Multiple Resource Value Assessments (MRVA)

Lakes Timber Supply Area - Nadina Resource District
July 26, 2013

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MRVA in Brief

This document reports monitoring results for riparian, biodiversity (stand and landscape), water quality (sediment), soils, cultural heritage, timber (stand development monitoring) and visual quality monitoring that has taken place in the TSA. Where there is sufficient data, results have been categorized into stewardship ratings of "good, fair, borderline, and poor" (Figure 1). Good and fair outcomes are considered to be consistent with society's goal of sustainable resource management. MRVA is designed to inform decision making at multiple levels including; on-the-ground management practices, statutory decision maker approvals and, data for assessing cumulative effects. MRVA results can be used to help decision makers clarify expectations for sustainable resource management of public resources and communicate opportunities for continued improvement. This report is focused on forestry impacts; other resource sectors will be included as more non-forestry data (e.g., mining, hydro, pipelines and highways) is collected. This document includes a district manager commentary of key strengths and weaknesses, including issues calling for licensee or ministry action.

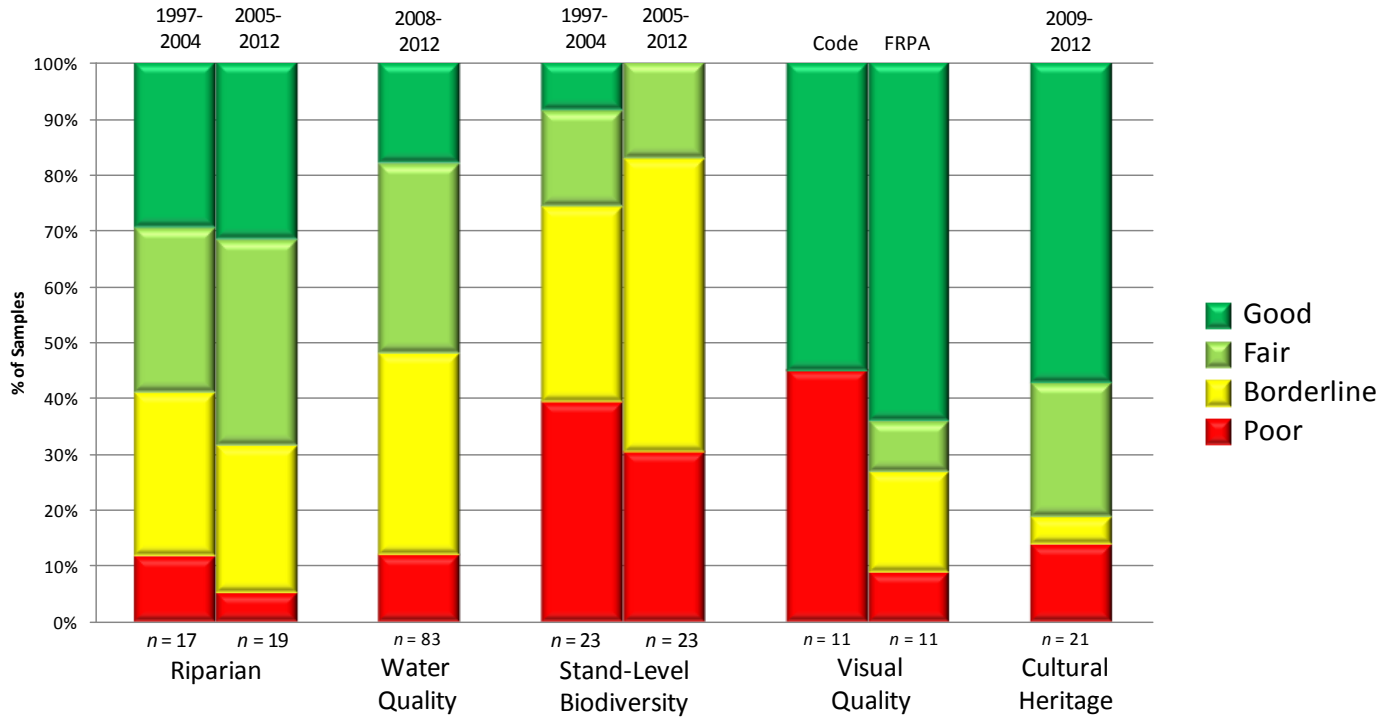

Figure 1: Lakes TSA site-level stewardship rating by resource value with trend[1]

See table 2, page 8 for results by TSA within Skeena Region and table 2, Appendix III, for results by Area and Province

[1]Riparian, stand-level biodiversity and visual quality trend by harvest year/era. Water quality and cultural heritage trends by evaluation year.

