



Resource Analysis Report



Visual Resource Analysis for the North Coast LRMP

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Executive Summary

While there are different degrees to which people are aesthetically sensitive, the landscape is important in some way to all of us. It is after all the place where we live. While we may influence the landscape, it also influences us in turn.

The Visual Landscape Inventory (VLI) is a method for quantifying the visual resources of the province. The inventory has been developed by the Ministry of Forests to plan and manage the effects of timber development on the Visual landscape of the Province. The Purpose of the VLI is to provide information about the visual condition, characteristics and sensitivity to alteration of areas and travel corridors. This report compares the results of the Visual Inventory with other Management strategies in the North Coast. These objectives are: Community Watersheds, General Management Zones, Protected Areas, Settlement areas, Private Land and areas with proposed Visual Quality Objectives. As well the four Scenic Areas within the LRMP area are examined to determine the implications of Visual Quality on forest management practices.

While the North Coast is renowned for the spectacular scenery only a small portion of this area is available for timber harvesting. Approximately 10% of the landbase within the Scenic areas contribute to the Timber Harvesting Landbase (THLB). The remainder of the area does not support commercial timber or is inaccessible to harvesting equipment. As a consequence timber harvesting potentially affects only a small portion of the total visual landscape. Conversely as the THLB is limited with a significant portion within visually sensitive areas, harvesting practices require modified cutting methods and application of landscape design techniques to conform to visual landscape objectives. The impact to timber resource development is to constrain timber supply and increase operating costs.

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1. Definitions

THLB

Timber Harvesting Landbase: The portion of the landbase that can support commercial timber harvesting.

VRM

Visual Resource Management is the term used for the identification, assessment, and management of visual (scenic) resources on public forestlands. The primary goal of the Ministry of Forests (MoF) for managing scenic landscapes is to ensure that the levels of visual quality expected by society are achieved on all public forestland in keeping with the concepts and principles of integrated resource management.

VLI

The first step in managing the visual resource is the completion of the visual landscape inventory. The purpose of Visual Landscape Inventory is to provide information about the visual condition, characteristics and sensitivity to alteration of areas and travel corridors throughout the Province. Visual Landscape Inventory (VLI) is used to delineate (map), classify, and record areas that are considered visually sensitive. The VLI provides information about viewing conditions, biophysical characteristics, and sensitivity to visible landscape alteration.

The VLI serves to flag those areas of the province that warrant special attention and consideration in strategic and operational planning because of their sensitivity to visual alteration. The inventory also serves to locate and delineate areas that might serve as candidates for identification as *scenic areas* under the Forest Practices Code, and for which Visual Quality Objectives may be established.

The VLI is typically shown overlaid on contour (terrain) maps at 1:50,000 scale. This information is intended to assist forest resource managers in deciding appropriate land uses, forest resource development objectives, and management prescriptions. The MoF District Manager considers this information in identifying scenic areas and *establishing* Visual Quality Objectives (VQOs) under the Forest Practices Code. Once VQOs have been established, on-the-ground forest practices are designed and carried out to achieve stated visual objectives. When harvesting or road construction operations are completed, monitoring is conducted to determine whether the logging operations achieved the visual objective, i.e. VQO.

Scenic Areas

Once the visual landscape inventory for the area has been completed, the most sensitive landscapes are made *known* as Scenic Areas under the Forest Practices Code to enable management. The geographical extent (viewshed) of a scenic area is defined by the VLI. The task of the LRMP Planning Table is to reach consensus on the existing and potential "scenic areas" of visual importance to be recognised and incorporated into the LRMP.

The North Coast Forest District has currently made *known* four large and distinct scenic areas or "zones".

