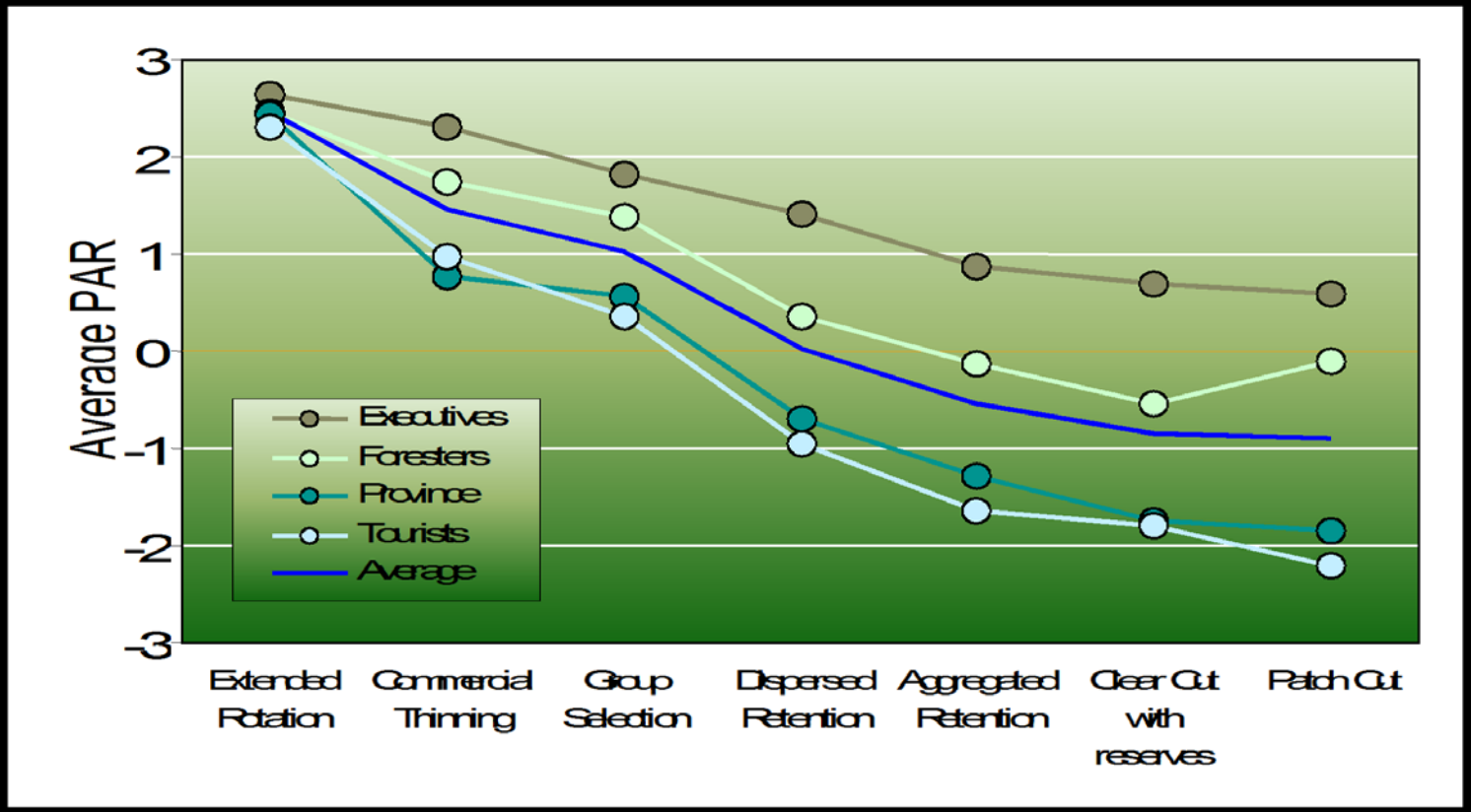
Stakeholder Perceptions:

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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The Role of Scenery in Tourism:

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 a 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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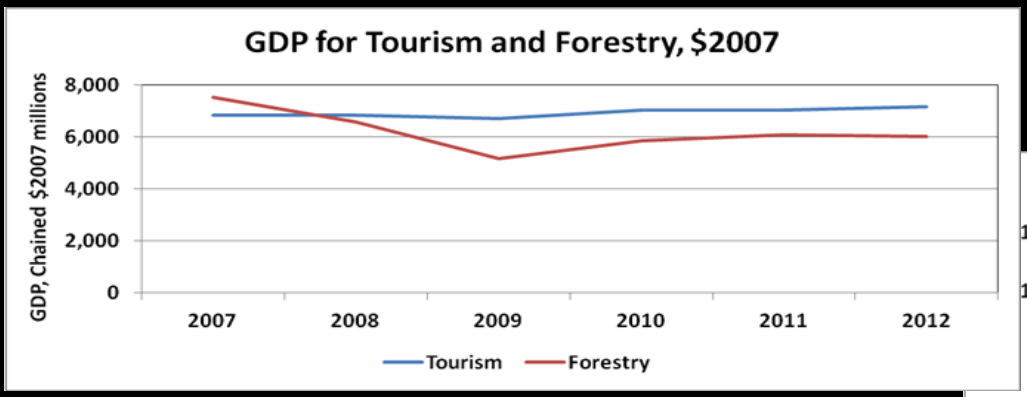
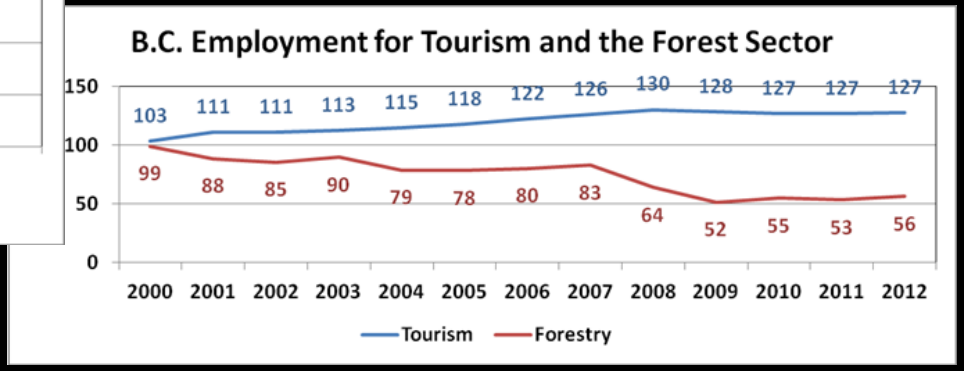
Forestry

Tourism

GOAL: To maintain scenic values while harvesting timber sustainably.