Introduction

The development of the *Forest and Range Practices Act* (FRPA) had several key objectives including:

- Simplify the forest management legal framework;
- Reducing operational costs to both industry and government;
- Creating a "freedom to manage" environment; and
- Maintaining the Forest Practices Code's (FPC) high environmental standards.

As part of the results-based FRPA framework, government committed to conducting, and, publically reporting out on the results of effectiveness evaluations. The science-based information from these evaluations will be used to determine if FRPA is achieving government's objective of maintaining high environmental standards and ensuing sustainable management of public resources. Where this is not the case, the monitoring results will be used to help inform the necessary adjustments to practices, policies and legislation. Government is delivering its effectiveness evaluation commitment through the Forest and Range Evaluation Program. Details on the FREP program can be found at: http://www.for.gov.bc.ca/hfp/frep/.

Multiple Resource Value Assessment (MRVA) reports document the results of stand and landscape-level monitoring carried out under the Forest and Range Evaluation Program (FREP). FREP stand-level monitoring is, for the most part, done on logging blocks, resource roads or other areas disturbed by industrial activity. As such, these evaluations are a stewardship assessment of resource development practices; rather than an assessment of the landscape as a whole. Landscape-level biodiversity, visual quality and wildlife monitoring is more broadly an assessment of the overall landscape.

Resource values being monitored under FREP include: biodiversity, riparian, water quality (sediment), cultural heritage, forage, visual quality, wildlife, resource features (karst) and recreation. MRVA reports are designed to inform decision making at multiple levels including; on-the-ground management practices, statutory decision maker approvals and, data for assessing cumulative effects.

This report is a summary of the Forest and Range Evaluation Program (FREP) monitoring results for the Lakes Timber Supply Area (TSA) (see Appendix I for a description of the TSA and FREP sample locations). MRVA reports are intended to support government decision making and clarification of resource stewardship expectations; and to promote the open and transparent discussion needed to achieve short- and long-term sustainable resource management in British Columbia. This report covers five of the 11 FRPA resource values: riparian, biodiversity (landscape and stand-level), water quality (sediment generation), visual quality and cultural heritage.

The target audience for MRVA reports is natural resource managers and professionals, government decision makers and First Nations interested in the status and trends of resource values at the TSA scale. These reports can also be used to communicate resource management outcomes to the public.

Government managers and decision makers are encouraged to consider these results, and use them for:

- Discussing TSA-level resource stewardship with staff, licensed stakeholders and/or tenure holders and First Nations
- Clarifying expectations for sustainable resource management of public land
- Integrating social and economic considerations into balanced decision making
- Reviewing and approving Forest Stewardship Plans

- Developing Type 4 Silviculture Strategies
- Assessing Timber Supply Reviews and the supporting rationales
- Informing decision making at multiple levels (e.g. on the ground management practices, statutory decision maker approvals, data for assessing cumulative effects).

Natural resource professionals are encouraged to consider this information, along with other FREP information such as reports, extension notes, protocols and monitoring data, to:

- Maintain current knowledge of the resources they are managing on behalf of the public
- Inform professional recommendations and decisions, particularly where these involve a balancing of environmental, social, and economic values
- Enhance resource management, consultation and treaty rights discussions between First Nations, government and licensees.

Detailed findings for each resource value have been published in FREP Reports and Extension Notes; these documents can be found on the FREP website at: http://www.for.gov.bc.ca/hfp/frep/publications/reports.htm. Licensees can request data collected on their operating areas. FREP staff will assist licensees with the analysis of their data and preparation of licensee-specific MRVA report.

While this report is at the TSA level, MRVA is scalable. For example, reports for individual licensees, treaty settlement areas or landscape units can be produced where there is sufficient monitoring data. Reports can also be prepared at the regional or provincial levels. The resource values that can currently be assessed using MRVA are: biodiversity (stand and landscape), riparian, water quality (sediment), soils, visual quality, cultural heritage, forage, timber and wildlife (e.g., effectiveness of wildlife habitat areas and ungulate winter ranges). Other resource values and (or) assessment data (FREP and non-FREP), at both the site and landscape-levels can be added over time.

This report provides site-level assessments with an indication of trends comparing blocks harvested before 2005 to those harvested 2005 or later where there is sufficient data. Site assessment (e.g. cutblock) results categorize effectiveness of management practices as good, fair, borderline or poor based on the FREP monitoring results. This categorization is done with respect to how well site-level resource management practices achieved government's overall goal of sustainable resource management. Individual site-level practices that fall into the good or fair category are considered fully consistent with sustainable management objectives. Poor practices are seen as not being consistent with government's sustainability objectives. The borderline category falls between fair and poor. For a detailed description of the MRVA methodology and a description of terms used in this report, please go to: (*insert web link when available*). A brief description of the MRVA scoring methodology is described in Appendix II.

