



Multiple Resource Value Assessment (MRVA)

Cranbrook Timber Supply Area

Rocky Mountain Natural Resource District

December 2013

FOREWORD

Forest management in British Columbia is governed by a hierarchy of legislation, plans and resource management objectives. For example, federal and provincial acts and regulations, Land Use and Forest Stewardship plans, and protected areas and reserves collectively contribute to achieving balanced environmental, social and economic objectives. Sustainable forest management is key to achieving this balance and a central component of forest management certification programs. The purpose of the Multiple Resource Value Assessment (MRVA) report is to provide resource professionals and decision makers with information about the environmental component of this 'balance' so that they can assess the consistency of actual outcomes with their expectations.

The Forest and Range Practices Act (FRPA) lists 11 resource values essential to sustainable forest management in the province; biodiversity, cultural heritage, fish/riparian and watershed, forage and associated plant communities, recreation, resource features, soils, timber, visual quality, water, and wildlife. The MRVA report is a summary of the available field-based assessments of the conditions of these values. Field assessments are generally conducted on or near recently harvested cut blocks and therefore are only evaluating the impact of industrial activity and not the condition of the value overall (e.g. they don't take into account protected areas and reserves). Most of the information is focused on the ecological state of the values and provides useful information to resource managers and professionals on the outcomes of their plans and practices. This information is also valuable for communicating resource management outcomes to stakeholders, First Nations and the public, and as a foundation for refining government's expectations for sustainable resource management in specific areas of the province.

I encourage readers to review the full report and direct any questions or comments to the appropriate district office.

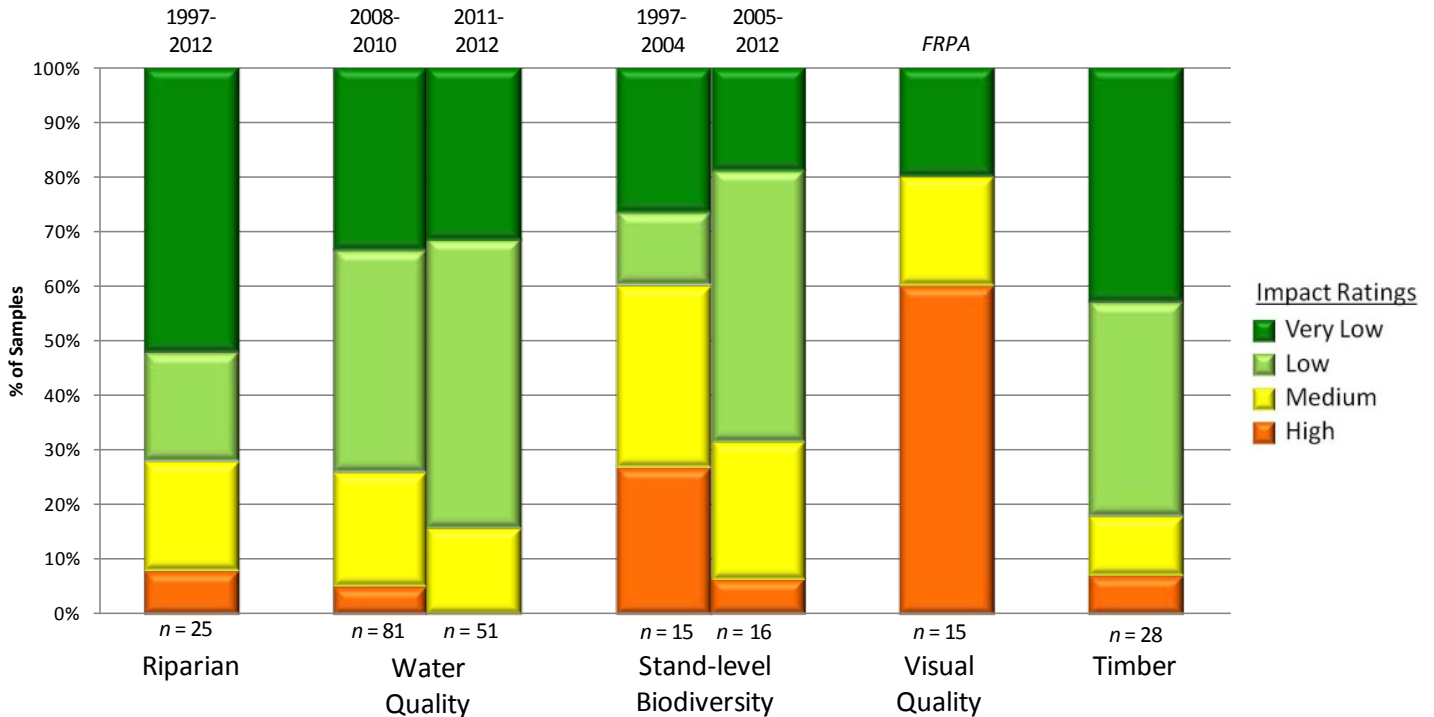
A handwritten signature in black ink, appearing to read 'Tom Ethier', is written in a cursive style.