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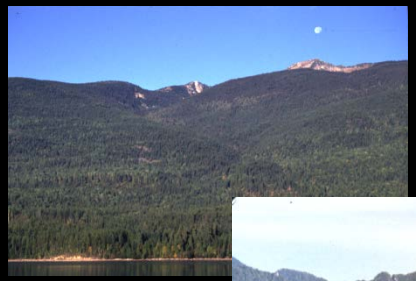
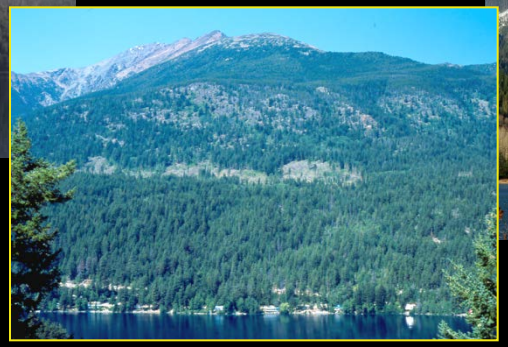
Visual Quality Objectives (VQOs):

- **Are** benchmarks of acceptable landscape alteration.
- Range from no visible change to large scale visible change.
- Allow for carefully planned harvesting.

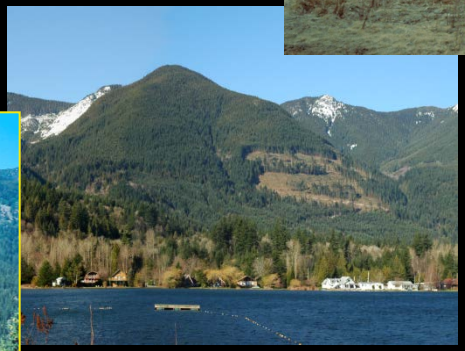


Preservation

Retention



Partial Retention



Modification

Maximum Modification

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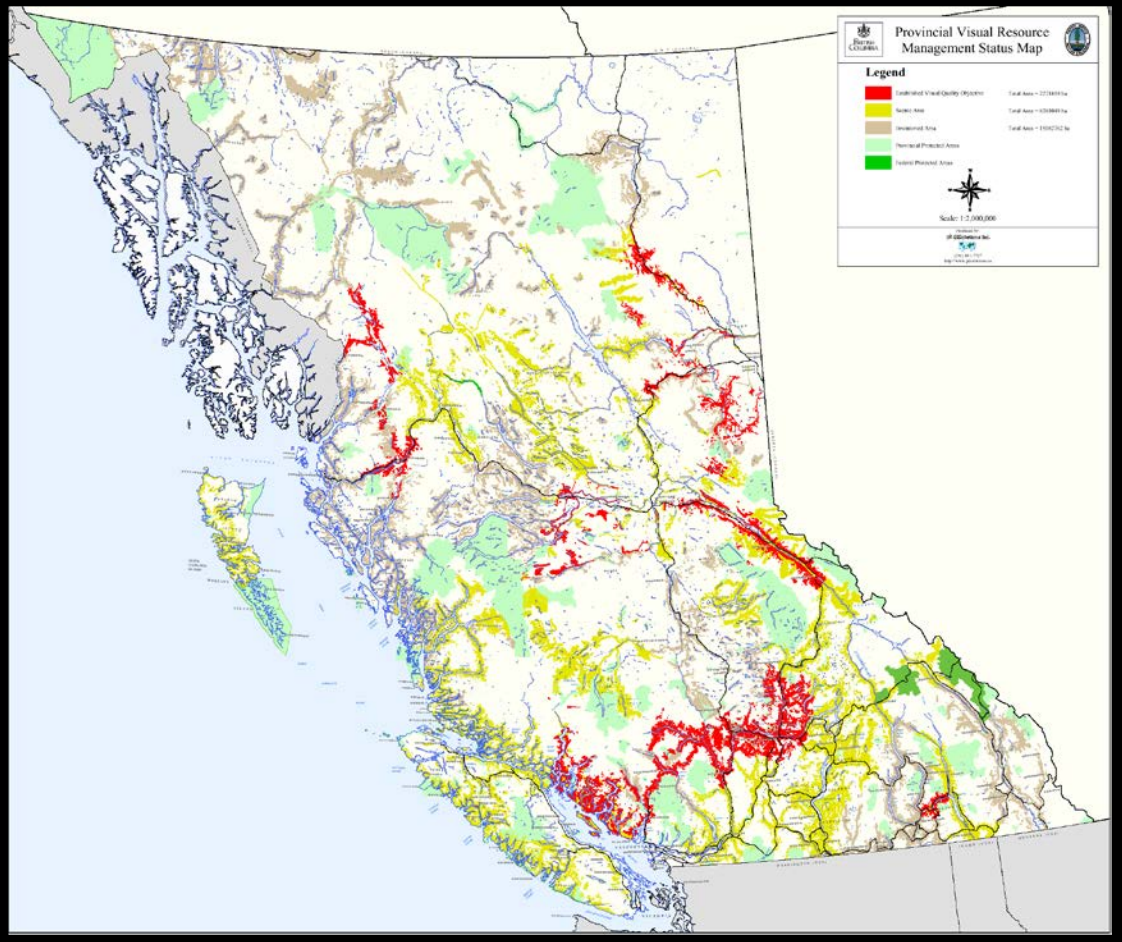
Scenic Areas & Visual Quality Objectives (VQOs):



About 14 million ha have been mapped as visually sensitive landscapes in BC.

About 10.5 million ha are Scenic Areas with legally established objectives under FRPA.

This means VQOs cover 75% of our sensitive areas, and about 12% of our public forest lands.

These numbers are dynamic and will change over time.

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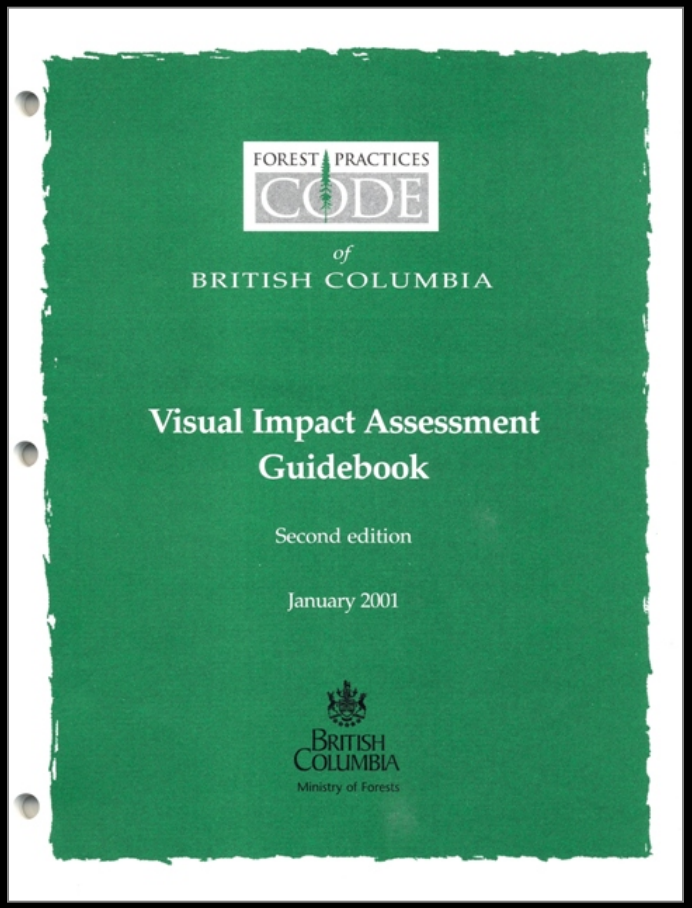
Visual Impact Assessments (VIAs):