While the primary focus of this report is on forestry-related activities, the field and analysis methodologies have been tested on several other resource industry-related impacts including mining (roads) and linear developments (hydro and pipelines).

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Stewardship/Environmental Context for the Lakes TSA:

The Lakes TSA, situated on the western edge of British Columbia's interior plateau, is about 1.5 million hectares in size. The TSA is home to about 8,000 residents who are mostly dependent on the forest sector for employment.

Lodgepole pine stands dominate the forests of the TSA and these stands have been heavily impacted by the mountain pine beetle (MPB) epidemic. Approximately 80% of the commercial pine volume in the TSA has been killed by the MPB. As a result, harvesting activities have been focused on pine stands since the late 1990's. In addition to the requirements specified in the FPC and FRPA, these harvesting activities must comply with land use objectives for caribou, seral stage distribution, old growth, habitat connectivity and wildlife tree retention.

It is estimated that by 2019 most of the MPB killed timber will be un-merchantable. This is expected to create several decades of significant timber supply shortfalls. Consequently, there is a considerable demand to liquidate the pine inventory while it still retains economic value and there are high expectations regarding access to economic timber opportunities. This situation is putting pressure on non-timber values.

Key MRVA Findings Results by Resource Value and Stewardship Opportunities for improvement (forestry-related impacts)

Table 1 describes the resource values and the associated evaluation questions covered in this report; including a summary of key findings, causal factors, trends and continued improvement opportunities. Reference to Code era samples are sites harvested prior to 2005 while FRPA era sites are those harvested 2005 or later, only approximating the *Forest and Range Practices Act* (FRPA) era, but allowing for a comparison between earlier and later stewardship practices.

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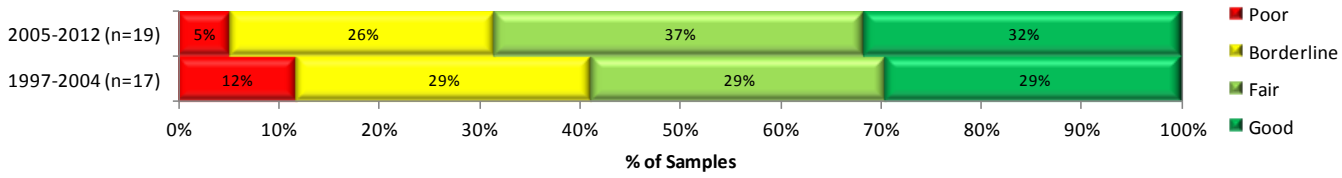
Table 1: Monitoring question, key findings and opportunities for improvement by resource value for the Lakes TSA.

Riparian: *Are riparian forestry and range practices effective in maintaining the proper functioning of riparian areas?*



Summary:
Of the 36 streams, 64% were rated good + fair
31% of streams are Properly Functioning (good), 33% are Properly Functioning with limited impact (fair), 28% are Properly Functioning with impact (borderline) and 8% are Not Properly Functioning (poor)

Causal Factors:
Contributing factors to poor or borderline streams were fine sediments in the creek, bare erodible ground or soil disturbance in the riparian area, and low moss levels indicative of unstable systems.

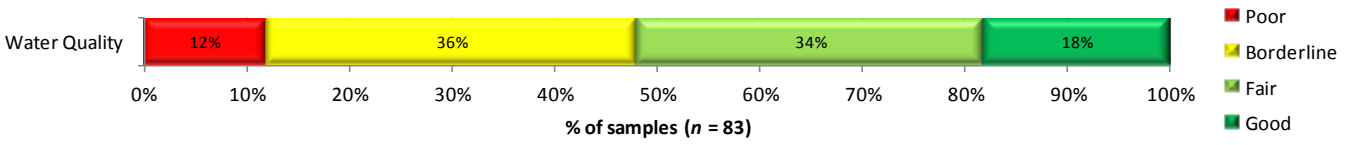
No. (***count***) of samples by stream class and category:

Class	Good	Fair	Borderline	Poor	Total
S3	6	6	4		16
S4		5	4	1	10
S6	5	1	2	2	10
Total	11	12	10	3	36

Overall Stewardship Trend: **Improving** ↑
There has been improvement in stream function, with fewer poor streams and more good plus fair streams in the sample of FRPA era streams.