Tom Ethier
Assistant Deputy Minister
Resource Stewardship Division
Ministry of Forest, Lands and Natural Resource Operations

MULTIPLE RESOURCE VALUE ASSESSMENTS—IN BRIEF

Multiple resource value assessments show the results of stand and landscape-level monitoring carried out under the Forest and Range Evaluation Program (FREP). This report summarizes results for riparian, biodiversity, water quality (sediment), visual quality and timber (stand development) monitoring conducted in the Cranbrook Timber Supply Area and includes a district manager commentary of key strengths and weaknesses. Through MRVA reports, decision makers communicate expectations for sustainable resource management of public resources and identify opportunities for continued improvement.

Figure 1: Cranbrook Timber Supply Area site-level resource development impact rating by resource value with trend (Riparian, stand-level biodiversity and visual quality by harvest year/era. Water quality trends by evaluation year. Timber samples are all post-free growing.)



Important Context for Understanding this Assessment

The extraction and development of natural resources, along with natural factors (e.g., insects, wind, floods), influence and impact ecological condition. The goal of effectiveness evaluations is to assess these impacts on the state of public natural resource values (status, trends, and causal factors); such evaluations *do not assess compliance with legal requirements*. These evaluations help resource managers:

- assess whether the impacts of resource development result in sustainable resource management
- provide transparency and accountability for the management of public resources
- support the decision-making balance between environmental, social, and economic factors
- inform the ongoing improvement of resource management practices, policies, and legislation.

The resource development impact ratings contained in this report are based on assessments conducted within the areas where resource extraction takes place and do not reflect the ecological contributions of parks, protected areas, or other conservancy areas.

Although this report focuses on forestry-related activities, FREP monitoring protocols have also been applied to other resource sector activities, including mining (roads) and linear developments (hydro and pipelines). Procedures are being adapted to expand monitoring into these resource sectors over time.

INTRODUCTION

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

- simplifying the forest management legal framework
- reducing operational costs to both industry and government
- allowing “freedom to manage”
- maintaining the high environmental standards of the *Forest Practices Code of British Columbia Act (FPC)*.

As part of the results-based *FRPA* framework, the provincial government committed to conducting effectiveness evaluations and publically reporting the monitoring results. The science-based information provided by these evaluations will be used to determine whether *FRPA* is achieving the government’s objectives of maintaining high environmental standards and ensuring sustainable management of public resources. If those objectives are not being met 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 (FREP; for details, see <http://www.for.gov.bc.ca/hfp/frep/>). The 11 *FRPA* resource values monitored under FREP include: biodiversity, cultural heritage, fish/ riparian & watershed, forage and associated plant communities, recreation, resource features, soils, timber, visual quality, water and wildlife.

Multiple Resource Value Assessments (MRVAs) reflect the results of stand- and landscape-level monitoring carried out under FREP. The program’s stand-level monitoring is generally conducted on forestry cutblocks, resource roads, or other areas of industrial activity. As such, these evaluations provide a stewardship assessment of resource development practices. Landscape-level monitoring of biodiversity, visual quality, and wildlife resource values is more broadly an assessment of the overall landscape. Reports on MRVAs are designed to inform decision making related to on-the-ground management practices, statutory decision-maker approvals, and data for the assessment of cumulative effects.

This report summarizes FREP monitoring results for the Cranbrook Timber Supply Area. MRVA reports clarify resource stewardship expectations, and promote the open and transparent discussion needed to achieve short- and long-term sustainable resource management in British Columbia.

MRVA reports are intended for those interested in the status and trends of resource values at the timber supply area (TSA) or natural resource district scale, such as natural resource managers and professionals, government decision makers, and First Nations. These reports are also useful in communicating resource management outcomes to the public.

Government managers and decision makers are encouraged to consider this information when:

- discussing district or TSA-level resource stewardship with staff, licensed stakeholders, 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 silviculture strategies for TSAs
- assessing Timber Supply Reviews and their supporting rationale
- informing decision making at multiple scales.

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 manage
- inform professional recommendations and decisions, particularly when balancing of environmental, social, and economic values
- enhance resource management, consultation, and treaty rights discussions between First Nations, government, and licensees.

