Lower North Thompson Community Forest Society

Management Plan

Community Forest Agreement K1Z
April 2015

File:

Southern Interior Forest Region
Thompson Rivers Forest District

Mike Francis, R.P.F.

15/04/23
Date (yy/mm/dd)

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1.0 Introduction

This Management Plan (MP) has been prepared for and in accordance with the requirements of Section 6.00 of Community Forest Agreement (CFA) K1Z, dated August 1, 2010, and held by the Lower North Thompson Community Forest Society (LNTCFS). No specific directions regarding the MP requirements were provided by the District Manager or Regional Manager.

The Lower North Thompson Community Forest is located in the Thompson Rivers Forest District, near the community of Barriere, British Columbia (Figure 1). It encompasses a gross area of 8,254 ha, predominately productive forests.

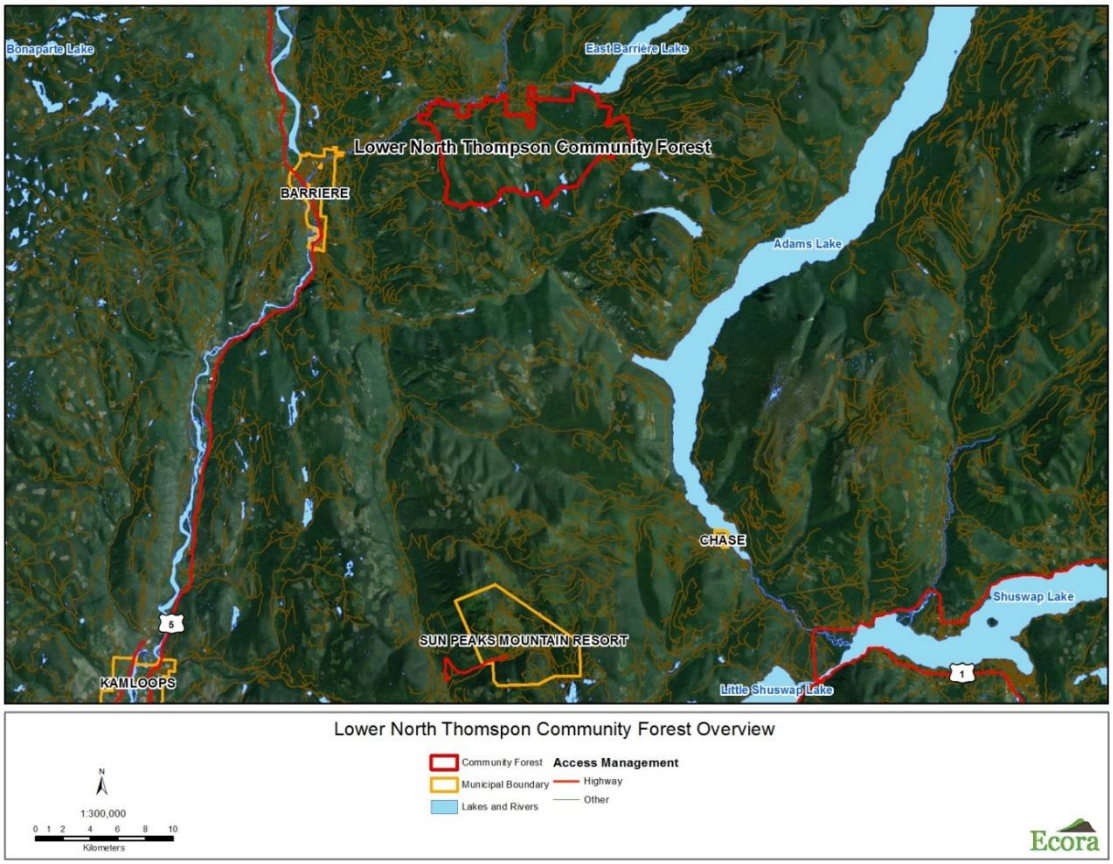

Figure 1.1. Location of Community Forest Agreement K1Z

2.0 Consistency Statements

This Management Plan is consistent with Community Forest Agreement K1Z, forestry legislation, and higher level plans under the Forest and Range Practices Act (FRPA). In addition, it is consistent with the commitments made in the Community Forest Agreement application package with the exception of the changes and exclusions contained in Appendix 1.

3.0 Resource Inventories

3.1 Vegetation Resource Inventory
A Vegetation Resource Inventory (VRI) was completed for the community forest area in 2008 by Timberline Natural Resource Group. This updated VRI data replaces the existing forest cover data used in the LNTCFS's 2007 Management Plan.

3.2 Terrestrial Ecosystem Mapping
Terrestrial Ecosystem Mapping (TEM) was completed for the community forest area in 2012 by Ecora Resource Group. The TEM was completed at a survey intensity level 4, with 15% polygon visitation totaling 138 samples. An accuracy assessment for the TEM was conducted by Biome Ecological Consultants (2012).

3.3 Archaeological Overview Assessment
An Archaeological Overview Assessment (AOA) was completed for the community forest area in 2009 by Simpcw First Nation.

3.4 Other Inventories
Other inventories that exist for the community forest area include a landscape inventory, recreation inventory, biogeoclimatic inventory, ungulate winter range inventory, water user inventory, and stream classification inventory.

3.5 Botanical Forest Products and Other Prescribed Products
No botanical forest products or other prescribed products are listed in Schedule "C" of Community Forest Agreement K1Z (August 1, 2010).

4.0 Timber Supply Analysis and Allowable Annual Cut (AAC)

4.1 Timber Supply Analysis Discussion
Ecora Resource Group (Ecora) was contracted to complete the timber supply analysis portion of this plan. The complete Timber Supply Analysis report is attached in Appendix 2.

The analysis closely follows to the last Timber Supply Review for the Kamloops TSA and assumptions were kept consistent with the Data Package. Adjustments were made to reflect recent changes, such as updating the vegetation resource inventory (VRI) to 2014 and accounting for harvesting disturbances to the end of 2014.

4.1.1 Netdown
The netdown process starts with the gross area of a given land base and removes area in a stepwise fashion according to classification criteria. The netdown reduces area that are classified as non-crown, and areas that are unable to grow viable timber to give the total productive area. This productive land base is further classified into areas that are likely to be harvested (THLB) and areas that are unlikely to be harvested (non-THLB). Table 4.1 shows this step-wise classification of the land base for the CF area. This netdown closely follows the netdown classification from the last TSR analysis for the Kamloops TSA.