Opportunities For Continued Improvement:
Manage roads and crossings to minimize sediment input, maintain high levels of retention within the first 10 metres of streams and decrease bare erodible ground near streams.
For the 13 streams that were borderline or poor condition, logging or roads impacted 12 of them (e.g. windthrow, low retention and erosion). Excessive grazing or browsing impacted 2. Natural events also impacted 12 of the streams (e.g. wind, organic stream bed, high natural sediment level)

Water Quality (fine sediment): *Are forest practices effective in protecting water quality?*



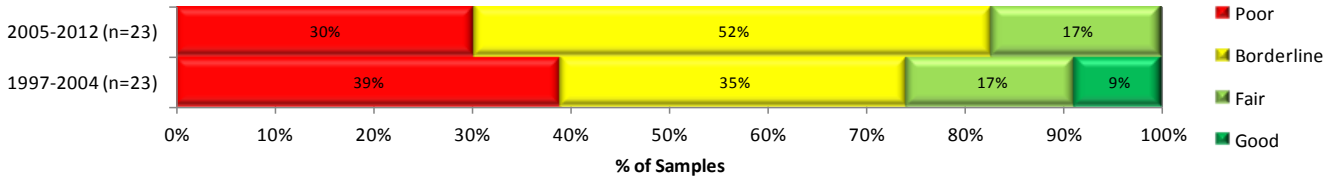
Summary:
Of the 83 road segments assessed, 52% were rated good + fair
Site assessments show the range for potential sediment generation as 18% very low (good), 34% low (fair), 36% moderate (borderline), 11% high and 1% very high (poor). Compared to most other Skeena Region TSAs, Lakes TSA has higher proportion of samples in the borderline and poor stewardship rating categories.

Causal Factors:
See "Opportunities for Improvement"

Overall Stewardship Trend: Insufficient Data.
There was no Forest Practice Code era sampling; therefore, no FPC/FRPA trends are available. Future trend analysis will use year of assessment.

Opportunities For Improvement:
Increase use of cross ditches and kick-outs,. Increase armouring, seeding, and protection of bare soil during road construction. Increase the number of strategically placed culverts. Use good quality materials and crown roads.

Stand-level Biodiversity: *Is stand-level retention providing the range of habitat and attributes understood as necessary for maintaining species dependant on wildlife trees and coarse woody debris?*



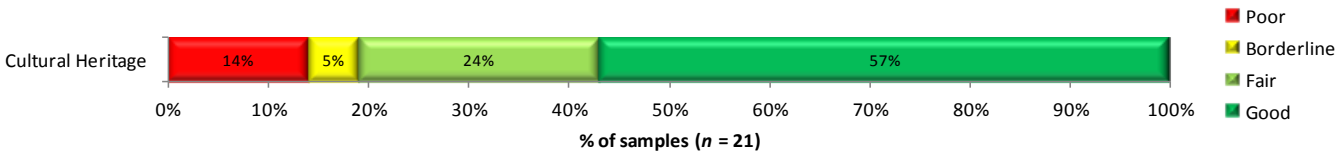
Summary:
Of the 46 cutblocks, 22% of sites were rated good + fair Considering total retention, retention quality and coarse woody debris quantity and quality, 4% of cutblocks have good biodiversity 17% are fair, 43% are borderline and 35% are poor.

Causal Factors:
Average % retention for the 46 cutblocks is 16.0%. Over 22% of the sampled cutblocks in the Lakes TSA had essentially zero retention (<0.5%). Blocks sampled in Code era was predominantly in the SBSdk (17 of 23 cutblocks), moving more into the SBSmc (17 of 23 cutblocks) in the FRPA era, representative of harvest trends.

Overall Stewardship Trend: **neutral**
There has been some improvements in stand-level biodiversity, from higher percentage of cutblocks containing retention in the FRPA era compared to the Code era (52% in Code era have >0.5% retention versus 83% in FRPA era). The amount and quality of CWD left on the harvested components of cutblocks decreased in the FRPA era.

Opportunities For Continued Improvement:
Maintain retention on every cutblock and increase retention quality by retaining more large trees (e.g. 40cm DBH and larger) within retention areas. Retain more large pieces of coarse woody debris (≥10 m. long & 20 cm diameter) in harvest areas.

Cultural Heritage: *Are cultural heritage resources being conserved and where necessary protected for First Nations cultural and traditional activities?*



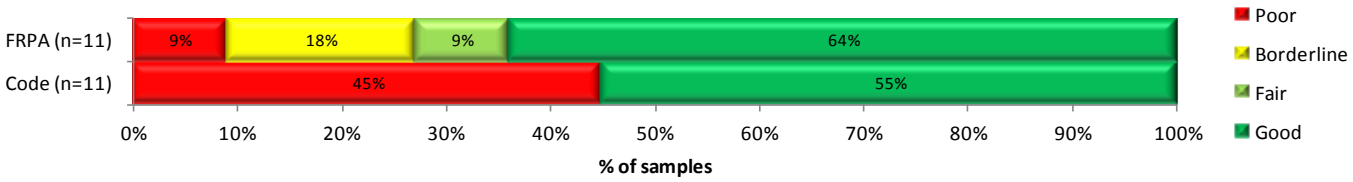
Summary:
Of the 21 cutblocks assessed, 81% were rated good + fair. Overall, 67% of blocks were considered well to very well managed, 19% moderately and 15% poorly or very poorly managed. At the feature level, 85% showed no evidence of harvest-related damage while 15% showed evidence of damage. Twenty percent of damaged features showed irreversible damage and (or) were rendered unsuitable for continued use.