Published FREP reports and extension notes contain detailed findings for each resource value. These documents are available on the FREP website at:

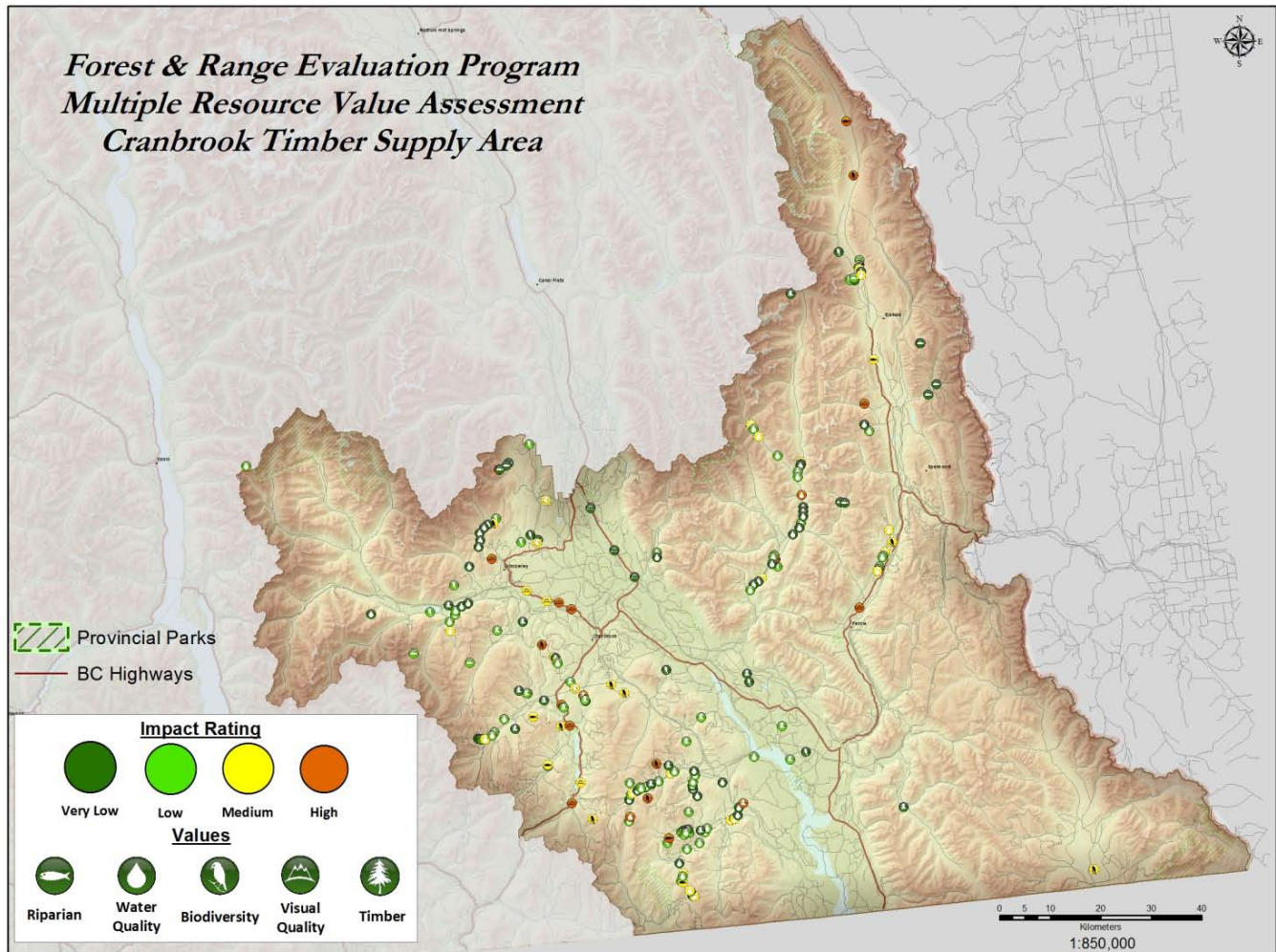
<http://www.for.gov.bc.ca/hfp/frep/publications/reports.htm>. Licensees can request data collected on their operating areas. FREP staff will assist licensees with the analysis of their data and the preparation of licensee-specific MRVA reports.

Although this MRVA report documents monitoring results at the district or TSA level, the MRVA concept is scalable. Reports for individual licensees, treaty settlement areas, or landscape units can be produced when sufficient monitoring data is available. Reports can also be prepared at the regional or provincial levels. This report provides site-level resource value assessments and trends through comparisons of cutblocks harvested before 2005 with those harvested in 2005 or later (where data is sufficient). FREP's site assessment monitoring results on each resource value are categorized by impact (very low, low, medium, or high). This classification reflects how well site-level practices achieve government's overall goal of sustainable resource management. Site-level practices that result in "very low" or "low" impact are consistent with sustainable management objectives. Practices resulting in "high" impact are seen as inconsistent with government's sustainability objectives. For a description of the MRVA methodology see Appendix 1.