VIA is an assessment of the predicted visual impact of a forestry operation in perspective view.

It involves:

-Selecting Viewpoints, taking baseline photographs

-Describing the visual character of the local landscape

-Simulating views of proposed operations

-Reviewing simulations for design and consistency with VQOs.

-Adjusting design and layout as necessary.

-Document the process and complete a VIA form.

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Visual Impact Assessments:

Level of detail required is dependent on many factors, including:
visual sensitivity of the landscape (VQO),
level of known public/stakeholder concern,
complexity of the landscape,
size/extent of proposed operations.
A simple VIA may be completed in less sensitive views e.g. distant landform, viewpoint where few people visit, flat topography, etc.
A detailed VIA might be needed in highly sensitive views, and would include photographic panoramas from key viewpoints, detailed terrain data (TRIM or better), computer-generated simulations (possibly also superimposed onto photographs), and consideration of future passes/entries.

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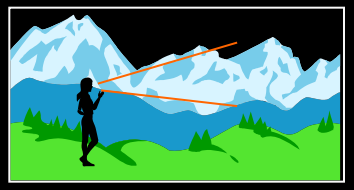
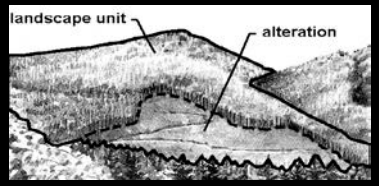
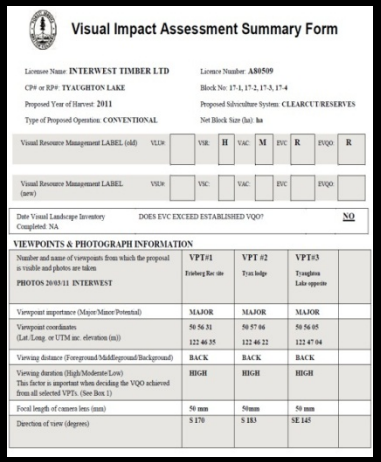
VIA Procedure:







Visual Impact Assessment Summary Form

Licensee Name: INTERWEST TIMBER LTD — Licence Number: A80509

CP# or RP#: TVAUGHTON LAKE — Block No: 17-1, 17-2, 17-3, 17-4

Proposed Year of Harvest: 2011 — Proposed Silviculture System: CLEARCUT/RESERVES

Type of Proposed Operation: CONVENTIONAL — Net Block Size (ha): ha

Visual Resource Management LABEL (old) — VLI#: — VSI: H — VAC: M — EVC: R — EVQO: R

Visual Resource Management LABEL (new) — VSI#: — VSC: — VAC: — EVC: — EVQO:

Date Visual Landscape Inventory Completed: NA — DOES EVC EXCEED ESTABLISHED VQO? NO

VIEWPOINTS & PHOTOGRAPH INFORMATION

Number and name of viewpoints from which the proposal is visible and photos are taken PHOTOS 20/03/11 INTERWEST	VPT#1 Erieberg Rec site	VPT #2 Tyax bridge	VPT#3 Tvaughton Lake opposite	
Viewpoint importance (Major/Minor/Potential)	MAJOR	MAJOR	MAJOR	
Viewpoint coordinates (Lat./Long. or UTM zn: elevation (m))	50 56 31 122 46 35	50 57 06 122 46 22	50 56 05 122 47 04	
Viewing distance (Foreground-Middleground/Background)	BACK	BACK	BACK	
Viewing duration (High/Moderate/Low) This factor is important when deciding the VQO achieved from all selected VPTs. (See Box 1)	HIGH	HIGH	HIGH	
Focal length of camera lens (mm)	50 mm	50mm	50 mm	
Direction of view (degrees)	S 170	S 183	SE 145	

Step 1
Planning and pre-field trip preparation

Step 2
Conducting fieldwork

Step 3
Developing design options and preparing visual simulations

Step 4
Assessing visual simulations relative to VQO

Step 5
Preparing a visual impact assessment report

Visual landscape design is the foundation of the entire process

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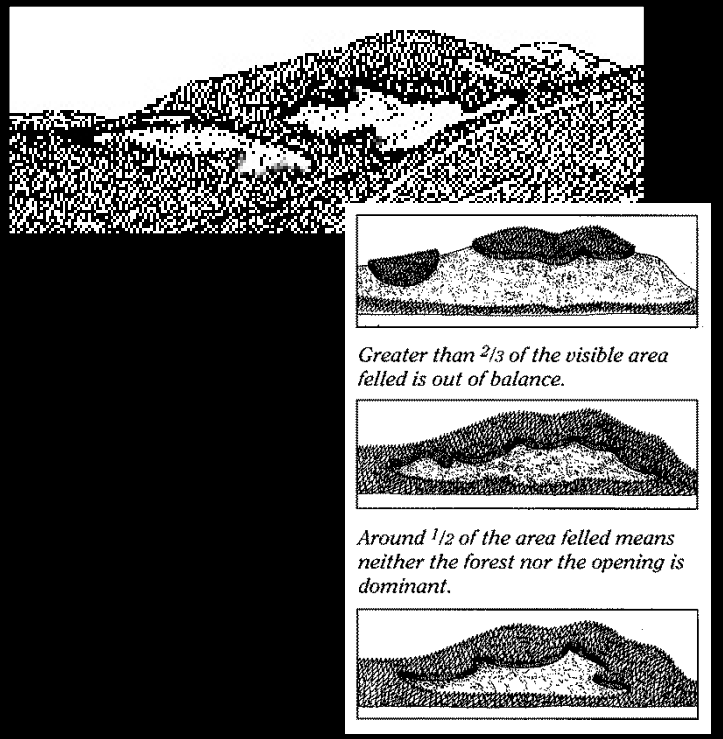
Assessing Consistency with VQO:

1.VQO Definitions:
These are defined in FPPR 1.1 and describe the extent of visual change introduced by a forestry activity.