Causal Factors:
Primary causes of damage include removal of features and windthrow.

Overall Stewardship Trend: Insufficient Data.
There were only 4 Code era sampling, therefore, no trends are available. Future trend analysis will use year of harvest.

Opportunities For Improvement:
Greater consideration of cultural heritage resource values in the planning phase (e.g., discussions with First Nations to understand their perspectives, understand existing CHR information and pre-identify and describe on-site CHR values for site plans and logging plans). Communication of management actions (verbally and with maps) to operators before harvesting begins.

Visual Quality: *How are we managing views in scenic areas and achieving visual quality objectives?*



Summary:

Of the 22 landforms assessed (11 originating with openings harvested under Forest Development Plans under the Code, and 11 harvested under Forest Stewardship Plans under FPRA), 64% were rated good + fair.

Visual Quality Objectives (VQOs) were "Well Met" on 59% of landforms, "Met" on 5%, "Borderline" on 9%, and "Not Met" on 5% and "Clearly Not Met" on 23%.

Causal Factors:

Only 5% of the openings contained visually effective levels of tree retention (> 22% by volume or stem count) and 36% of landforms sampled had good Visual Quality Design (cutblock shaping).

No. (***count***) of samples by VQO and rating:

VQO[1]	Poor	Borderline	Fair	Good	Total
M				1	1
PR	4	2		10	16
R	2		1	2	5
Total	**6**	**2**	**1**	**13**	**22**

[1] M=modification, PR=partial retention, R=retention

Overall Stewardship Trend: **Improving** ↑

There are a greater number of good and fair rated landforms in the FRPA years compared to the code as well as a large decline in poor rated landforms.

Opportunities For Improvement:

Use existing visual design techniques to create more natural looking openings and better achieve VQOs. Use partial cutting to retain higher levels of volume/stems. Reduce opening size in retention and partial retention VQO areas.

Soils: *Are forest practices preventing site disturbance that is detrimental to soil productivity and hydrologic function?*

Of the four cutblocks assessed, 1 was rated "objectives achieved", 1 was rated "moderate achievement" and 2 were rated "objectives not achieved".

Note: 25 additional soils samples will be included in version 2 of this report

Causal Factors:

Insufficient mature forest to provide inoculum for organisms re-colonizing the cutblock. Measures were not taken to restore natural drainage patterns.

Opportunities For Improvement:

Plan for soil conservation by designing access and skid trail patterns to reduce and minimize damage to natural drainage patterns, reducing soil disturbance associated with roadside processing, and increasing the level of coarse woody debris and mature forest inoculum to maintain long-term soil productivity. (Also see stand-level biodiversity)

Timber Resource Value: What is the overall health and stocking of managed 20-40 year stands?

Ranking system is currently under development.

Seven cutblocks have been assessed in the Lakes TSA.

Opportunities For Improvement:

Will review FREP Report 13 for use of 60 Lakes TSA assessments in version 2 of this report.

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Landscape-Level Biodiversity: Is the forested matrix at the landscape-level providing the range of habitat understood as necessary for maintaining ecosystem function and old and mature forest dependant species?	
Rating system under development. The Lakes TSA benefits from having large protected areas in particular, Tweedsmuir Park, the Entiako Protected Area and designated OGMAs. The percent of old and mature in the TSA (in both protected and non-protected areas) is similar to the whole North Area, though the Lakes TSA old and mature percentage is lower than the Skeena Region overall and the other Skeena TSAs.	<u>Opportunities For Improvement:</u>

Resource Value Stewardship Results by TSA

Tables 2A and 2B provide ratings of stewardship effectiveness at varying scales; Table 2A is focused on site-level results, while table 2B is landscape-level related. The three primary Landscape-level Biodiversity (LLBD) indicators are: site index by leading species (ecosystem representativeness), percent of TSA by age class (young, mid, mature and old forest) and percent interior habitat of old forest. Each indicator will be categorized by percent in non-commercial land base, timber harvesting landbase and protected areas. LLBD data is derived from Hectares BC and other spatial databases. All other data is derived from FREP field assessments. Appendix III shows results by value for the North, South Area and Coast Areas and province.