- Inside Passage
- Highway 16 Corridor
- Douglas Channel
- Portland Canal

VQO

Visual Quality Objectives (VQOs) are a resource management objective established by the MoF District Manager or contained in a higher level plan (i.e. LRMP) that reflects the desired level of visual quality based on the physical characteristics and social concern for an area. VQOs are the cornerstone of the Forest Service's Visual Resource Management process and are the means used to identify the level of alteration that would be acceptable on a viewscape. Each visual landscape unit (polygon) of the VLI is assigned a VQO. The VQOs typically reflect a balance between visual and other forest resource values. VQOs also give direction to visual landscape design and the implementation of forest practices such as logging and road building. They also provide measurable criteria for estimating timber availability and rate of harvest in timber supply analyses. In addition to identifying scenic areas, the LRMP may recommend to establish VQOs under the Forest Practices Code. The MoF district manager will consider the goals and desires of the LRMP when establishing VQOs.

Three variables are used to evaluate whether a proposed operation will or existing harvesting has achieved the VQO:

VQO Definition:

Will proposed operation meet the basic VQO definition?

Design:

Does the proposed operations respond to lines-of-force and exhibit elements of good visual design?

Scale:

Do existing and proposed operations fall with perspective percent alteration guidelines for clearcutting, volume removed guidelines for partial cutting or site disturbance tolerances for road construction?

The five VQO classes are described as:**Preservation**

The Preservation VQO requires that no visible change occur in the landscape from forest development practices.

Retention

The Retention VQO requires those management activities or alterations not be visually apparent. The goal is to repeat the line, form, colour and texture of the characteristic landscape.

Partial Retention

The Partial Retention VQO requires that alterations remain visually subordinate to the characteristic landscape. Repetition of the line, form, colours and texture is important to ensure a blending with the dominant elements.

Modification

The Modification VQO allows alterations to dominate the original characteristic landscape. However, alterations must borrow from natural line and form to such an extent and on such a scale that they are comparable to natural occurrences.

Maximum Modification

The Maximum Modification VQO permits a dominant change to the original landscape, particularly in the foreground and middleground. Alterations may be out-of-scale or show detail quite different from natural occurrences.

Visual Sensitivity Classes

The new Visual Landscape Inventory Procedures (1997) classify and record a variety of social (viewing) and biophysical attributes of the visible landscape and ultimately derive a Visual Sensitivity Class. Visual Sensitivity Class (VSC) is an overall measure of the sensitivity of the landscape to visual alteration. It reflects the likelihood that logging and road building would give rise to some degree of concern or criticism. This could be of an economic nature (negative impact on a tourism operation) or a social nature (negative impact on a public recreation opportunity or the public's appreciation or enjoyment of an existing visual landscape). The MoF District Manager considers the VSC when deciding on the Visual Quality Objective.

VSC is expressed in 5 classes:

Very High

Sensitivity to human-made visual alteration. The area is extremely important to viewers. There is a very high probability that the public would be concerned if the landscape was visually altered in any way.

High

Sensitivity to human-made visual alteration. The area is very important to viewers. There is a high probability that the public would be concerned if the landscape is visually altered.

Moderate

Sensitivity to human-made visual alteration. The area is important to viewers. There is a probability that the public would be somewhat concerned if the landscape is visually altered.

Low

Sensitivity to human-made visual alteration. The area is moderate to low importance to viewers. There is a low risk that the public would be concerned if the landscape is visually altered.

Very Low

Low sensitivity to human-made visual alteration. The area is not very important to viewers. There is little risk that the public would be concerned if the landscape is visually altered.

Visual Absorption Capability:

Visual Absorption Capability (VAC) is a measure of a landscapes' ability to absorb alteration and maintain its visual integrity. Landscapes have varying abilities to absorb human caused alterations due to their biophysical characteristics. VAC is expressed as follows:

High - Landscape has a high ability to absorb alteration and maintain its visual integrity.

Medium - Landscape has a moderate ability to absorb alteration and maintain its visual integrity.

Low - Landscape has low ability to absorb alteration and maintain its visual integrity.

Visually effective Green-up

Visually Effective Green-up (VEG) is the visual standpoint at which the public perceives a stand of reforested timber as being greened-up. When VEG is achieved, re-established forest cover generally blocks the views of site disturbances such as stumps slash, road cuts and exposed rock and soil.