Describes visibility, scale, and shape of the forest alteration.

2.Visual Design:
Alterations that follow design principles and appear more natural will more easily meet VQOs.



3.Scale of Alteration:
Scale of the proposed operations on the landscape (measured as a percent of the landform) is also a useful tool in assessing achievement of the VQO.

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1. VQO Definitions (FPPR s.1.1):

Preservation:	Very small in scale; Not easily distinguishable from the pre-harvest landscape.
Retention:	Difficult to see; Small in scale; Natural in appearance.
Partial Retention:	Easy to see; Small-to-medium in scale; Natural, not rectilinear or geometric in shape.
Modification:	Very easy to see; Large in scale and natural in appearance; or Small-to-medium in scale with some angular characteristics.
Maximum Modification:	Very easy to see; and Very large in scale; Rectilinear or geometric in shape; or Both.

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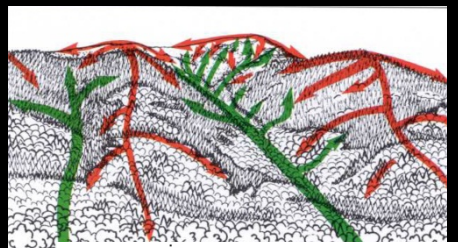
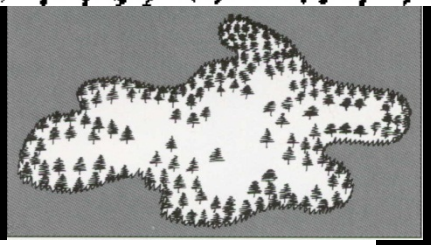
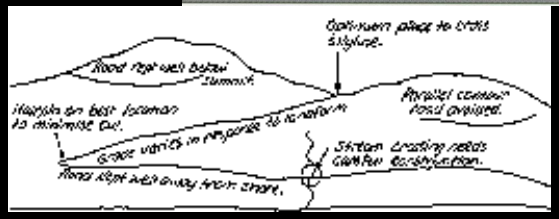
2. Key Design Elements to Consider:

- Response to visual force lines
- Borrows from natural character
- Opening shape
- Edge treatments
- Tree Retention
- Road and landing visibility







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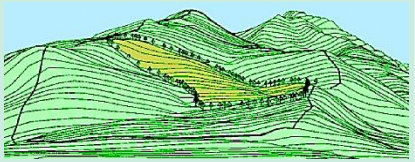
3. Scale Of Alteration:

VQO	Scale of Alteration (%)	Example
Preservation	0	
Retention	0 - 1.5	
Partial Retention	1.6 – 7.0	
Modification	7.1 – 18.0	
Maximum Modification	18.1 – 30.0	

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VIA Content:

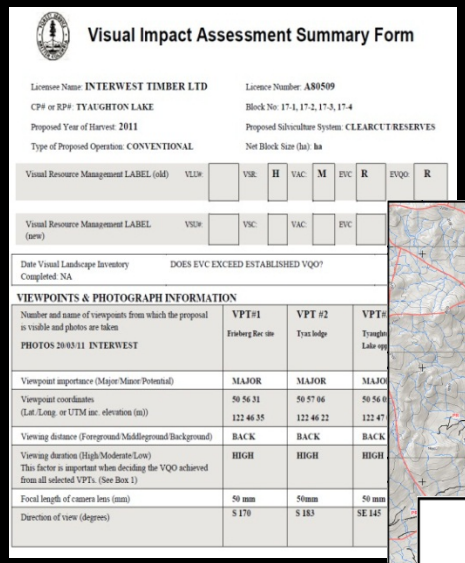
Form: summary of assessment

Map: showing viewpoints & harvesting

Photographs: from key viewpoints

Simulations: from key viewpoints

Supporting Info: from site plans, FSPs, etc.



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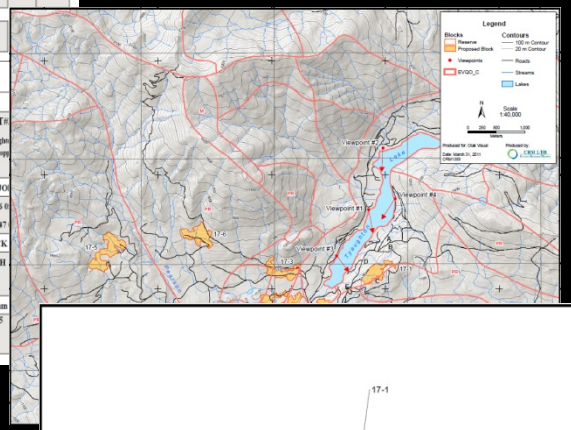