CRANBROOK TIMBER SUPPLY AREA – ENVIRONMENTAL AND STEWARDSHIP CONTEXT

This report covers the Cranbrook Timber Supply Area (figure 2). The TSA is bounded by the height-of-land of the Skookumchuck, Bull and Elk River drainages to the north, the Canada-U.S. border to the south, the Alberta border to the east and the southern Purcell Mountains height-of-land to the west. The TSA covers approximately 1.2 million hectares. Numerous natural resources occur within the Cranbrook TSA. These include timber, fish and wildlife habitat, and recreation and tourism resources. Other important resources include range, farmland, and coal and mineral deposits. The varied terrain and climate creates an exceptionally diverse environment. Due to the range of habitat types, the area is often described as being unique in North America, given its density and diversity of ungulates and other mammals and birds. The public sector, tourism, mining and forestry account for about 83 percent of the total employment in the Cranbrook TSA with forestry at 13 percent. The Ktunaxa Nation Council (KNC) is proceeding through the BC Treaty Commission process of land claim negotiations and the Cranbrook TSA is located within these land claim areas. Two of the five member bands of the KNC have reserves located in the Cranbrook TSA, these are the St. Mary's Band and the Tobacco Plains Band.

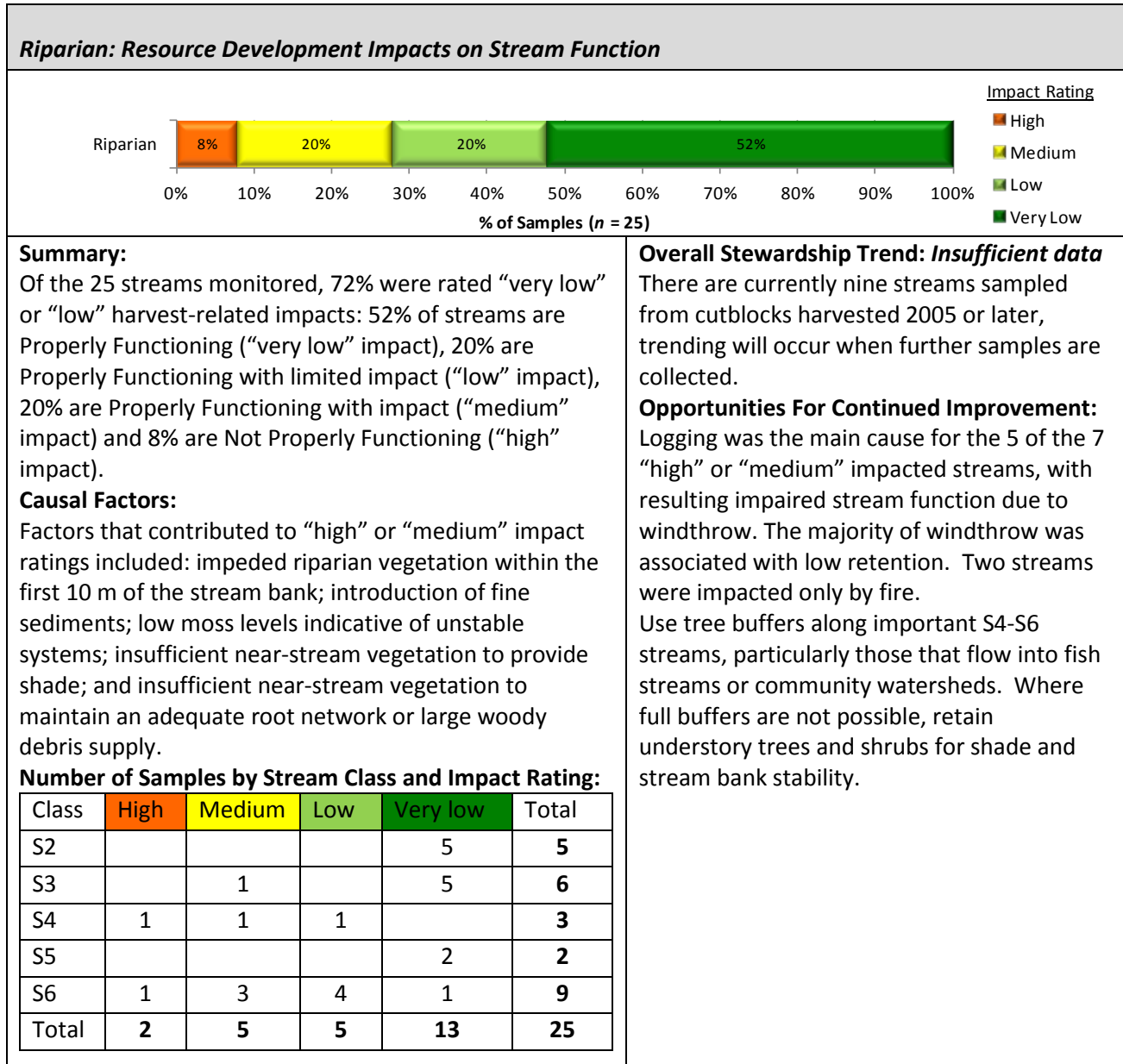
Figure 2: Cranbrook Timber Supply Area, showing FREP sample locations and results (see <http://www.for.gov.bc.ca/hfp/frep/publications/mrva.htm> for a high-resolution version of this map).