Visual Impact Assessment:

Visual Impact Assessment (VIA) simulates, in perspective view, the visual effects of proposed timber harvesting and road construction on the scenic landscape. These simulations are used to assess whether or not the VQOs would be achieved. VIAs are an integral step in the planning and design of forest practices. Typically, they show how the proposed logging will appear on photographs or computer simulations. Forest licensees must complete VIAs for operations proposed in known scenic areas with established VQOs.

Visual Landscape Design:

The purpose of Visual Landscape Design is to examine and evaluate the biological, economic and technological constraints and limitations of different forest practices. Landscape Designers develop feasible landscape design solutions that minimize the visual impacts of logging and road development. It is a creative process that involves working with the visual patterns and forces of nature to guide changes to the landscape. The results meet the needs of society, both aesthetically and economically. Visual design is an important factor to ensure Visual Quality Objectives are met

Digital Terrain Models:

Digital Terrain Models (DTMs) are computer derived 3 dimensional appearing simulations. DTMs and 3D-terrain animation software use elevation (contours) and forest cover attributes to simulate the proposed visual impact of cutblocks and roads from specific viewpoint(s). This technology is used extensively in Visual Impact Assessments for determining if the VQO will be achieved prior to forest harvesting taking place.

2. Introduction - Visual Quality

The North Coast LRMP area is world renowned for its scenic beauty. Coastal oldgrowth forests, dramatic fjords, scenic waterways, islands, alpine peaks, and glaciers abound. The spectacular and rugged scenery is the primary resource base for recreation and tourism, both locally and internationally. In particular, the Highway 16 travel corridor and the Inside Passage marine route have long been recognized for their outstanding scenic value. Historically, the logging of the coastal oldgrowth forests have had significant visual impact and at times drawn considerable public attention.

Four Scenic areas have been identified and made *known* by the District Manager in the North Coast Forest District.

- Douglas / Gribbel
- Inside Passage
- Portland / Work Channel
- Skeena River Corridor

It is the scenic areas, for which Visual Landscape Inventory has been completed and is the focus of this analysis. At this time inventory data is not available for land outside of the four scenic areas.

These scenic areas are viewscapes visible from communities, public use areas, highways and marine travel corridors. Within these scenic areas, the Ministry of Forests has placed emphasis on maintaining the aesthetic values to support recreation, tourism and a quality of life. The Ministry of Forests uses Visual Quality Objectives (VQO's) as a method of insuring that the visual sensitivity of areas are recognized and harvesting methods achieve the desired aesthetic values for the landscape. VQO's are set in recognition of not only the visual effects of landscape alteration but also the ensuing social and economic impacts that altering timber-harvesting practices will have. Following guidance from the Chief Forester to mitigate the effects of Visual Management on the Allowable Annual Cut the current visual management regime for Portland / Work Channel and the Douglas Gribbel Scenic is management to a modification VQO. In recognition of public interest the Inside Passage and Skeena Corridor are being managed for the recommended VQO's.

Visual Quality Objectives for scenic areas and methods to maintain scenic quality have been designed primarily for forestry-related activities. It is hoped that non-forestry related activities will be carried out in respect of the scenic values and cognisant of the visual quality objectives.

3. Analysis components

Indicator	Measure	Rationale for indicator	Data for analysis	Age/reliability of data
Areas of visual sensitivity	Visual sensitivity classes: Very high High Moderate Low Very low	Indicator ranks visual sensitivity using provincially-consistent criteria. Includes preliminary stratification to identify areas of scenic value.	Ministry of Forests visual landscape inventory	<ul style="list-style-type: none"> • Inventories conducted 1980s/90s. Updated to RIC standards in 2000. • Only includes inventories of existing scenic areas. Inventories or areas outside of existing scenic areas will be included in later analyses. • Rankings based on technical information and professional judgement.