For more details, refer to the description of each netdown step in Appendix C of the Timber Supply Analysis.

Table 4.1: Netdown Classification

Netdown Category	Total Area (ha)	Productive Area (ha)	Area Removed (ha)
Total	8,273.3		
Non-Crown	19.2	-	19.2
Non-Forest	98.5	-	98.5
Existing Road	158.1	-	154.7
Environmentally Sensitive Area	63.9	62.1	61.4
Low Productivity			
Non-Merchantable	18.1	17.8	17.8
Riparian - Stream Buffer	96.6	90.1	90.1
Riparian - Lake Buffer	4.7	4.5	4.5
Riparian - Wetland Buffer	6.1	2.5	2.5
OGMA	534.0	534.0	425.2
Timber Harvesting Land Base	-		7,399.3

4.1.2 Resource Management Zones

Resource management zones (RMZs) are grouped areas that support non-timber resource requirements. Each RMZ has forest cover objectives (either retention or disturbance requirements) which are applied to sub-sets of the land base. They are often overlapping and therefore not additive in area. For detailed modelling information on the RMZs, see Appendix A of the Timber Supply Analysis. The following RMZs occur within the CF area:

- Landscape level biodiversity requirements through Old Growth Management Areas (OGMA);
- Integrated resource management (IRM) areas;
- Visual quality objective areas (VQO).

Table 4.2 shows the area and percentage by RMZ in the Community Forest area.

OGMAs are removed during the netdown classification and therefore did not require further modeling as an RMZ. WTRs are applied as a 7% aspatial netdown to the THLB during the netdown classification; therefore they also do not require further modeling as an RMZ.

The majority of the CF area is in the Barriere landscape unit, but also includes some area within the Adams Lake LU. Table 4.2 shows the area by RMZ in the CF area.

Table 4.2: RMZ Area Summary

RMZ	Area (ha)			% of Productive Area
	THLB	Non-THLB Productive	Total Productive	
IRM_AdamsLake_ICHmk2	458.2	0.0	458.2	6.0%
IRM_Barriere_ICHdw3	210.2	0.0	210.2	2.8%
IRM_Barriere_ICHmk2	3336.1	0.0	3336.1	43.8%
IRM_Barriere_ICHmw3	1.2	0.0	1.2	0.0%
IRM_Barriere_IDFmw2	596.2	0.0	596.2	7.8%
VQO_PR_1867	479.0	19.6	498.6	6.5%
VQO_PR_412	21.2	0.0	21.2	0.3%
VQO_PR_429	144.3	17.1	161.4	2.1%
VQO_PR_435	1915.4	150.8	2066.2	27.1%
VQO_PR_523	39.2	2.0	41.2	0.5%
VQO_PR_525	14.9	3.8	18.7	0.2%
VQO_PR_531	69.0	2.8	71.8	0.9%
VQO_PR_536	85.2	26.7	111.9	1.5%
VQO_PR_543	29.1	0.0	29.1	0.4%

4.1.3 Base Case Analysis

The base case timber supply flow includes:

- A THLB of 7,399 ha as described in Section 3 “Landbase Description”;
- RMZs including to address visual quality and integrated resource management;
- Stand yield curves using TIPSY for managed stands and VDYP for natural stands; and
- A non-declining harvest flow and a sustainable long term growing stock.

Ecora has analyzed the forest cover data and determined that the landbase is capable of supplying a short-term harvest of 21,300 m^3/year for the first 90 years, after which it climbs to the sustainable long-term level of 23,600 m^3/year. Harvest levels were found to the nearest 500 m3/year and include any non-recoverable losses (NRLs). Figure 4.1 shows the THLB harvest level. A 250 year planning horizon was chosen in order to allow growing stock to stabilize and reach a non-declining level, as shown in Figure 4.2.

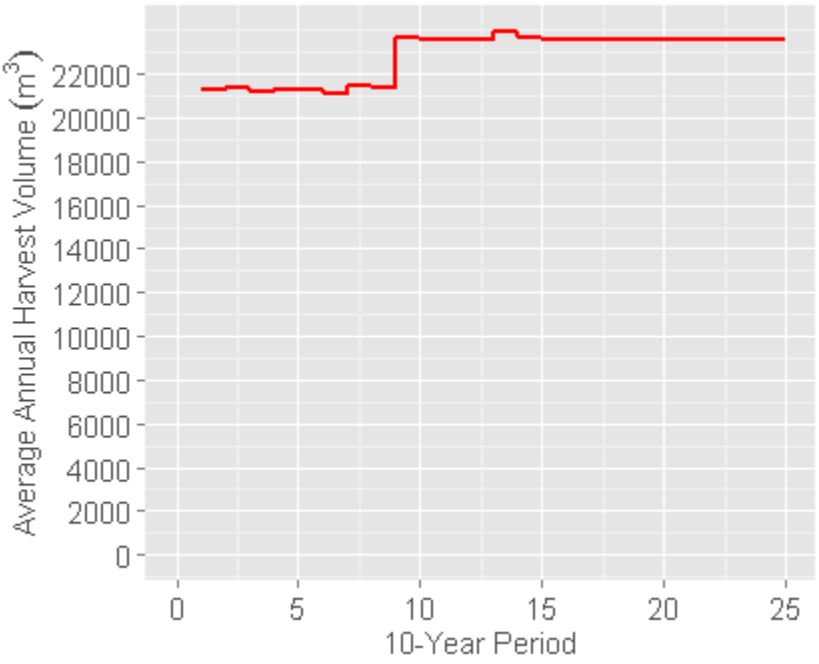

Figure 4.1: Base Case Harvest Level

The growing stock is at its highest level (811,000 m3) at the start of the planning horizon. It falls to a minimum level of 565,000 m3 in period four, before stabilizing at an average level of 565,000 m3 over the second half of the planning horizon.