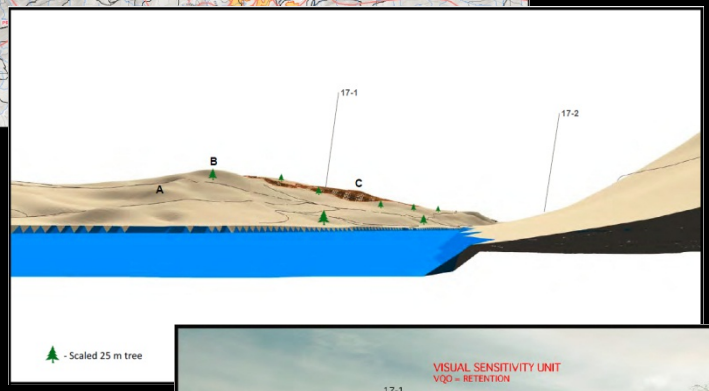

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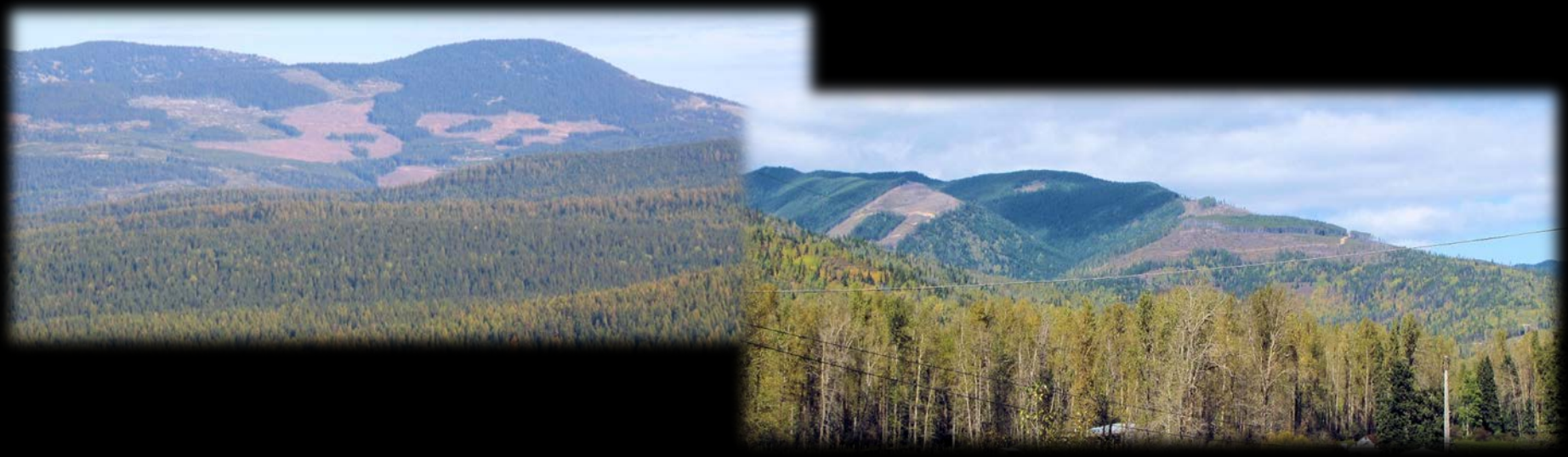
Visual Design (definition):

Understanding and working in harmony with natural characteristics of the landscape when planning development activities, so that aesthetic, environmental, and economic needs are integrated (natural resource definition).

i.e. *To create alterations that blend with the natural landscape.*



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Well Designed Harvesting:

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Not So Well Designed Harvesting:

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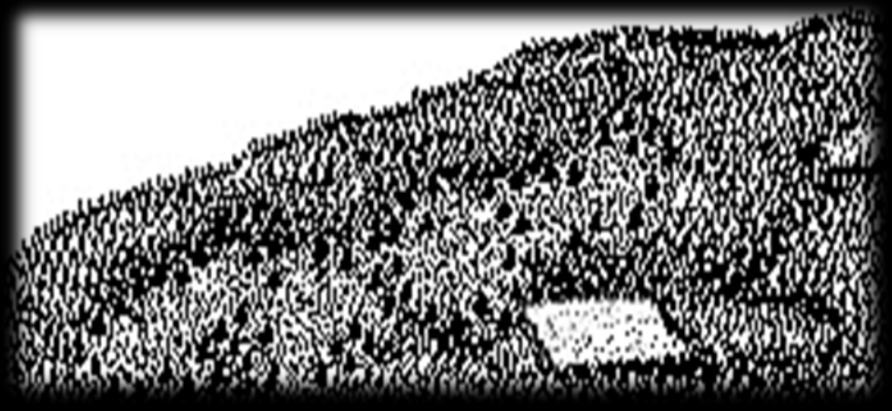
Shape:

- Alterations should borrow from naturally occurring line, form, colour and texture.
- Openings that follow visual force lines will "fit" onto the landform.
- Openings with irregular boundaries and soft edges will appear more natural.
- Openings with leave trees, clumps and/or patches will appear more natural.

Natural Shape:

Geometric Shape:



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Scale:

In order to appear natural, alterations must be in scale with natural landscape features.

Landscape cues include landform, vegetation openings and rock outcrops, distinct vegetation patterns, and micro-terrain.

In scale with natural features:

Out of scale with natural features:

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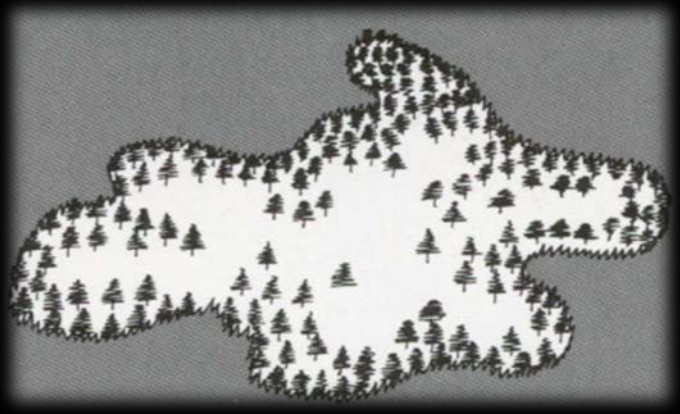
Edge:

- Soft edges are much more common in nature than hard edges.
- Edges can be softened through both scalloping and feathering.
- Reduce density of trees into the block to feather edge.
- Retain tree patches on drier exposed slopes and remove tallest trees of least windfirm species.
- Forest types that are dense with low live crown ratios and/or have windthrow issues may be challenging.

Varying tree density:



Feathering & scalloping:

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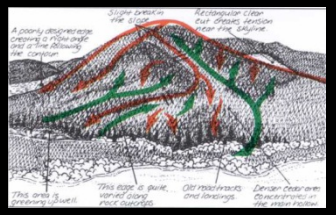
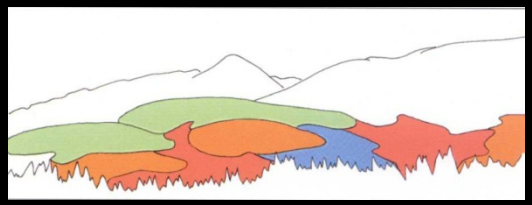
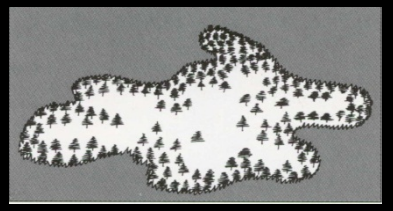
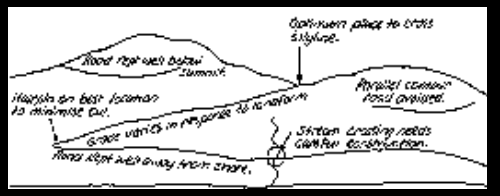
Design Tips:

- Use visual force lines to design overall shapes on landform.
- Use natural features as design cues for shape and scale of openings.
- Pattern of openings should vary in size and spacing. Imagine future passes.
- Create irregular, asymmetric shapes & avoid straight lines.
- Feather boundaries to soften edges.
- Use tree retention – both aggregated and dispersed – to create texture.
- Minimize visibility of roads and landings as much as possible.