Table 2A: Stewardship effectiveness within the Skeena Region.
ID = Insufficient Data.

Resource Value	Effectiveness of Practices in Achieving Resource Stewardship Objectives: % Good + Fair (sample size in brackets)									
	TSA's within the Skeena Region							Similar Ecosystems		
	Lakes	Morice	Kispiox	Bulkley	Nass	North Coast	Kalum	Vanderhoof District	Fort St. James District	Skeena Region[1]
Riparian	**64%** (36)	**74%** (42)	**85%** (27)	**90%** (31)	**ID** (9)	**76%** (45)	**75%** (53)	**70%** (74)	**64%** (83)	**77%** (243)
Stand level Biodiversity	**28%** (46)	**38%** (29)	**76%** (37)	**33%** (48)	**36%** (11)	**74%** (43)	**52%** (46)	**8%** (65)	**71%** (93)	**48%** (260)
Water quality (sediment)	**52%** (83)	**46%** (92)	**93%** (58)	**100%** (53)	**87%** (15)	**73%** (45)	**84%** (119)	**71%** (115)	**64%** (130)	**73%** (465)
Cultural Heritage	**81%** (21)	**84%** (13)	**ID** (6)	**91%** (23)	**ID** (0)	**ID** (6)	**ID** (6)	**ID** (7)	**54%** (13)	**82%** (75)
Visual Quality CODE MRVA	 **55%** (11) **73%** (11)	 **ID** (7) **ID** (7)	 **ID** (1) **ID** (3)	 **ID** (0) **ID** (8)	 **ID** (0) **ID** (3)	 **ID** (9) **ID** (5)	 **40%** (25) **63%** (38)	 **ID** (0) **85%** (14)	 **70%** (0) **75%** (20)	 **55%** (53) **71%** (75)

[1]Nadina, Coast Mountain and Skeena-Stikine Resource Districts

Table 2B: Landscape-level stewardship within the Skeena Region.

Resource Value	Interim indicators without ranking									
	TSA's within the Skeena Region							Similar Ecosystems		Skeena Region[1]
	Lakes	Morice	Kispiox	Bulkley	Nass	North Coast	Kalum	Vanderhoof (district)	Fort St. James (district)	
Landscape Biodiversity [2]										
% TSA old & mature	61	63	83	70	90	95	69	46	72	76
% TSA Protected	39	12	18	4	7	24	15	7	15	20

[1]Nadina, Coast Mountain and Skeena-Stikine Resource Districts

[2] Landscape-level ranking criteria are in development. Indicators above are an example without ranking. Cassiar TSA not included due to very little forest cover information.

Description of assessment non-forest industry impacts on resource values

Analysis has been initiated for several other resource sector impacts including mining (roads), recreation, linear developments (hydro and pipelines) and highways. The sample size for these non-forestry impacts is modest – 9 riparian samples in Lakes TSA. While non-forestry riparian impacts for the nine samples in the Lakes TSA are reported in tables 3 and 4, this is primarily for illustrative purposes (i.e., potential for using FREP protocols for broad resource sector impact monitoring).

Table 3: Example of non-forest industry impacts on resource values

Resource Value (stand level)	**Sample Size *n***	**Resource Practices (Non-Forestry) # of *n***			
		Good	**Fair**	**Borderline**	**Poor**
Riparian (fish)	9	2	2	2	3

Table 4: Example of monitoring findings and opportunities for improvement by resource value for non-forest industry impacts

Resource Value	**Key Findings**	**Opportunities for Improvement**
Riparian	Of the 9 non-forestry riparian samples, 2 were on streams associated with highways, 2 hydro lines, and 5 associated with mining activity (past or present). Each of these industrial categories has NPF (poor) streams. In total 3 of 9 samples were poor, 2 borderline, and 2 fair and 2 good.	Avoid creation of in-stream blockages. Maintain natural forest elements in riparian areas. Minimize soil exposure in riparian areas.

District Manager Commentary:

The monitoring results reported in this document contain a mix of stewardship ratings. In general forest practices for cultural heritage resources and riparian function can be rated as fair or good. Forest practices for stand-level biodiversity, visual quality and water quality sampled sites are generally rated as poor or borderline. I am however pleased to see that cutblocks harvested more recently have a greater proportion of fair and good stand-level biodiversity ratings than older cutblocks. I expect forest professionals will continue to implement those practices that are rated as good and fair and I challenge them to achieve excellent resource management practices on all sites.