4. Analysis methods

Geographic Information System (GIS) 'area stats' are used to analyse the amount of area that has been inventoried for Visual Quality and the areas which have Visual Quality Objectives within the North Coast Plan area. This method of analysis allows for the comparison of different resource uses and features on the landscape. The landbase is divided into thousands of polygons, each which represents a unique resource feature. With the use of GIS, a computer program can readily, measure, summarize, classify and compare these various polygons. The results are used to build tables that compare the overlap and extent of the resource features. Appendix 2 (Analysis results) is an example of some of the statistics that were generated.

Analysis questions	Type of analysis (e.g., GIS area stats)	Indicators	Assumptions	Rationale for assumptions
How much of each visual sensitivity class is in protected areas?	GIS area stats	Visual sensitivity class x protected area	There will be no human modification within protected areas, therefore no impact on visual quality	Protected area legislation prohibits logging and mining within protected areas.
How much of each visual sensitivity class in existing visual management zones?	GIS area stats	Visual sensitivity class x each of the following visual mgmt zones: Preservation Retention Partial retention Modification Maximum Modification	There will be no visual impact in areas managed to a preservation VQO. There will be minimal visual impact in areas managed to a retention VQO. There will be some visual impact in areas managed to a partial retention VQO. There will be a significant visual impact in areas managed to modification VQO There is severe visual impact in areas managed to maximum modification VQO. Scenic areas are not normally managed for this VQO.	There are established definitions of the amount of visual impact permitted in each visual mgmt zone: Preservation VQO is defined as “no visible activities.” Retention VQO is defined as “activities are not visually evident” Partial Retention VQO is defined as “activities are visible, but remain subordinate” Modification VQO is defined as “activities are visually dominant, but have characteristics that appear natural. Maximum Modification is defined as

Analysis questions	Type of analysis (e.g., GIS area stats)	Indicators	Assumptions	Rationale for assumptions
				“activities are dominant and out of scale, but appear natural in the background”
How much of each Scenic Area is in the THLB?	GIS area stats	THLB x each of the Scenic areas	The THLB will be the area requiring management visual management considerations for development. Non THLB will contribute to the Visual Quality of the area but will not be impacted by timber harvesting	Non THLB lands either do not support commercially viable timber or are not accessible with current harvesting technologies.
What proportion of each VQO class is there in the Scenic areas?	GIS area stats	Each Scenic area x each of the following visual mgmt zones: Preservation Retention Partial retention Modification Maximum Modification	There will be no visual impact in areas managed to a preservation VQO. There will be minimal visual impact in areas managed to a retention VQO. There will be some visual impact in areas managed to a partial retention VQO. There will be a significant visual impact in areas managed to modification VQO’s There is severe visual impact in areas managed to maximum modification VQO. Scenic areas are not normally managed for this VQO.	There are established definitions of the amount of visual impact permitted in each visual mgmt zone: Preservation VQO is defined as “no visible activities.” Retention VQO is defined as “activities are not visually evident” Partial Retention VQO is defined as “activities are visible, but remain subordinate” Modification VQO is defined as “activities are visually dominant, but have characteristics that appear natural. Maximum Modification is defined as “activities are dominant and out of scale, but appear natural in the background”

5) Summary Tables

Visual Sensitivity and Land Use

Visual Sensitivity Class	% of VLI Class in THLB	% of THLB in VLI Class	% of VLI Class in Protected Areas
Very High Sensitivity	13.7 %	17.2 %	2.8 %
High Sensitivity	11 %	12.5 %	< 1 %
Moderate Sensitivity	7.6 %	4.5%	< 1 %
Low Sensitivity	3.3 %	1 %	2.5 %
Not Visually Sensitive	8.7 %	3.4 %	< 1 %

The areas inventoried for Visual Sensitivity only includes the four Scenic areas.

- The total area inventoried is approximately 27% of the total NCLRMP plan area.
- 35 % of the THLB has been inventoried as having Visual Sensitivity (Very High to Low)
- 2.5 % of the total NCLRMP landbase is in the THLB and rated as Visually Sensitive.