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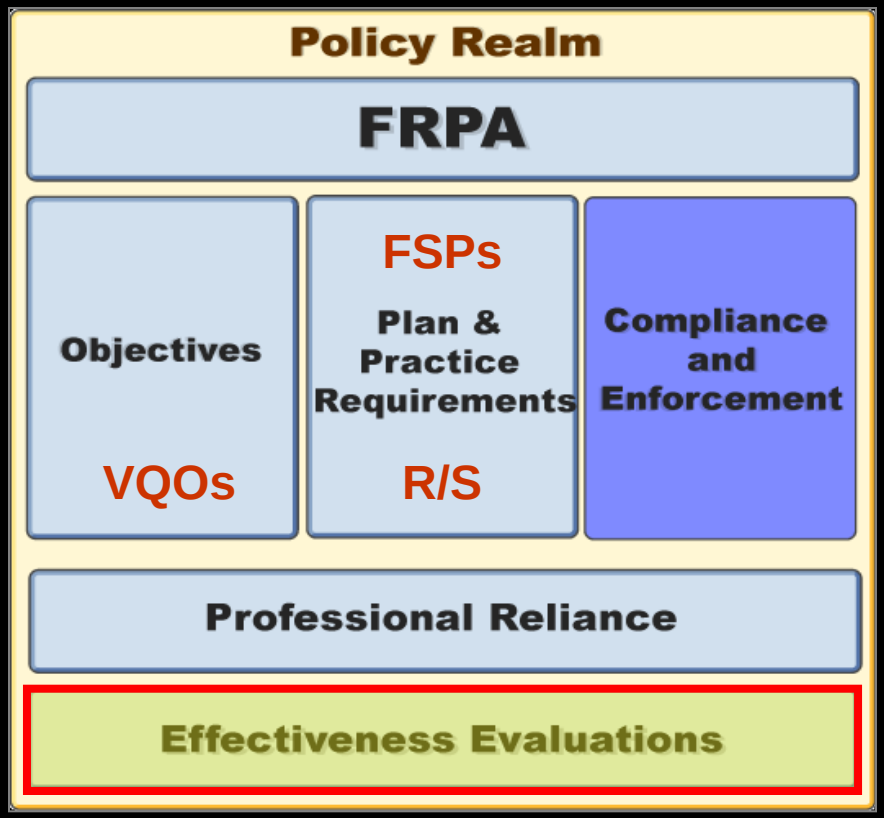
FREP:

Purpose:

To monitor forest & range activities under FRPA.

To provide science-based data to support continuous improvement in policy and practices.



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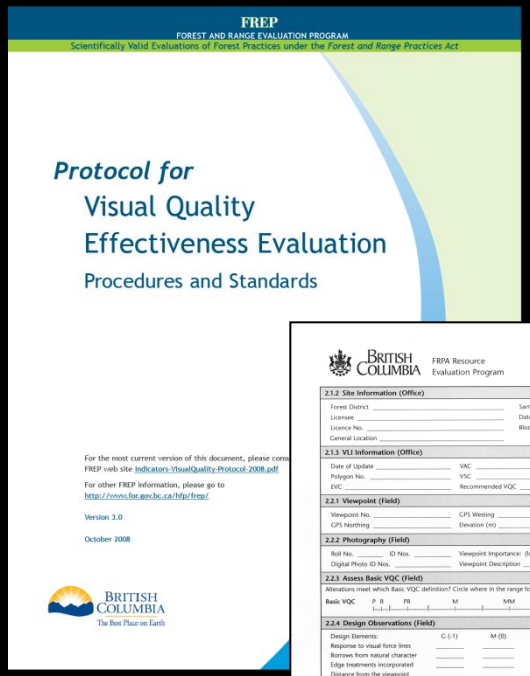
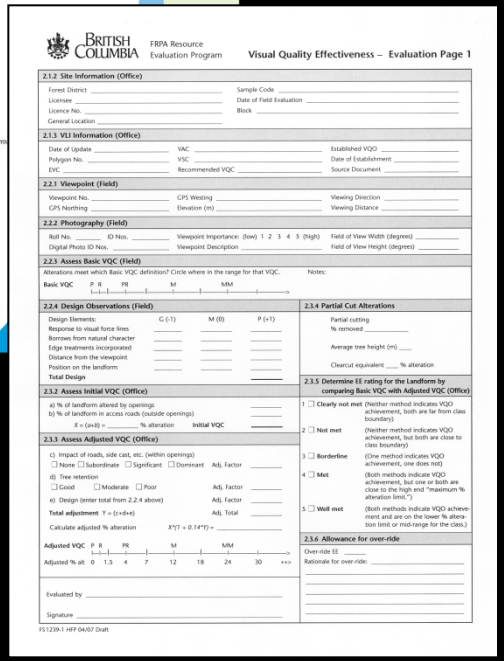
FREP Protocol:

- Protocol developed to provide an objective and consistent way to assess visual practices.
- Protocol is very similar to VIA procedures, but applied post-harvest.
- Form evaluates:
  -Consistency with VQO definition;
  -Quality of design; and
  -Scale of alteration.





Basic VQC:

P R PR M MM

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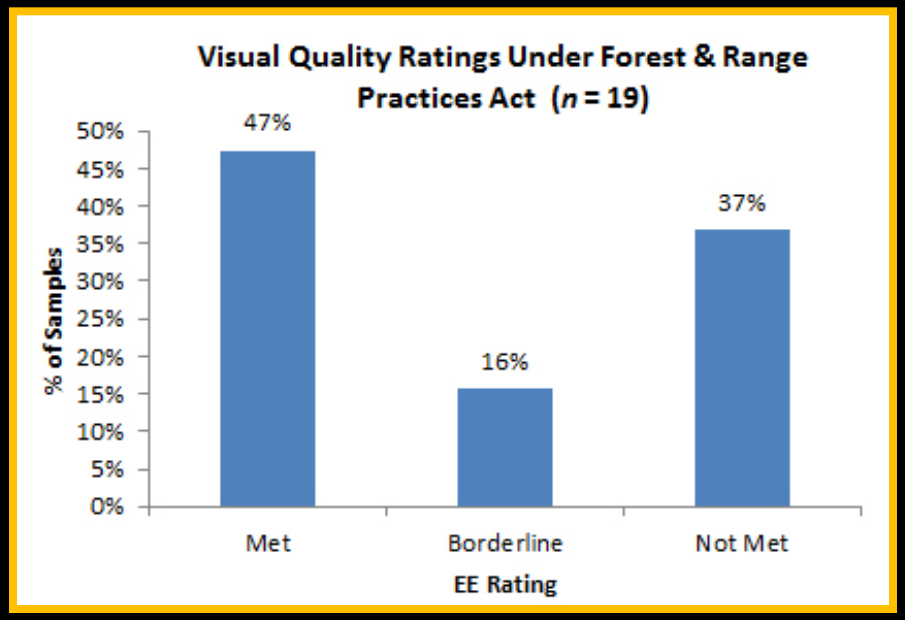
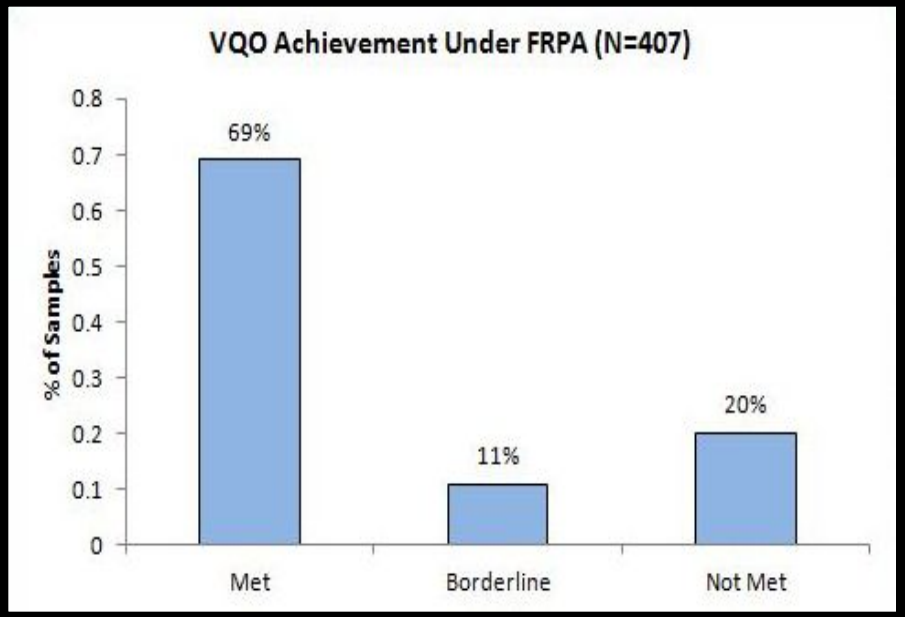
FREP Results – How are we doing?