A poor rating is not meeting government's overall objective of sustainable resource management and should be avoided. Similarly, borderline practices should be minimized to reduce risks. With that in mind, I expect licensees to:

- place a greater emphasis on cultural heritage resources during the planning phase;
- minimize sediment delivery on all roads and stream crossings, increase retention levels along all streams and minimize areas of bare soil;
- retain wildlife trees on all cutblocks and retain more large trees and large pieces of coarse woody debris in harvest areas;
- increase effective levels of tree retention in scenic areas, use visual design techniques and reduce the opening size in areas where the objective is retention or partial retention.

District staff should continue to monitor practices for all value with an emphasis on those related to stand-level biodiversity, visual quality, and water quality.

Forest professionals should place a greater reliance on monitoring results while preparing, reviewing and implementing forest stewardship plans.

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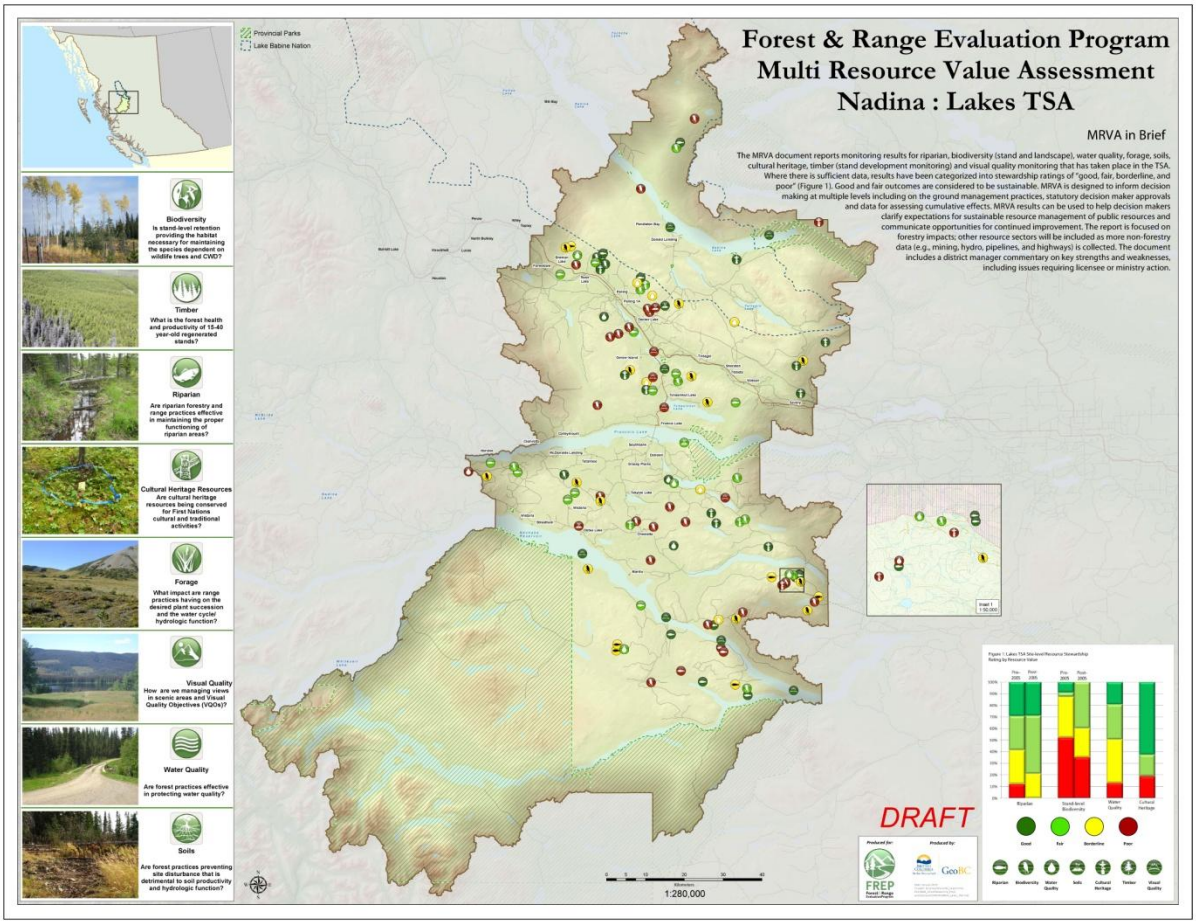
Appendix I

Description of the Lakes Timber Supply Area (TSA):

This report covers the Lakes TSA. The Lakes TSA, as shown in figure 1, is located in north-central British Columbia and covers approximately 1.5 million hectares of land. About 35% of that area supports timber harvesting. The Village of Burns with a population of 2,114, is the largest community within the Lakes TSA. The remainder of the TSA's 6,056 residents are located in numerous smaller communities including Decker Lake, François Lake, Grassy Plains, and Danskin.