Visual Sensitivity and Current Management Practices

Visual Sensitivity Class (in Scenic Areas)	Preservation VQO (3778 ha) (% of VSI class with VQO)	Retention VQO (71,752 ha.) (% of VSI class with VQO)	Partial Retention VQO (69,437 ha.) (% of VSI class with VQO)	Modification VQO (288,682 ha.) (% of VSI class with VQO)
Very High & High Sensitivity (285,676 ha).	3,759 ha. 1.3 %	67,029 ha 23.5 %	39,190 ha. 13.7 %	173,876 ha. 61 %
Moderate Sensitivity (73,178 ha.)	0 ha. 0 %	1,931 ha. 2.6 %	26,034 ha. 35.6 %	42,462 ha. 58 %
Low Sensitivity (32,265 ha.)	15 ha. < 1 %	2,594 ha. 8 %	2,758 ha. 8.5%	25,657 ha. 79 %
Not Visually Sensitive (48,106 ha.)	0 ha. 0 %	6 ha. < 1 %	37 ha. < 1 %	46,687 ha. 97 %

- 73 % (212,7001 ha.) of the Modification VQO's are in the Portland / Work Channel - Douglas / Gribbel Scenic areas. These areas are managed for Modification in response to the Chief Foresters direction to mitigate Allowable Annual Cut impacts.

Proportion of Each VQO Class in the Scenic Areas

Scenic Areas	Total Area hectares	THLB Area	% in THLB	General Management		Protected		Preservation VQO		Retention VQO		Partial Retention VQO	
				(ha. within Scenic Area)	% of total	Area	% of Scenic area	Area	% of Scenic area	Area	% of Scenic area	Area	% of Scenic area
Douglas / Gribbel	84,496	10,587	12.5%	84,284	99.7%	0	0	0	0	0	0	0	0
Inside Passage	225,841	22,976	10%	128,398	56.8%	3,051	1.3%	0	0	32,591	14.4%	54,903	24.3%
Portland / Work Channel	284,357	30,299	10.6%	263,275	92.5%	18,691	6.5%	0	0	0	0	0	0
Skeena River Corridor	159,181	15,867	9.9%	89,692	56.3%	1,219	0.7%	3,778	2.3%	39,161	24.6%	14,543	9.1%
TOTALS	753,875	79,729	10.5%	565,649	75%	22,961	3%	3,778	0.5%	71,752	9.5%	69,446	9.2%

Significance of Visual Management in Scenic Areas

Douglas / Gribbel

12.5% of this area is suitable for timber harvesting,

Currently most of it is under general management guidelines and is managed to modification VQO

Inside Passage

10% of this area is suitable for timber harvesting (90% is outside the THLB)

Almost 39% of the area (49% of the THLB) is currently being managed for retention or partial retention. 56.8% is under general management

Harvesting impacts only a small portion of the land base, about ½ the harvest area has retention or partial retention VQO's. Therefore, approximately 5% of the total scenic area is available for harvest and is under general management guidelines.

Portland / Work Channel

10.6% of this area is suitable for timber harvesting (89.6%) is outside the THLB)

6.5 % of the area has protected status and will not be impacted by timber harvesting

currently most of it (92.5 %) is under general management guidelines

Skeena River Corridor

9.9% of this area is suitable for timber harvesting (91.1% is outside the THLB)

36.9% of the THLB is being managed for Preservation, Retention or Partial Retention. 58% of the THLB is under General Management guidelines (5.7% of the total land area in the Scenic Area

5. Uncertainty and Risk

The Visual Landscape Inventory is primarily a tool that has been developed by the Forest Service and concentrates on the effects of timber harvesting on the scenic quality of the landscape. This inventory only covers lands within the four scenic areas. In the future additional areas may be added to the Visual Landscape Inventory.

The Visual Landscape Inventory is not:

-an inventory of visual resources. The Visual Landscape Inventory is not an assessment and classification of the provincial land base in terms of visual landscapes or scenic views for their ability to provide a recreation opportunity;

-an inventory of scenic beauty. The Visual Landscape Inventory is not an assessment and classification of landscapes or areas in terms of their inherent scenic attractiveness; or

-restricted to the “visible land base.” The Visual Landscape Inventory is not necessarily restricted to areas of the province that are directly visible from major communities or travel corridors. Some areas that are less viewed, or not yet accessed and therefore not yet frequently viewed, may after consideration of the determinants of visual sensitivity, be classified as visually sensitive.