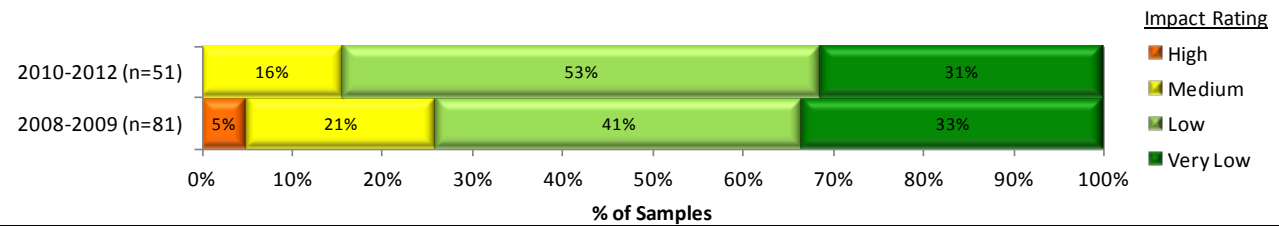
KEY RESULTS BY RESOURCE VALUE AND OPPORTUNITIES FOR CONTINUED IMPROVEMENT

Table 1 shows the resource values assessed for the Cranbrook Timber Supply Area, and includes a summary of key findings, causal factors, trends, and opportunities for continued improvement. Data are presented for FPC-era samples at sites harvested before 2005 and FRPA-era samples at sites harvested in 2005 or later. This approximates the *Forest and Range Practices Act* (FRPA) era, and allows for a comparison between earlier and later stewardship practices. The impact rating indicates the effect of resource development on the resource value, from “very low” to “high” impact.

Table 1: Resource development impact rating, key findings, and opportunities for improvement by resource value for the Cranbrook Timber Supply Area.



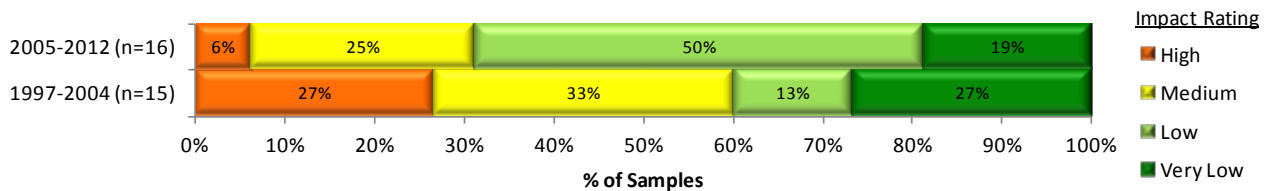
Water Quality (fine sediment): Resource Development Impacts on Water Quality



Summary:
 Of the 132 road segments assessed, 78% were rated as “very low” or “low” road-related impact. Site assessments show the range for potential sediment generation as 33% “very low” (“very low” impact), 45% “low” (“low” impact), 19% “moderate” (“medium” impact), 3% “high” or “very high” (“high” impact).
Causal Factors:
 See opportunities for improvement for “high” or “medium” impacted road segments. Some opportunities will apply to ongoing maintenance issues, while others would mainly apply to new road construction.

Overall Stewardship Trend: Neutral
 Trending for water quality is based on survey years, to capture impact of road traffic and maintenance. The sample size for the later survey years is very small.
Opportunities For Improvement:
 Suggested issues are: avoid steep, unstable slopes; remove berms; and, armour areas of concentrated flow.

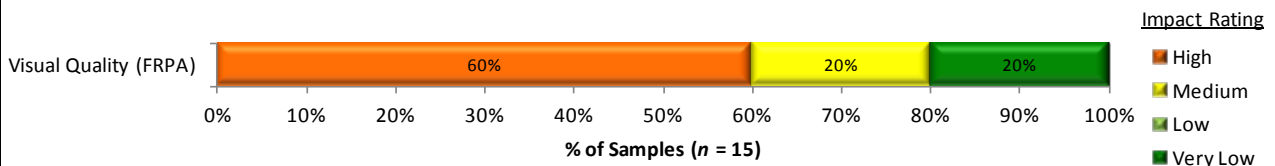
Stand-level Biodiversity: Resource Development Impacts on Stand-Level Biodiversity



Summary:
 Of 31 cutblocks, 55% of sites were rated as “very low” or “low” harvest-related impact. Considering total retention, retention quality, and coarse woody debris quantity and quality, 23% sites are rated as “very low” impact on biodiversity, 32% as “low” 29% as “medium” and 16% as “high” impact. One additional block was sampled but could not be ranked due to no baseline (from timber cruise plot data in same subzone) though individual indicators are still assessed
Causal Factors:
 84% of all blocks had more than 3.5% retention, increasing to 94% for just the *FRPA*-era blocks. Average retention is 17.7%. Coarse woody debris quality (i.e., volume from ≥ 20 cm diameter pieces, and density of big coarse woody debris ≥ 20 cm dbh and ≥ 10 m long) has increased slightly in *FRPA*-era.