There are also several Lake First Nations reserves and communities within the TSA, include the Cheslatta Carrier Nation, Burns Lake Band, Nee Tahi Buhn Band, Skin Tyee Nation, Wet'suwet'en First Nation and Lake Babine Nation. In addition, the Office of the Wet'suwet'en, Nadleh Whut'en First Nation, Stellat'en First Nation, Tl'azt'en First Nation, Ulkatcho First Nation and the Yekooche First Nation have asserted rights and titles that overlap the TSA. Coloured dots represent FREP sample locations and results. This map can also be found at the web link (insert web address when available).

Figure 1: Map of Lakes TSA (approximate scale 1:300,000)



Appendix II

Summary description of resource stewardship evaluation rating criteria

Table 1 shows the criteria for rating stewardship outcomes for each resource value as "good, fair, borderline and poor". Detailed rating criteria and methods and definitions of terms used are described in the companion document *MRVA Resource Stewardship Methodology, 2012* (*insert link to methodology paper when availalble*). The ratings of good, fair, borderline and poor are "technical ratings" based on best available science. These ratings provide an overview of monitoring results, further details are available.

Table 1: Criteria for rating stewardship outcomes for each resource value

Resource Value	Indicators	Stewardship Rating Criteria	**Good**	**Fair**	**Borderline**	**Poor**
Riparian	15 key questions e.g. intact channel banks, fine sediments, riparian vegetation	Number of "no" answers on assessment questions of channel and riparian conditions	0-2	3-4	5-6	>6
Stand-level Biodiversity	1. % retention 2. Retention quality from 9 key attributes e.g. big patches, density of large diameter trees 3. CWD volume 4. CWD quality from 2 key attributes e.g. density of CWD (≥10m & 20cm) and volume of large diam. CWD.	Cumulative score. A 60/40 weighting is used for the tree retention versus CWD, recognizing the longer term ecological value of standing retention.	*>70%*	*55-70%*	*40-55%*	*<40%*
Water quality (sediment)	Fine sediment potential.	Fine sediment (m^3) due to expected surface erosion or past mass wasting	<0.1	<1	1-5	>5
Soils	Amount of access. Restoration of natural drainage patterns. Road side work area soil disturbance. Amount of mature forest and CWD. Restoration of natural drainage patterns.	Overall assessment of practices on block to maintain soil productivity and hydrologic function	Well	Moderately		Poor
Cultural Heritage	Evidence and extent of damage to features. Operational limitations. Management strategies. Type and extent of features.	Combined overall block assessments results with consideration of individual feature assessment results	See methodology report			
Timber: Stand Development Monitoring	Impacts of forest health factors on stand stocking (ratio of total and well spaced)	Forest health damaging agent (% level of incidence) and level of stocking (well spaced stems/ha)	≥1.7	0.8-1.69	0.3-0.79	0-0.29
Landscape-level Biodiversity	Ecosystem representativeness Age class Interior old	Overall ranking: within protected and non-protected areas	Ranking under development			
Visual Quality	Visual evaluation of block Design of block % of landform altered Impact of roads Tree retention View point importance	Basic visual quality class (determined using the VQC definitions) is compared with the Adjusted VQC (derived using % alteration measurements and adjustment factors) to determine if VQO is achieved.	VQO achieved, and % alteration low or mid-range	VQO achieved, but % alteration for one or both close to alteration limit	Only one method indicates VQO achieved	Both methods indicate VQO not achieved

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Appendix III

Table 2a, page 8 describes overall ratings for the Lakes TSA as compared to adjacent TSAs and similar ecosystems. The table below describes the same results, but by the North, South and Coast areas and province. Areas are combined regions; there are three provincial areas.

Table 2: FREP results by value for the North, South, Coast Area and province as compared to the Lakes TSA

Resource Value	Effectiveness of Practices: % Good + Fair (sample size in brackets)				
	Lakes TSA	FLNRO Areas			Province
		North	South	Coast	
Riparian	**64%** (36)	**71%** (654)	**70%** (678)	**58%** (451)	**67%** (1783)
Stand-level Biodiversity	**22%** (46)	**42%** (655)	**55%** (780)	**77%** (455)	**52%** (1890)
Water Quality (sediment)	**52%** (83)	**66%** (992)	70% (1515)	**76%** (1526)	**71%** (4033)
Cultural Heritage	**81%** (21)	**77%** (95)	**69%** (35)	**57%** (14)	**73%** (144)
Visual Quality CODE MRVA	 **55%** (11) **73%** (11)	 **56%** (96) **73%** (122)	 **65%** (85) **54%** (136)	 **62%** (68) **78%** (153)	 **61%** (249) **69%** (411)
Landscape-level Biodiversity					

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