To what extent are VQOs achieved under FRPA?



Kamloops TSA



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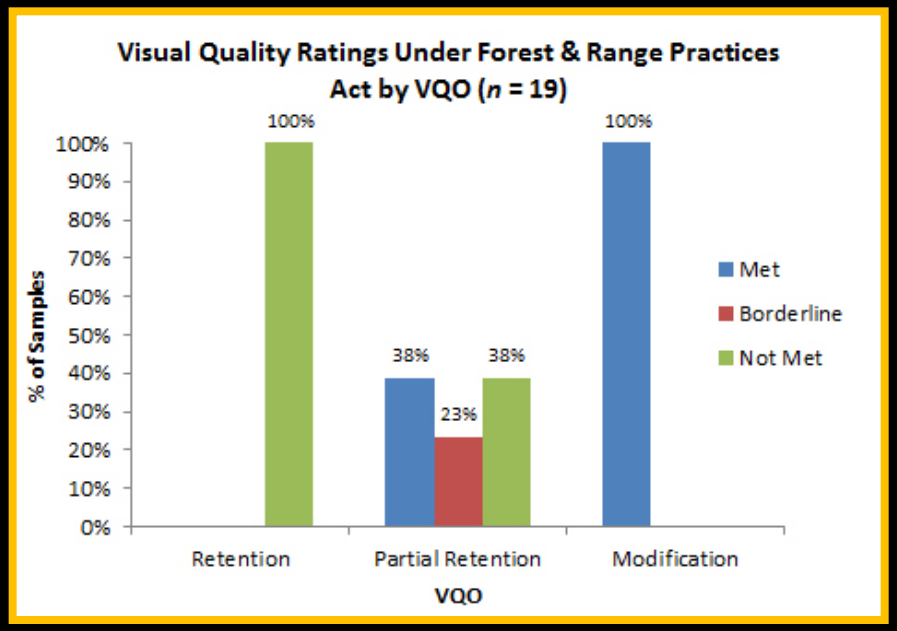
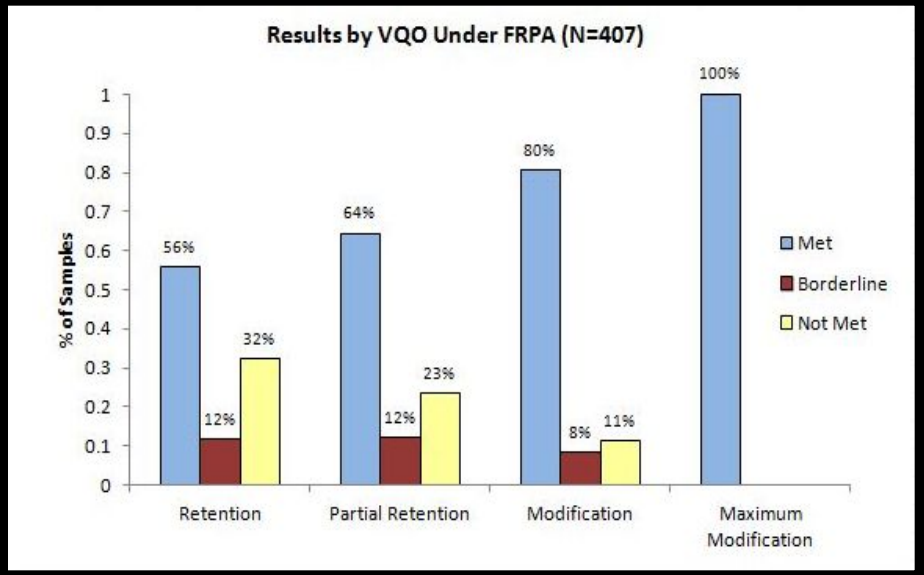
FREP:

How does VQO achievement vary by class?