Overall Stewardship Trend: Improving ↑
 A *FRPA*-era increase in retention quality came from fewer blocks with “very low” retention in *FRPA* years, and higher average number of tree species retained. Biodiversity quantity and quality particularly increased in the MS biogeoclimatic ecosystem classification zone cutblocks. Large patches (>2 ha) were more common in the *FRPA*-era.
Opportunities For Continued Improvement:
 Continue trend to leave at least low levels of retention on every cutblock and retain large snag density and tree species diversity similar to that found in pre-harvest conditions. Increase retention quality by retaining large trees for the site in densities similar to pre-harvest conditions.

Visual Quality: Resource Development Impacts on Achievement of Visual Quality Objectives (VQO)



Summary:

Of the 15 landforms assessed (all FRPA cutblocks), 20% were rated with “very low” or “low” harvest-related impacts on achieving the Visual Quality Objectives.

VQOs were “well met” (“very low”) on 20% of landforms, “borderline” (“medium”) on 20%, “not met” on 7%, and “clearly not met” (“high”) on 53%.

Causal Factors:

7% of the openings contained visually effective levels of tree retention (> 22% by volume or stem count) and 12% of landforms sampled had good visual quality design (cutblock shaping). The average percent alteration is 12%.

Number of Samples by VQO and Impact Rating:

VQO ¹	High	Medium	Low	Very Low	Total
M	4	1			5
PR	5	2		3	10
Total	9	3	0	3	15

¹ M = modification, PR = partial retention

Overall Stewardship Trend: *Insufficient data*

No data for FPC cutblocks to allow for trending.

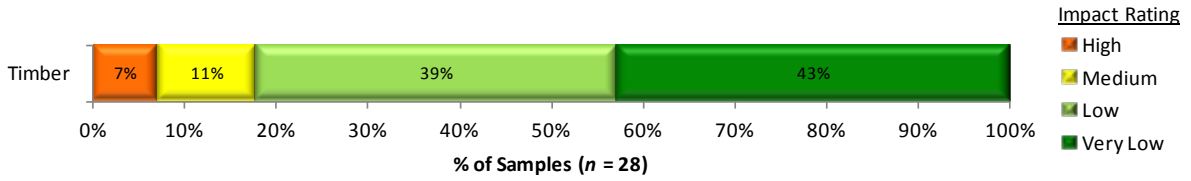
Future trend analysis will use year of harvest.

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.

Timber Resource Value: Resource development impacts on the overall health and stocking of managed 20-40 year stands



Summary:

A total of the 28 polygons sampled (from 2009-2011) The weighted average well spaced density over the four biogeoclimatic ecosystem classification (BEC) zones achieved 79% of target stocking standard (TSS).

Percent of target stocking standard by BEC

BEC	MS	ESSF	ICH	IDF	Average
TSS	87%	91%	100%	76%	79%

82% of the polygons assessed were rated “very low” or “low” impact to health and stocking; 11% “medium” and 7% “high”. A draft Stand Development Monitoring TSA Data Summary report has not been completed yet for this TSA. A simple arithmetic average of total and well spaced stems/ha for all BECs was 4110 and 866 stems/ha time of stand development monitoring respectively, at declaration; 4237 and 950 respectively.

Causal Factors:

The three “medium” impacted polygons had sufficient total stems/ha but low well spaced stems/ha. The “high” impacted polygons had low total and well spaced stems/ha.

Overall Stewardship Trend:

No trend can be established at this time

Opportunities For Continued Improvement:

Closer consideration of initial stocking levels and species mix in the IDF may help increase stocking at free-growing. NOTE: Completing the SDM Polygon Cover sheet will provide a clearer picture why some stands have such low stocking

Soils: Resource Development Impacts on Soil Productivity and Hydrologic Function

There are currently only five Soils samples in the Cranbrook Timber Supply Area. Analysis will be completed in subsequent years when more samples are available.

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?

In development. The three primary landscape-level biodiversity indicators are: (1) site index by leading species (ecosystem representativeness); (2) percent of TSA by age class (young, mid-, mature, and old forest); and (3) percent interior habitat of old forest. Each indicator is categorized by percent in non-commercial land base, timber harvesting land base, and protected areas. Data for these indicators is derived from Hectares BC and other spatial databases.

RESOURCE VALUE STEWARDSHIP RESULTS COMPARISON

Tables 2 provide ratings of stewardship effectiveness at varying scales. Effectiveness is determined by the percentage of samples with a “very low” or “low” resource development impact rating. Appendix 2 shows results by resource value for the North, South and Coast Areas and the province as a whole.