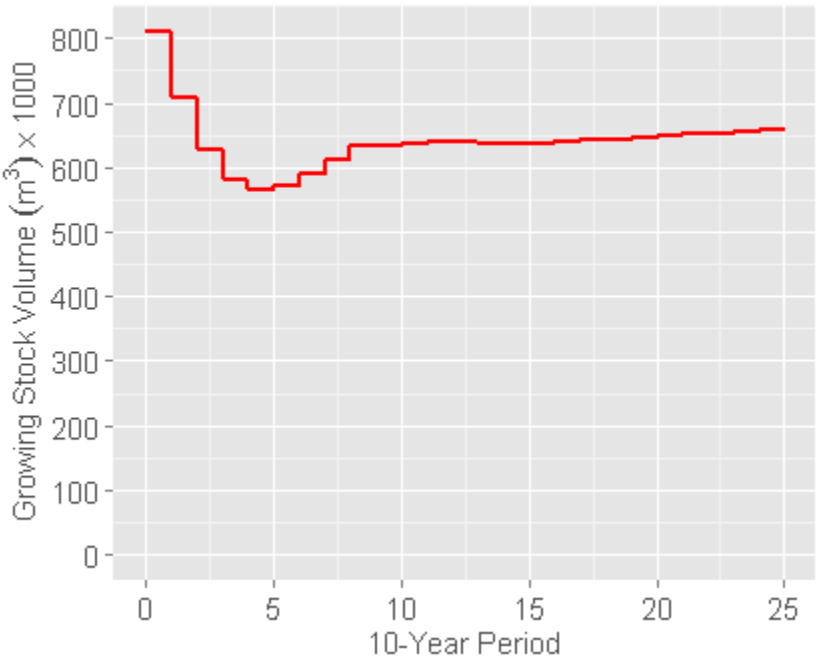

Figure 4.2: Base Case Growing Stock

4.1.4 Non-Recoverable Losses

The calculation of non-recoverable losses (NRL) started with the TSR4 TSA-level estimates for NRL and pro-rated them for net land base area in the Community Forest. This NRL calculation is shown below in Table .

Table 4.3: Non-Recoverable Loss Calculation

	Kamloops TSA	LNTCF
THLB (ha)	1,009,305	7,399
% of TSA THLB	100%	0.7%
Fire	12,210	90
Insects	41,130	302
Wind	9,250	68
Total	**62,590**	**459**

4.2 Allowable Annual Cut

The AAC being proposed for the coming ten-year period is the base case initial harvest level less the NRL's calculated above. The calculated NRL value has been rounded to the nearest 100 cubic metres for this purpose.
Table shows the calculation of the proposed AAC.

Table 4.4: Proposed AAC Calculation

Initial Base Case Harvest Level	21,300	m^3/year
Non-Recoverable Losses	500	m^3/year
Proposed AAC	20,800	m^3/year

The recommended AAC for the next 10-year period is **20,800 m^3/year**.

This harvest level is consistent with the results of the timber supply analysis and the social, economic, and resource management objectives of the LNTCFS.

5.0 Management Objectives: Botanical Forest Products and Other Prescribed Products

No botanical forest products or other prescribed products are listed in Schedule "C" of Community Forest Agreement K1Z (August 1, 2010). As such, there are currently no provisions within the Community Forest Agreement K1Z document for the harvesting, management of, and charging fees for botanical forest products or other prescribed products.

The LNTCFS does not plan to actively manage any of these particular products at this point in time. However, as information and policy on these products and their associated management improves and evolves, the LNTCFS wishes to retain the right to harvest, manage, and charge fees for these products.

6.0 Measure to Identify and Consult with Other Users

The LNTCFS will utilize the measures contained in the following subsections to identify and consult with persons using the Community Forest Agreement area for purposes other than timber production or harvesting of prescribed products listed in Schedule "C".

6.1 Trappers, Guide Outfitters, Range Tenure Holders, and other Agreement resource users

All proposed harvesting and road building activities will be referred to the affected stakeholders before approval. This process will generally be completed as part of the Forest Stewardship Plan and/or the cutting permit application. As well, additional field trips and informal day-to-day discussions of plans and activities may occur to inform the interest groups of proposed operations. Any comments that are received from these groups will be taken into consideration. Responses (either written or verbal) will be made to all written concerns within 30 days of receiving the written concern.

There is one trap line and one guide management unit associated with the area. Table 1 lists these tenure numbers:

Table 6.1: Trap Lines & Guides

Trap Line Number	Guide Management Unit
TR0337T001	3-38

There are several range tenures associated with the Community Forest area. Table 2 lists these licenses and their associated stock ranges and range units:

Table 6.2: Range Tenures

License Number	Stock Range	Range Unit
RAN077239	Chu Chua	East Barriere
RAN077574	Chu Chua	Dixon Creek
Vacant	Chu Chua	Saskum
RAN077498	Squam Bay	Dixon Lake, Sunshine
RAN077518	Squam Bay	Spapilem

There are domestic water licences on several of the streams, springs, and lakes within and adjacent to the Community Forest, including Barriere River, East Barriere River, East Barriere Lake, Haggard Creek, and Bode Spring. Table 3 lists these licenses:

Table 6.3: Domestic Water Licences

Stream / Lake Name	License Number
East Barriere Lake	C108001, C109597, C111562, C114618, C120601
East Barriere River	C054267, C054268, C054269, C054384, C054467, C055440, C055441, C103448, C104282, C105778, C121605, C121606
Barriere River	C049274, C054990, C054991, C057611, C058271, C058351, C059800, C061183, C065150, C111466, C111467, C111468, C111471, C122562, C122563, C124720
Haggard Creek	C054263, C054264, C057269, C066936, C066937, C110955
Bode Spring	C115543

These lists will be updated annually and/or confirmed at the time of referral to ensure any changes to tenure or tenure holder are accounted for.

6.2 Aboriginal Groups

This Community Forest Licence falls within the traditional area of the Simpcw First Nation (North Thompson Indian Band), Adams Lake Indian Band, Neskonlith Indian Band, and Little Shuswap Indian Band. All proposed harvesting and road building activities will be referred to the bands before approval using the process approved through the LNTCFS Forest Stewardship Plan. The LNTCFS may also schedule information sessions with the bands to discuss their concerns and to review the proposed activities. Concerns may include archaeological sites, restricted trails, traditional uses and rights, and the general impacts of forest development. Notes regarding concerns, decisions and actions will be created and kept on file for future reference and for the incorporation into operational plans.