6. Conclusion

In British Columbia, as in many other western societies, attitudes to the landscape are changing. Fewer people work and earn their living directly from logging, farming or mining. Increasing numbers live in the cities and work in industries or services of a secondary kind. There is a shift in the overall value placed by society not only on scenic qualities in general but on particular types of landscape such wild, untouched areas. Naturalness and an absence of human influence are consistently highly regarded, the more so, as such areas become more rare.

Our economy is still heavily dependent on logging and the timber industry. The challenge is to balance the needs of the forest industry to carry out its business economically while at the same time ensuring the range of environmental and social values are maintained. The forest practices code and newer methodologies such as ecosystem based planning are tackling this. Visual Landscape Inventories and subsequent Visual Landscape design are two of the tools that managers have to balance the economic needs of the industry with societies values of visual quality and wilderness.

This report summarises the results of the GIS area stats. The Visual Inventory is meant, as a guideline to indicate the possible concern that alteration to the landscape through harvesting will have on this landbase. It can be used to delineate areas that might serve as *Scenic Areas* for which Visual Quality Objectives are established

More specifically, the Visual Landscape Inventory:

- Classifies the provincial land base into Visually Sensitive Areas versus Not Visually Sensitive Areas. Areas classified as *not visually sensitive* are not assessed or described further,
- Delineates Visually Sensitive Areas into Visual Sensitivity Units: and
- Describes each Visual Sensitivity Unit in terms of its existing visual condition, visual absorption capability, and biophysical and viewing characteristics, and classifies it into a Visual Sensitivity Class.

There are currently four *known* Scenic areas in the North Coast. Visual landscape inventory has been completed for these areas. Two of these areas (the inside passage and Skeena corridor) are managed for the recommended VQO's as directed by the Ministry of Forests. The other two areas (Douglas/Grbbel and Portland/Work) are being managed for Modification VQO.

The striking feature in the visual analysis of the North Coast is the small percentage of the total area, which is inside the Timber Harvesting Landbase. In the Scenic Areas approximately 10% of the area contributes to the THLB. The implications for management are that only a small percentage of the landscape will have a visual impact resulting from harvesting alterations. Conversely visual management strategies within scenic areas will have significant affect on timber harvesting practices.

8.0 References

- 1) **Visual Landscape Inventory (Procedures & Standards Manual)**, BC Ministry of Forests, Forest Practices Branch, May 1997
- 2) **Visual Landscape Design Training Manual**, BC Ministry of Forests, Recreation Branch publication; 1994-2
- 3) **GIS Area Stats**, Ministry of Sustainable Resource Management, Skeena Region (2002)
- 4) **Visual Inventory**, North Coast Forest District,