Kamloops TSA



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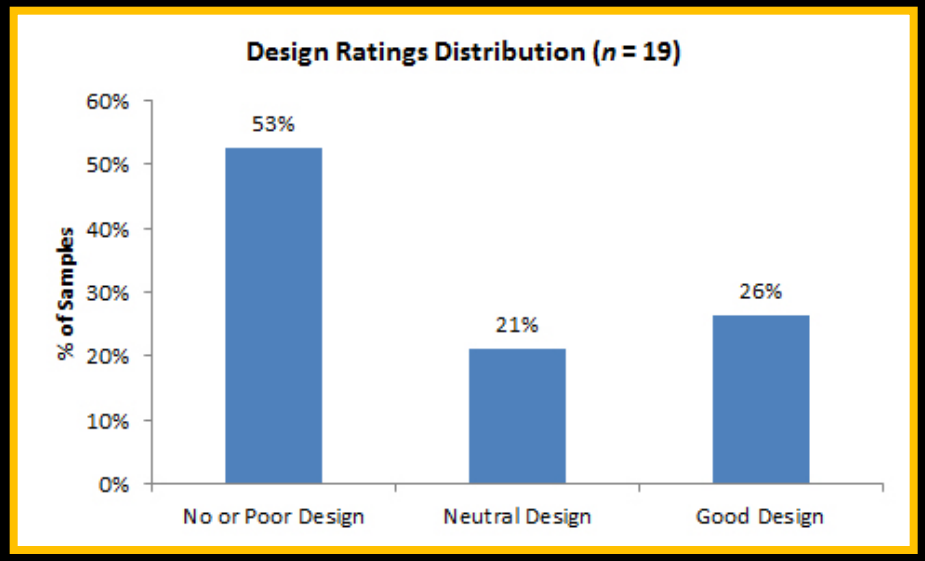
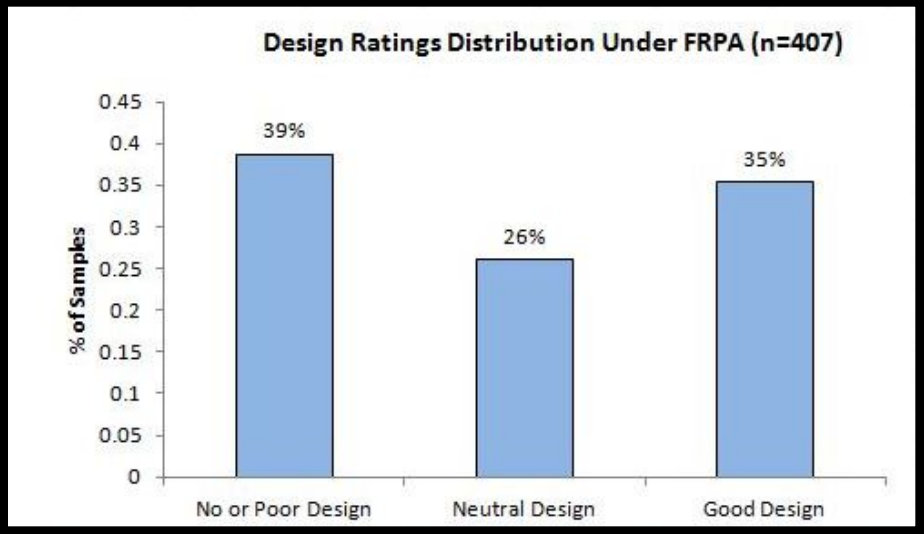
FREP:

To what extent are design principles being applied?



Kamloops TSA



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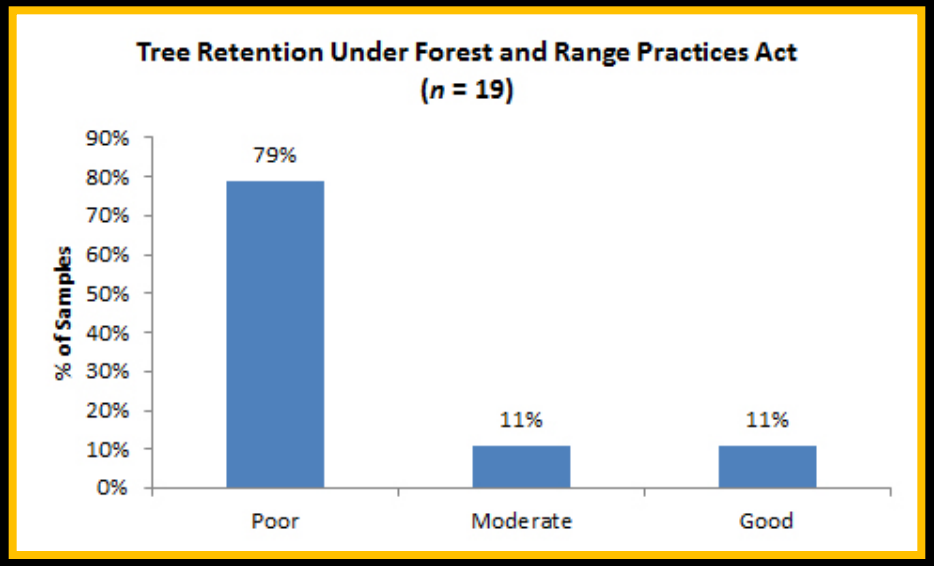
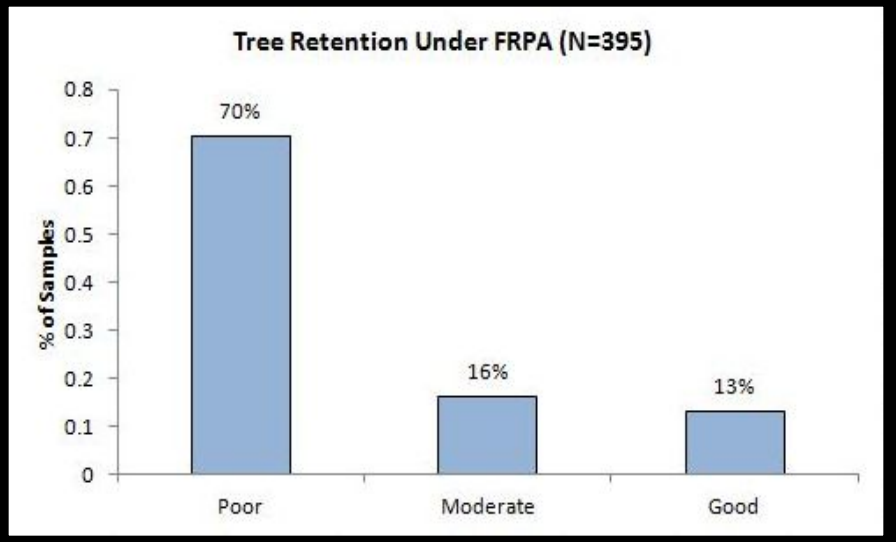
FREP:

What levels of tree retention are being used in visual areas?



Kamloops TSA



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FREP Recommendations:

- Improve visual design practices (e.g. workshops, ABCFP Practice Guideline, etc.)
- Encourage more in-block tree retention.
- Increase efforts to apply partial cutting in Retention VQOs.
- Review FSPs with a critical eye to visual results which are clear, specific, and meet consistency test.
- Improve the CI loop with FREP results.
- Reg changes: e.g. define VQOs as a "result", clarify definitions.

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Take-Home Messages:

- Visual quality is important to our publics (quality of life) and tourism sector (economics).
- Scenery and harvesting can coexist - and economic benefits are optimized when they do.
- Managing scenery does not "cost more" if it is part of normal planning. In the long run, it will cost more not to do it.
- VIAs are a great tool for showing people what you are planning, and also for measuring consistency with VQOs.
- Design is key (irregular shapes, tree retention, no visible roads)
- Think of the long term patterns you are creating.

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Discussion/Questions