Simpcw First Nation is one of the participating communities (Chu Chua) involved with the Community Forest and as such have an opportunity to be actively involved in setting the overall policies for the licence area through membership and the board of directors.

Before initiating First Nation information-sharing, the LNTCFS will confirm and if necessary update the list of aboriginal groups requiring referral.

6.3 Community Members, Local Governments, and Government Agencies

Community members, local governments, and government agencies will be informed of and invited to comment on the operational planning within the Community Forest Agreement through a combination of the following meetings and/or activities:

- An Annual General Meeting (AGM) and/or Annual Public Meeting will provide Society members, stakeholders, and members of the public the opportunity to discuss and review all aspects of the Community Forest Agreement. Discussion with the board of directors regarding all aspects of the Community Forest will be encouraged. The AGM also provides the opportunity for Society members to run for a position on the board of directors. All Director positions are voluntary, ensuring participation is community oriented.

- The LNTCFS will prepare and distribute a newsletter to Society members to keep them updated and informed on the planned and completed activities of the Society.

Stakeholders, Society members, and the public will be invited to submit written comments and concerns at all events. Responses (either written or verbal) will be made to all written concerns within 30 days of receiving the written concern. Copies of comments and responses will be kept on file and will be used to help set direction and policy for the Community Forest Agreement.

7.0 Guiding Principles

The LNTCFS has the following guiding principles:

- To establish local control of dedicated forest resources for the long-term sustainability of the five participating communities: McLure, Louis Creek, Barriere, Chu Chua, and Little Fort
- To secure for these communities an opportunity to be more self-determined
- To engender economic stability in these communities.
- To practice and model exemplary stewardship of this local forest environment

8.0 Social and Economic Goals

The LNTCFS has several broad social and economic goals as follows:

1. The Lower North Thompson Community Forest will be sustainably managed for the benefit of all citizens of the Lower North Thompson Valley
2. The LNTCFS will engage the residents, young and old of the Lower North Thompson Valley so that they are knowledgeable about LNTCFS, community forestry, and the benefits of forest and natural resource management.
3. The Lower North Thompson Community Forest will offer opportunities for innovation and research.
4. The Lower North Thompson Community Forest will provide a stable source of revenue and employment for the benefit of all citizens of the Lower North Thompson Valley
5. The LNTCFS will distribute surplus funds within the five participating communities.
6. The LNTCFS will endeavour to provide employment for contractors from Kamloops to Valemount for logging, road building, and silviculture.
7. There will be a minimum of one Public Meeting per year where members of the Society, stakeholders, and the public are invited to be informed of, and provide input on, all aspects involved with the Community Forest Agreement.
8. All operational planning, including cutblock and road development, will be referred to the affected stakeholders to invite their comments.
9. All activities within the CFA will be consistent with the standards set in legislation and in higher-level plans.
10. The LNTCFS will abide by the TSA level Sustainable Forest Management Plan (SFMP) reporting process.

9.0 Resource Management Goals

The LNTCFS has the following resource management objectives for the Lower North Thompson Community Forest:

1. Timber: The objective for timber is to maintain or enhance an economically valuable supply of commercial timber from the Lower North Thompson Community Forest.
2. Wildlife: The objectives for wildlife are to minimize the effects of harvesting, maintain a diversity of habitats for plant and animal species, and to maintain or enhance wildlife values.
3. Biodiversity: The objectives for biodiversity are to maintain or enhance biodiversity within the Lower North Thompson Community Forest.
4. Water: The objectives for water are to maintain or enhance water quality and quantity within the Lower North Thompson Community Forest.
5. Riparian Areas: The objectives for riparian areas are to conserve, at the landscape level, the water quality, fish habitat, wildlife habitat and biodiversity associated with those riparian areas.

These objectives are further addressed in the LNTCFS`s approved Forest Stewardship Plan (FSP), and there is no conflict between this MP and the contents of the FSP.

10.0 Provincial CFA Program Objectives

The Lower North Thompson Community Forest Society has developed and worked towards achievement of several objectives and strategies in support of the Provincial CFA Program Objectives. These objectives and strategies (from Section 8.0 above) are outlined below as follows:

1. provide long-term opportunities for achieving a range of community objectives, values and priorities

- The LNTCFS will distribute surplus funds within the five participating communities.
- The LNTCFS will provide a stable source of revenue and employment for the benefit of all citizens of the Lower North Thompson Valley

2. diversify the use of and benefits derived from the community forest agreement area

- The LNTCFS will endeavour to provide employment for contractors from Kamloops to Valemount for logging, road building, and silviculture.
- The LNTCFS will provide, enable and/or facilitate natural resource related training and education.

3. *provide social and economic benefits to British Columbia*

- The LNTCFS will distribute surplus funds within the five participating communities.
- The LNTCFS will pay stumpage to the Province of British Columbia for all timber harvested under the CFA, as per Part 7 of the *Forest Act*.
- The LNTCFS will endeavour to provide employment for contractors from Kamloops to Valemount for logging, road building, and silviculture.

4. *undertake community forestry consistent with sound principles of environmental stewardship that reflect a broad spectrum of values*

- All activities within the CFA will be consistent with the standards set in legislation and in higher-level plans.
- The LNTCFS will abide by the TSA level Sustainable Forest Management Plan (SFMP) reporting process.

5. *promote community involvement and participation*

- All operational planning, including cutblock and road development, will be referred to the affected stakeholders to invite their comments. The referrals will take place during the Forest Stewardship Plan and/or the Cutting Permit applications.
- There will be a minimum of one Public Meeting per year where members of the Society, stakeholders, and the public are invited to be informed of, and provide input on, all aspects involved with the Community Forest Agreement.
- The LNTCFS will provide, enable and/or facilitate natural resource related training and education.

6. *promote communication and strengthen relationships between Aboriginal and non-Aboriginal communities and persons*

- Continue to maintain a good working relationships with affected First Nations.
- Simpcw First Nation is one of the participating communities (Chu Chua) involved with the Community Forest and as such have an opportunity to be actively involved in setting the overall policies for the licence area through membership and the board of directors.