Appendix 1: North Coast Forest District Travel Corridors

Name	Location and Physical Description	Relationship to Visual Sensitivity
Inside Passage	From the south, the of corridor enters Princess Royal Channel, emerging into the openness of the waters between Gribbell and Gil Islands before once again entering into the very narrow Grenville Channel. It emerges into the broader views between Porcher and Kennedy Islands before entering the vicinity of Prince Rupert. The corridor is typified by uniform vegetation, steep slopes and the occasional rock faces.	The most significant mode of transport is BC Ferry. At 20 knots the ferry allows for all scenery to be viewed with moderate to high duration. High numbers of viewers with high expectations for naturalness.
Observatory Inlet	Wide inlet flanked by a variety of steep to moderate slopes. Many dead standing trees on slopes left from effects of fume kill when the Anyox Smelter was operating (Smelter closed in 1930's). Inlet widens entrances to Alice Arm and Harsitngs Arm providing excellent views of surrounding peaks and ridges.	The end of inlet is visually impressive. Very low numbers of users.
Portland Canal	Narrow inlet flanked by the USA to the west. Characterized by uniform vegetation and steep slopes leading to snow-capped or rocky and rounded ridges.	The route is primarily utilized by pleasure craft heading for Stewart and Hyder. A ferry servicing Hyder from Kethikan is no longer in service.
Portland Inlet	Wide inlet that leads to Gincolix. Characterized by uniform vegetation and steep slopes of moderate elevations.	A wide inlet flanked to the east by high elevation steep slopes and to the west by low elevation slopes. Low numbers of viewers with moderate expectations for naturalness.
Chatham Sound	Expansive sound surrounded by the mainland including the route between Laxkw'alaams and Prince Rupert	This travel corridor is of particular importance between Prince Rupert and Laxkw'alaams. The First Nations manage extensive sections of the landscape here.
Khutzemayteen	Flanked by steep uniform slopes with evidence of past forest harvesting.	Inlet that leads to world-renowned grizzly bears sanctuary. Medium numbers of viewers with high expectations for naturalness.
Work	Flanked by steep uniform slopes with evidence of forest harvesting.	Consists of a marine corridor with no screening and a road corridor with screening along the west flank. The gravel road limits the viewing opportunities. Medium number of viewers with high to moderate expectations for naturalness. The mouth of the inlet has high numbers of whale viewers.
Quotoon	Flanked by dramatic cliffs and rock outcrops interspersed by uniform forests. Much evidence of past timber harvesting but the still retains its high scenic values.	This inlet has visually dramatic and includes waterfall and heritage features. Low number of viewers. .
Porcher	An island with uniform vegetation with historical alterations to the west, present harvesting in the inlet and east. side of the island. The slopes are gradual in the west rising steeply in the center of the island.	The ferry to Queen Charlottes plies the northern passage (Edye Passage) and the Inside Passage ferries travels along the eastern shores of the island. The island is recreationally noted for the long beaches to the west. and high use sport fishing along the northern shores. The two main travel corridors (east and north) have high numbers of viewers with high expectations for naturalness. Moderate (south) to low numbers of viewers (interior and west shore) for rest of area also has high expectations for naturalness.

Laredo	A wide corridor between Aristazabal and Princess Royal. Typified by moderate slopes and uniform vegetation. Narrow Surf Inlet leads into Princess Royal with a mix of steep and moderate slopes.	The most significant mode of transport are the Cruise Ships. The ships allow for all scenery to be viewed with moderate to high duration. The distances of the ships from the shorelines are considerable. Low numbers of boaters and high numbers of cruise ship viewers with high expectations for naturalness (viewing from the cruise ships is greatly minimized by the distance and minimal focal nature of the landscapes).
Estevan	A wide corridor along the visually significant Campana Island. The slopes are moderate and are typified by uniform vegetation.	
Principe	Wide channel between Banks and Pitt Islands. The islands are characterized by low elevation terrain with high moderate steep slopes to the south. Bogs and non-productive soils are common.	
Verney	Flanked by dramatic cliffs and rock outcrops interspersed by uniform forests. Evidence of past timber harvesting but still retains high scenic values and a natural appearing landscape.	Links to Kitimat, this narrow corridor is a primary link to the ocean. No screening along this marine corridor. Medium numbers of viewers with high expectations for naturalness. The landscape is dramatic and has potential as a tourism draw.
Ursula	Flanked by dramatic cliffs and rock outcrops interspersed by uniform forests.	Links to Kitimat, this narrow corridor is a primary link to the ocean and the popular Bishop Bay Hotspring. Medium numbers of viewers with high expectations for naturalness.
Douglas	A wide channel subjected to strong winds and flanked by steep uniform slopes.	Links Hartley Bay and ocean to Kitimat, this channel is utilized primarily by larger vessels, the smaller vessels use the more picturesque and smoother Verney and Ursula channels. Low to medium expectations for naturalness
Whale	A moderately wide channel flanked by steep and moderate slopes with uniform forest.	Whale channel flanks popular locations in Princess Royal. Medium numbers of viewers with high expectations for naturalness.
Highway 16	Winding from Prince Rupert to the Skeena River, the highway emerges from screening into wide views of the river and the steep uniform adjoining slopes.	Views along the Skeena River are largely unobstructed. The highway away from the Skeena River is primarily screened with vistas afforded by lakes and road declines. High numbers of viewers with high expectations for naturalness.