Table 2: Stewardship effectiveness within the Kootenay Boundary as determined by resource development impact rating (ID = Insufficient Data; sample sizes in brackets).

Resource Value	Effectiveness of Practices in Achieving Resource Stewardship Objectives: % Very low + Low Resource Development Impact Rating						
	Kootenay Boundary Region Comparison						Kootenay Boundary Region ^a
	Cranbrook TSA	Invermere TSA	Golden TSA	Revelstoke TSA	Kootenay Lake District	Arrow Boundary District	
Riparian – all data	72% (25)	92% (25)	54% (35)	37% (35)	86% (14)	73% (48)	66% (182)
FRPA-era data	ID (9)	ID (4)	39% (18)	ID (13)	ID (8)	ID (10)	61% (62)
FPC-era data	69% (16)	90% (21)	71% (17)	36% (22)	ID (6)	71% (38)	68% (120)
Water quality – all data	78% (132)	77% (71)	60% (88)	64% (59)	ID (48)	73% (95)	73% (493)
2010–2012 samples	ID (51)	ID (52)	ID (35)	ID (28)		ID (8)	78% (222)
2008–2009 samples	74% (81)	ID (19)	ID (53)	ID (31)		76% (87)	68% (271)
Stand-level biodiversity –all data	55% (31)	31% (39)	66% (38)	45% (31)	36% (42)	42% (59)	45% (240)
FRPA-era data	69% (16)	25% (20)	88% (16)	29% (17)	50% (16)	50% (14)	52% (99)
FPC-era data	40% (15)	37%(19)	50% (22)	64% (14)	27% (26)	40% (45)	41% (141)
Visual Quality							
FRPA	20% (15)	ID (4)	ID (3)	ID (2)	ID (1)	45% (11)	39% (36)
FPC	ID (0)	ID (0)	ID (8)	82% (11)	62% (26)	ID (5)	68% (50)
Timber (stand development monitoring)	82% (28)	ID (0)	73% (30)	ID (7)	ID (0)	90% (29)	81% ² (87)

^a Includes the Selkirk and Rocky Mountain Natural Resource Districts

^b This does not include Revelstoke TSA

DISTRICT MANAGER COMMENTARY¹

Overall, the evaluation criteria in this report are based upon stewardship objectives (eg., sustainable resource management practices) and do not always correspond with the minimum standards set in legislation. A “high” resource development impact rating does not necessarily mean that a practice has not met legislation or the results and strategies contained within a forest licensee’s forest stewardship plan (FSP). For all values assessed, sample sizes are relatively low however it is still timely and of interest to discuss early findings and opportunities for improvement.

Riparian assessments potentially assess the cumulative effects of forestry and range practices, natural impacts, and any other past and present industrial uses that may have had impact upstream or within the reaches sampled. The stream reaches sampled to date were rated largely (72%) as having “low” or “very low” impact. The greatest opportunity for continued improvement would be to maintain windfirm retention wherever feasible and to use treed buffers at least of understory trees and shrubs along S4-S6 streams within community watersheds or that flow into fish streams.

The water quality protocol involves estimating the amount of potential sediment generation and delivery to watercourses as a result of forestry related activities. While the majority of road segments assessed indicate a “very low” and “low” impact, opportunities for continued improvement are to continue basic road maintenance including removal of berms and armouring areas of concentrated flow.

Stand level biodiversity assessments show an improving trend on blocks harvested post 2005 as fewer blocks have very low retention and there appears to be a trend towards more retention patches >2 ha in size. Forest licensees are doing well in this category and to continue the improvement, I would encourage an increase in retention quality by more retention of large diameter snags and retaining large trees in densities similar to pre-harvest conditions leaving the full range of tree species available.

Many of the blocks assessed for visual quality were impacted by mountain pine beetle. Communication of the assessment results has already resulted in licensee action. Indications are that licensees are now ensuring variance approvals are in place and paying increased attention to visual assessment and design in general. Additionally, I acknowledge that some polygons may have been classed rather conservatively; the visual inventory is currently being updated. As a result of actions by both licensees and the District, I anticipate that future assessments will show an improvement.

Preliminary results from the protocol used to assess the timber value, stand development monitoring (SDM), demonstrate that the majority of stands are growing well. Those stands that have higher impact values are typically those in the IDFdm2 in which pine stem rust incidence is the primary forest health issue. It is of concern that areas within the MSdk are also experiencing pine stem rust at moderately high incidence levels. I encourage forest licensees to continue to promote use of a wide range of species in reforestation efforts and to continue working as the Silviculture sub-committee on the initiative of developing best management practices to minimize potential economic impacts of stem rusts.

District staff should continue to monitor practices for all values with an emphasis on those related to visuals and timber. I encourage licensee forest professionals to become more familiar with the monitoring protocols and to use the monitoring results when preparing, reviewing and implementing operational plans.