7. *foster innovation*

- The LNTCFS will seek to partner with educational institution(s) for research project(s) within the CFA
- The LNTCFS will continue to seek funding through FPInnovations and other similar organizations

8. *advocate forest worker safety*

- The LNTCFS will advocate for forest worker safety through SAFE Certification under the BC Forest Safety Council and/or other certification scheme containing a safety element.

11.0 Annual Reporting

The LNTCFS will report out annually to the community at their Annual General Meeting and/or Annual Public Meeting their performance in relation to Sections 1.6 (Provincial CFA Program Objectives), 1.7 (Guiding Principles), and 1.8 (Social, Economic, and Broad Resource Management Goals) of this Plan. Notices will be posted in the local newspaper(s) to provide the correct dates and times of the meeting(s) and to invite Society members, stakeholders, and/or the public to attend.

Appendix 1

Variances in Consistency with CFA Application

Variances in Consistency with CFA Application Package, Section 2.2 Commitments:

Several of the commitments made within the CFA application package, and summarized in Section 2.2 (Statement of Goals and Guiding Principles) of the application, are either no longer applicable or require revision in light of the developments made, experience gained, and evolved priorities of the LNTCFS over the past six years, from the time of the original application was prepared and submitted.

The following variances are made to the commitments in the Community Forest Agreement application package:

Section 2.2, Commitment #1:

To support a new local value added plant that employs a minimum of six full time people to be established in Barriere as a result of the offer of the Community Forest Agreement. The Community Forest License is to sell a minimum of 10,000 m3 to the value added facility for a minimum period of five years (Sec 1.4, 2.2, 2.9).

- Variance: No longer applicable, redundant.
- Rationale: Our five year fibre supply agreement with Barriere Forest Products has now expired. During the term of this agreement, the LNTCFS made available for purchase an annual volume of 10,000m3 to the value added facility.

Section 2.2, Commitment #2:

To provide employment for a local person as the Executive Director of Operations for the CFA (Sec. 1.4, 2.3).

- Variance: No longer applicable, redundant.
- Rationale: The LNTCFS contract with the Executive Director of Operations had a term from December 3, 2004 to March 2, 2008. During this time, the Director of Operations was provided employment through a contract agreement with the LNTCFS for log marketing and supervision services. With the expiry of this contract, the LNTCFS made the decision to hire a general manager in April 2008 to assume these responsibilities and, as a result, this objective is now redundant.

Section 2.2, Commitment #3:

To provide employment for a local person as the Executive Director of Forestry for the CFA (Sec. 1.4, 2.3). To provide a minimum of two full time local positions in development planning, Site Plans, engineering, timber cruising, timber appraisals, and silviculture activities for a minimum of two years from the issue of the Community Forest Agreement.

- Variance: No longer applicable, redundant.
- Rationale: The LNTCFS contract with the Executive Director of Forestry had a term from September 1, 2004 to August 31, 2009. During this timeframe, the Director of Forestry opened and operated an office in Barriere with 2 to 5 employees through a contract agreement with the LNTCFS for development planning and works on the Community Forest Agreement and Non-Replaceable Forest License areas. With the expiry of this contract, the LNTCFS made the decision to hire a general manager in April 2008 to assume these responsibilities and, as a result, this objective is now redundant.

Section 2.2, Commitment #4:

To provide employment for local contractors for logging, road building, and silviculture activities (Sec. 1.4). The LNTCFS has a local hiring policy. Each year a local hiring list of contractors will be advertised and created. Contract work will be first offered to the eligible contractors on the Contractors List (Appendix 5).

- Varied Commitment: The LNTCFS will endeavour to provide employment for contractors from Kamloops to Valemount for logging, road building, and silviculture.
- Rationale: The LNTCFS has maintained and annually updated a local contractors list and, when available, has first offered contact work to eligible contractors on the contractors list. However, with the implementation of this policy, several issues and shortcomings have been identified and as a result, specifically:
    - The 2008 downturn in the industry led to a reduction in the number of contractors on our list as many medium and small contractors were driven out of business.
    - SAFE certification requirements further reduced the number of local contractors meeting our eligibility requirements
    - Due to limited number of eligible bidders, locally acquired contracting rates were often higher than necessary and/or subcontracted to non-local contractors.
    - Currently the industry is improving and there is now a contractor shortage resulting in lack of contractors interested in bidding on work as most have the ability to negotiate direct award contracts for better rates and reduced uncertainty.

  The LNTCFS recognizes the value in hiring local contractors, but have also recognized through experience both the need for flexibility in how contractors are selected as well as the need for a balanced approach between hiring locally and maintaining the viability of the business.

Section 2.2, Commitment #8:

Starting in 2007, there will be a minimum of one Annual Field Visit to the Community Forest area for educational information for students, teachers, Society members, stakeholders, and/or the general public (Sec 1.5, 2.5, 2.10, 3.6). Responses (either written or verbal) will be made to all written concerns within 30 days of receiving any written concern.

- Varied Commitment: The LNTCFS will provide, enable and/or facilitate natural resource related training and education.
- Rationale: This broadens the commitment to provide additional flexibility in how the LNTCFS achieves educational and training objectives from year to year. Annual Field Visits to the Community Forest area are one strategy towards achievement of this objective, however, the revised commitment provides flexibility to use alternative strategies, such as field trips to other locations and/or classroom presentations.

Section 2.2, Commitment #12:

The LNTCFS will abide by the TSA level Sustainable Forest Management (SFM) planning and reporting process.

- Varied Commitment: The LNTCFS will abide by the TSA level Sustainable Forest Management Plan (SFMP) reporting process.
- Rationale: The LNTCFS has, and will continue to, submit annual SFMP reports in order to support the process but wishes to limit operational commitments to those within existing legislation, regulations, higher level plans, and LNTCFS operational plans.

Appendix 2

Community Forest Agreement K1Z
Timber Supply Analysis

LOWER NORTH THOMPSON COMMUNITY FOREST TIMBER SUPPLY ANALYSIS

Prepared for:

Lower North Thompson Community Forest Society

Prepared by:

Resource Group Ltd.

579 Lawrence Avenue
Kelowna, BC, V1Y 6L8

February 2015

26 February 2015

Mike Francis, RPF
Forestry Manager
Lower North Thompson Community Forest
4648 Barriere Town Road
Barrière, BC V0E 1E0

Dear Mike:

Subject: Timber Supply Analysis for Lower North Thompson Community Forest

Please find enclosed the timber supply analysis report in support of the Lower North Thompson Community Forest Management Plan that you are working on. Please do not hesitate to call with any questions.