Appendix 2: Analysis results

Visual sensitivity class	Current mgmt zone (total ha.. in NCLRMP)	# of hectares overlap	% overlap	Implication for visual quality
1. Very high and high visual sensitivity 295,211 ha. in Scenic areas	THLB – all 124,888	36,567	29 % of THLB 12.4% of all H & VH Visual is in THLB	significant portion of the timber harvesting is in high and very high areas
	THLB without mgmt zoning 106,865	23,071	22%	20% of timber harvesting areas in High and very high currently managed to modification VQO
	Community watersheds 6,460	1,034	16%	Minimal harvesting in community watersheds is not expected to impact visuals
	Settlement 5,261	3,277	62%	all most 2/3 of the THLB in settlement areas is highly visually sensitive
	Preservation VQO 3,759	3,431	91%	most of the Preservation VQO is in High Sensitivity
	Retention VQO 71,752	67,029	93%	most of the Retention VQO is in High Sensitivity
	Partial retention VQO 69437	39,190	56%	over half of the Partial Retention VQO is in High Sensitivity

Visual sensitivity class	Current mgmt zone (total ha.. in NCLRMP)	# of hectares overlap	% overlap	Implication for visual quality
88.3% of H&VH outside THLB	Outside the THLB 1562809	258,644	17% of outside THLB is H&VH	A significant proportion of High and Very High are outside the THLB and will not be impacted by timber harvesting.
295,211 in Scenic Areas	Protected areas 52,796	5,116	11%	These areas contribute to visual quality and will not be affected by development
2. Moderate visual sensitivity 73,176 ha. in Scenic Areas	THLB – all 124,888	5,589	4.5% of THLB 7.3% of Moderate Visual is in THLB	A small portion of the THLB is moderately sensitive
	THLB without mgmt zoning 106,865	2,127	2.0%	Minimal impact
	Community watersheds 6,460	193	3 %	Minimal impact
	Settlement 5,261	18	0.1%	Not significant
	Preservation VQO 3,778	0	0%	Not significant
	Retention VQO 71,752	1,931	2.7%	Not significant

Visual sensitivity class	Current mgmt zone (total ha.. in NCLRMP)	# of hectares overlap	% overlap	Implication for visual quality
3. Moderate visual sensitivity	Partial retention VQO 69437	26,034	37.5%	over 1/3 of Moderate is being managed for Partial Retention
	Outside the THLB 1562809	67,587	4.3% of total outside THLB 92.6% outside THLB	Most of the moderate sensitivity is outside the THLB
	Protected areas 52,796	636	1.2%	No impact to visuals
low visual sensitivity 32,265 ha. in Scenic Areas	THLB – all 124,888	1,063	0.7% of THLB 3.3% of Low is in THLB	Small proportion of THLB that has minimal visual impact
	THLB without mgmt zoning 106,865	824	0.8%	Not significant
	Community watersheds 6,460	0	0%	Not significant
	Settlement 5,261	279	5.3%	Small proportion of timber in settlement areas has low visual sensitivity
	Preservation VQO 3,778	15	0.1%	Not significant
	Retention VQO 71,752	2,594	3.6%	Minimal significance

Visual sensitivity class	Current mgmt zone (total ha.. in NCLRMP)	# of hectares overlap	% overlap	Implication for visual quality
low visual sensitivity	Partial retention VQO 69,437	2,758	4 %	Small portion of low sensitivity is managed for PR
	Outside the THLB 1562809	31,202	2 %of total outside THLB 96.7% of total low	Most of the Low sensitivity is outside THLB
	Protected areas 52,796	832	1.5%	Not significant