¹ Commentary supplied by Rocky Mountain Natural Resource District Manager, Ray Morello.

APPENDIX 1. SUMMARY DESCRIPTION OF RESOURCE DEVELOPMENT IMPACT RATING CRITERIA

Table A1.1 shows the criteria used to determine the resource development impact ratings for each resource value. Detailed rating criteria, methodology, and definition of terms used are described in the companion document *FREP Technical Note #6: Methodologies for Converting FREP Monitoring Results to Multiple Resource Value Assessment (MRVA) Resource Development Impact Ratings* (http://www.for.gov.bc.ca/ftp/HFP/external/!publish/frep/technical/FREP_Technical_Note_06.pdf). The ratings of “very low,” “low,” “medium,” and “high” are “technical ratings” based on best available science.

Table A1.1: Criteria for determining resource development impact rating outcomes for each resource value.

Resource Value	FREP Evaluation Question	Indicators	Resource Development Impact Rating Criteria	Very low	Low	Medium	High
Riparian	Are riparian forestry and range practices effective in maintaining the proper functioning of riparian areas?	Fifteen 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	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?	Percent retention, retention quality from nine key attributes (e.g., big patches, density of large diameter trees), coarse woody debris volume, coarse woody debris quality from two key attributes (e.g., density of pieces \geq 10 m and 20 cm, and volume of large diameter pieces)	Cumulative score. A 60/40 weighting is used for tree retention versus coarse woody debris, recognizing the longer-term ecological value of standing retention.	> 70%	55–70%	40–55%	< 40%
Water Quality (sediment)	Are forest practices effective in protecting water quality?	Fine sediment potential	Fine sediment (m^3) due to expected surface erosion or past mass wasting	< 0.1	< 1	1–5	> 5
Soils	Are forest practices preventing site disturbance that is detrimental to soil productivity and hydrologic function?	Amount of access, restoration of natural drainage patterns, road side work area soil disturbance, amount of mature forest and coarse woody debris and restoration of natural drainage patterns	Overall assessment of practices on cutblock to maintain soil productivity and hydrologic function	Well	Moderately		Poor
Cultural Heritage	Are cultural heritage resources being conserved and where necessary protected for First Nations cultural and traditional activities?	Evidence and extent of damage to features, operational limitations, management strategies and type and extent of features	Combined overall cutblock assessment results with consideration of individual feature assessment results	See methodology report			
Timber: Stand Development Monitoring	What is the overall health and productivity of managed 20-40 year stands?	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 per hectare)	\geq 1.7	0.8–1.69	0.3–0.79	0–0.29
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?	Ecosystem representativeness, age class and interior old	Overall ranking: within protected and non-protected areas	Ranking under development			
Visual Quality	How are we managing views in scenic areas and achieving visual quality objectives?	Visual evaluation of block, design of block, percent of landform altered, impact of roads, tree retention and view point importance	Basic visual quality class (determined using the VQC definitions) is compared with the Adjusted VQC (derived using percent 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

APPENDIX 2: COMPARATIVE FREP RESULTS BY RESOURCE VALUE FOR OTHER AREAS

Table 2 describes overall ratings for the Cranbrook Timber Supply Area as compared to adjacent TSAs or districts. The table below describes the same results but by the North, South and Coast areas and the province as a whole. The three operational areas represent combined natural resource regions.

Table A2.1: FREP monitoring results by resource value for the North, South, and Coast Areas and the province as a whole compared to the Cranbrook Timber Supply Area.

Resource Value	Effectiveness of Practices in Achieving Resource Stewardship Objectives: % Very low + low resource development impact rating (sample size in brackets)				
	Cranbrook TSA	Forests, Lands and Natural Resource Operations Areas			Province
		North	South	Coast	
Riparian – all data	72% (25)	71% (654)	69% (678)	58% (451)	67% (1783)
FRPA-era data	ID (9)	71% (257)	68% (277)	62% (198)	67% (732)
FPC-era data	69% (16)	71% (394)	70% (401)	55% (253)	67% (1048)
Water quality – all data	78% (132)	66% (992)	70% (1515)	76% (1526)	71% (4033)
2010–2012 samples	ID (51)	67% (505)	70% (823)	79% (1021)	73%(2349)
2008–2009 samples	74% (81)	64% (487)	70% (692)	70% (505)	68% (1684)
Stand-level biodiversity all data	55% (31)	42% (655)	54% (780)	77% (455)	56% (1890)
FRPA-era data	69% (16)	49% (270)	61% (347)	84% (201)	63% (818)
FPC-era data	40% (15)	38% (385)	49% (433)	72% (254)	50% (1072)
Visual Quality					
FRPA	20% (15)	73% (122)	54% (136)	78% (153)	69% (411)
FPC	ID (0)	56% (96)	65% (85)	62% (68)	61% (249)