Yours Truly,

Jerry Miehm, RPF
Senior Resource Analyst

Ecora Resource Group Ltd.
579 Lawrence Avenue
Kelowna, BC, V1Y 6L8
Ph: 250.469.9757 ext 1031
Cell: 778.792.5625

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Lower North Thompson Community Forest Society (LNTCF) must complete a timber supply analysis in conjunction with their management planning process for the Community Forest. The management plan and supporting technical information will be considered by the Regional Director in establishing an allowable annual cut (AAC) for the Community Forest (CF). Ecora Resource Group (Ecora) has been contracted to carry out the timber supply analysis portion of this project.

The analysis closely follows to the last Timber Supply Review for the Kamloops TSA and assumptions are kept consistent with the Data Package. Adjustments have been made to reflect recent changes, such as updating the vegetation resource inventory (VRI) to 2014 and accounting for harvesting disturbances to the end of 2014.

This report presents the results of this analysis in a format similar to that of a TSR and has an abbreviated information package as an appendix.

2 GENERAL DESCRIPTION OF AREA

The LNTCF area lies within the Kamloops timber supply area (TSA) south and west of the North Thompson River. It falls about midway between the town of Barriere and Adams Lake. Figure 2.1 shows the general location of the CF area within the TSA.

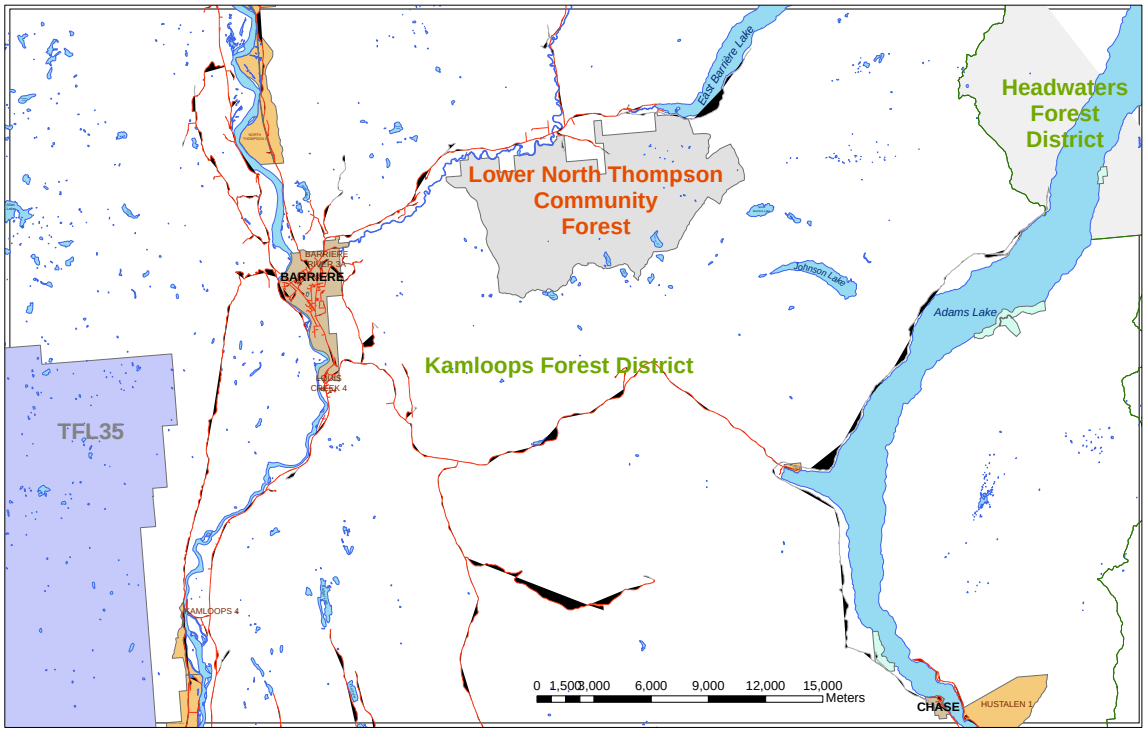

Figure 2.1: Lower North Thompson CF Location

3 LANDBASE DESCRIPTION

3.1 Netdown

The netdown process starts with the gross area of a given land base and removes area in a stepwise fashion according to classification criteria. The netdown reduces area that are classified as non-crown, and areas that are unable to grow viable timber to give the total productive area. This productive land base is further classified into areas that are likely to be harvested (THLB) and areas that are unlikely to be harvested (non-THLB). Table 3.1 shows this step-wise classification of the land base for the CF area. This netdown closely follows the netdown classification from the last TSR analysis for the Kamloops TSA.

For more details, refer to the description of each netdown step in Appendix C.

Table 3.1: Netdown Classification

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Riparian - Stream Buffer	96.6	90.1	90.1
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Riparian - Wetland Buffer	6.1	2.5	2.5
OGMA	534.0	534.0	425.2
Timber Harvesting Land Base	-		7,399.3

Figure 3.1 shows the spatial location by netdown classification including the timber harvesting land base.

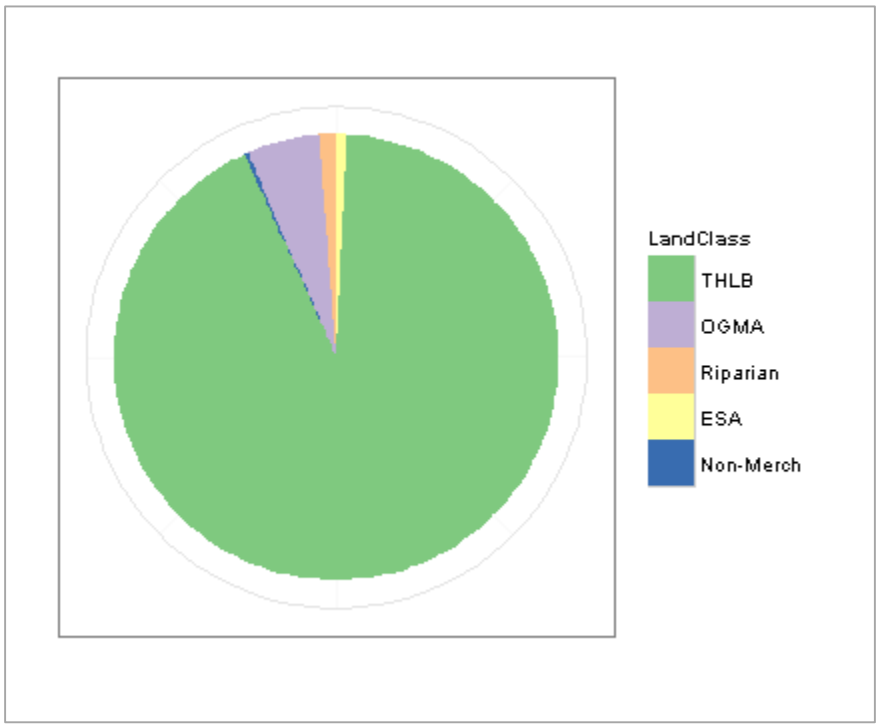

Figure 3.1: Netdown Classification

3.2 Forest Characteristics

This section summarizes important forest characteristics for the CF area. The following land base characteristics are summarized:

- Biogeoclimatic zone (BEC);
- Leading species;
- Site index; and
- Age distribution.

3.2.1 Biogeoclimatic Zone

Figure 3.2 shows the THLB and non-THLB productive area in each BEC zone. The most common BEC zone - with 74% of the productive area – is the ICH zone. The remainder of the area falls within the IDF zone.

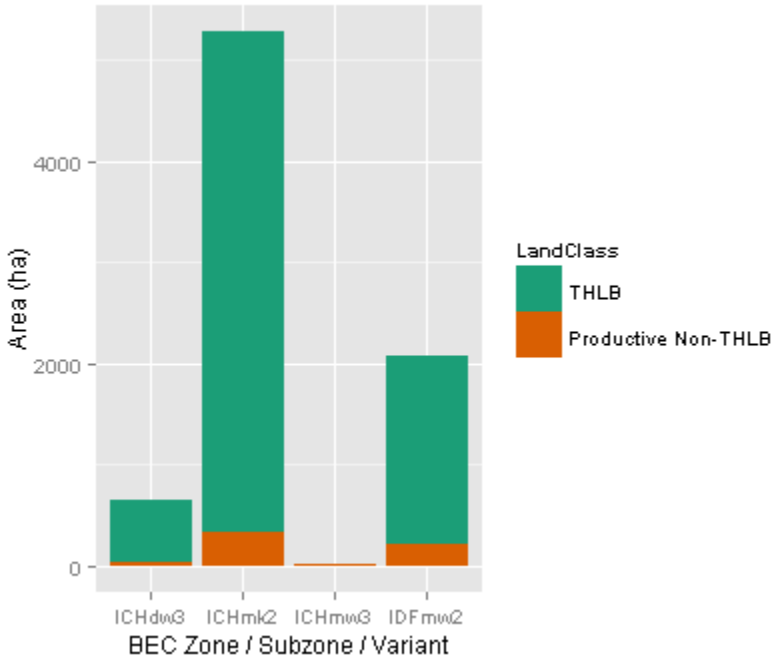

Figure 3.2: Productive and THLB Area by BEC Zone

3.2.2 Leading Species

Figure 3.3 shows the CF area by leading species. The productive area is 58% Douglas-fir leading and 18% lodgepole pine leading.

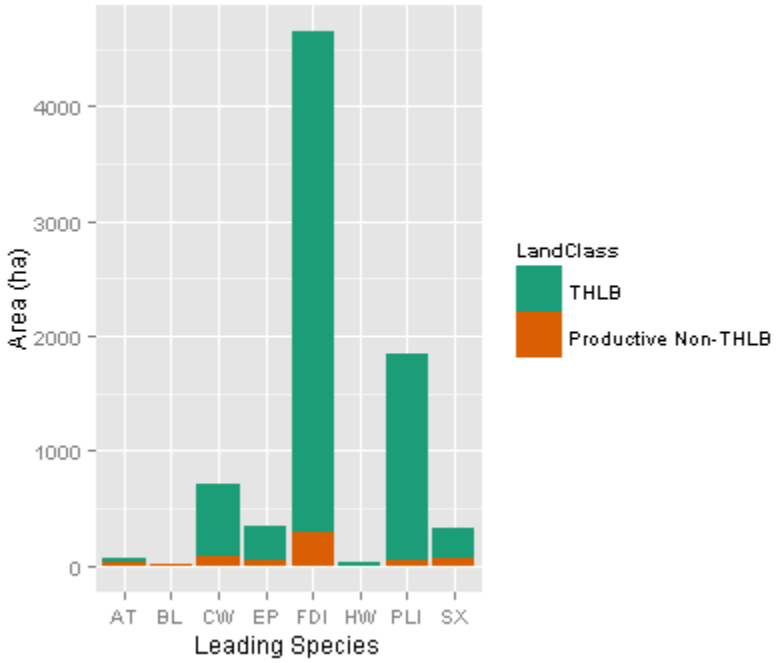

Figure 3.3: Productive and THLB Area Leading Species

3.2.3 Site Index

Figure 3.4 shows the CF area by five-metre site index. Most of the area falls into the 15-20 and 20-25 SI classes – 69% and 20% respectively. The area weighted average site index is 18.0 metres.

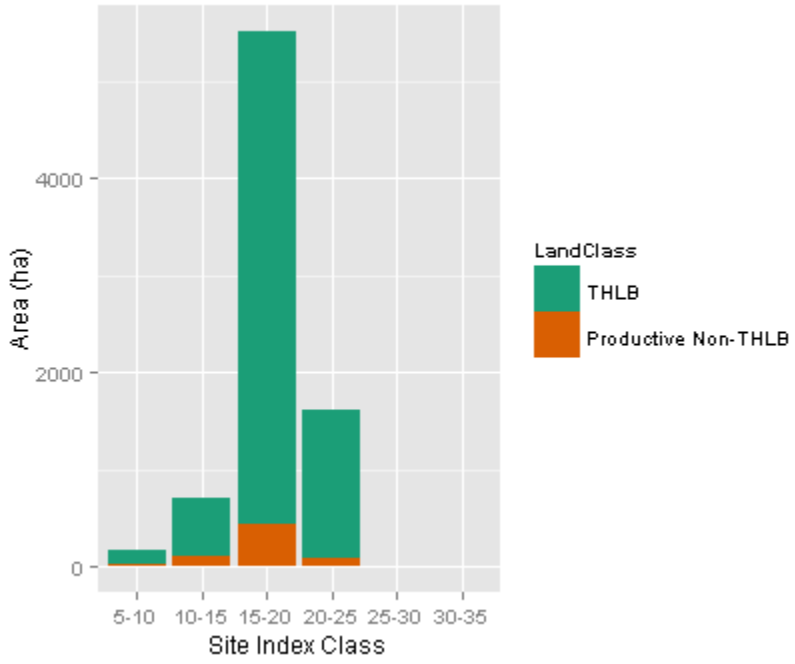

Figure 3.4: Productive and THLB Area by Site Index Class

3.2.4 Age Distribution

Figure 3.5 shows the CF area by ten-year age class. Approximately half of the THLB (48.6%) is less than 50 years old. Most of these stands have regenerated following logging.

Figure 3.5: Initial Age Class Distribution

3.3 Resource Management Zones

Resource management zones (RMZs) are grouped areas that support non-timber resource requirements. Each RMZ has forest cover objectives (either retention or disturbance requirements) which are applied to sub-sets of the land base. They are often overlapping and therefore not additive in area. For detailed modelling information on the RMZs, see Appendix A. The following RMZs occur in the CF area:

- Landscape level biodiversity requirements through Old Growth Management Areas (OGMA);
- Integrated resource management (IRM) areas;
- Visual quality objective areas (VQO).

Table 3.2 shows the area and percentage by RMZ in the Community Forest area.

OGMAs are removed during the netdown classification and therefore did not require further modeling as an RMZ. WTRs are applied as a 1.9% aspatial netdown to the THLB during the netdown classification; therefore they also do not require further modeling as an RMZ.

The majority of the CF area is in the Barriere landscape unit, but also includes some area within the Adams Lake LU. Table 3.2 shows the area by RMZ in the CF area.

Table 3.2: RMZ Area Summary

RMZ	Area (ha)			% of Productive Area
	THLB	Non-THLB Productive	Total Productive	
IRM_AdamsLake_ICHmk2	458.2	0.0	458.2	6.0%
IRM_Barriere_ICHdw3	210.2	0.0	210.2	2.8%
IRM_Barriere_ICHmk2	3336.1	0.0	3336.1	43.8%
IRM_Barriere_ICHmw3	1.2	0.0	1.2	0.0%
IRM_Barriere_IDFmw2	596.2	0.0	596.2	7.8%
VQO_PR_1867	479.0	19.6	498.6	6.5%
VQO_PR_412	21.2	0.0	21.2	0.3%
VQO_PR_429	144.3	17.1	161.4	2.1%
VQO_PR_435	1915.4	150.8	2066.2	27.1%
VQO_PR_523	39.2	2.0	41.2	0.5%
VQO_PR_525	14.9	3.8	18.7	0.2%
VQO_PR_531	69.0	2.8	71.8	0.9%
VQO_PR_536	85.2	26.7	111.9	1.5%
VQO_PR_543	29.1	0.0	29.1	0.4%

4 TIMBER SUPPLY ANALYSIS

4.1 Base Case

The base case timber supply flow includes:

- A THLB of 7,399 ha as described in Section 3 “Landbase Description”;
- RMZs including to address visual quality and integrated resource management;;
- Stand yield curves using TIPSY for managed stands and VDYP for natural stands; and
- A non-declining harvest flow and a sustainable long term growing stock.

This section presents the results of the base case timber supply analysis. Harvest levels were found to the nearest 500 m^3/year and include any non-recoverable losses (NRLs). The base case can sustain a harvest level of 21,300 cubic metres per year for the first 90 years, after which it climbs to the sustainable long-term level of 23,600 m^3/year. Figure 4.1 shows the THLB harvest level. A 250 year planning horizon was chosen in order to allow growing stock to stabilize and reach a non-declining level, as shown in Figure 4.2.

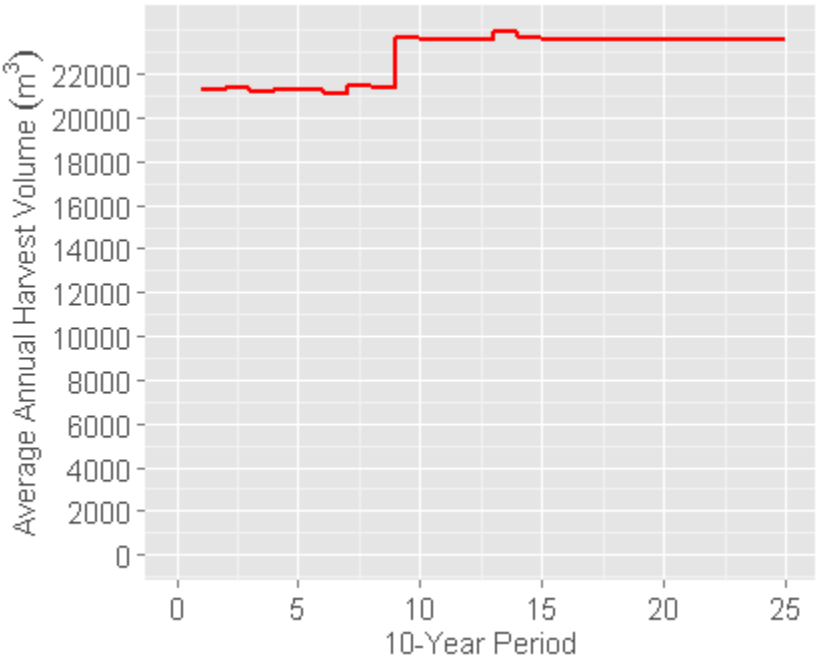

Figure 4.1: Base Case Harvest Level

The growing stock is at its highest level (811,000 m^3) at the start of the planning horizon. It falls to a minimum level of 565,000 m^3 in period four, before stabilizing at an average level of 565,000 m^3 over the second half of the planning horizon.

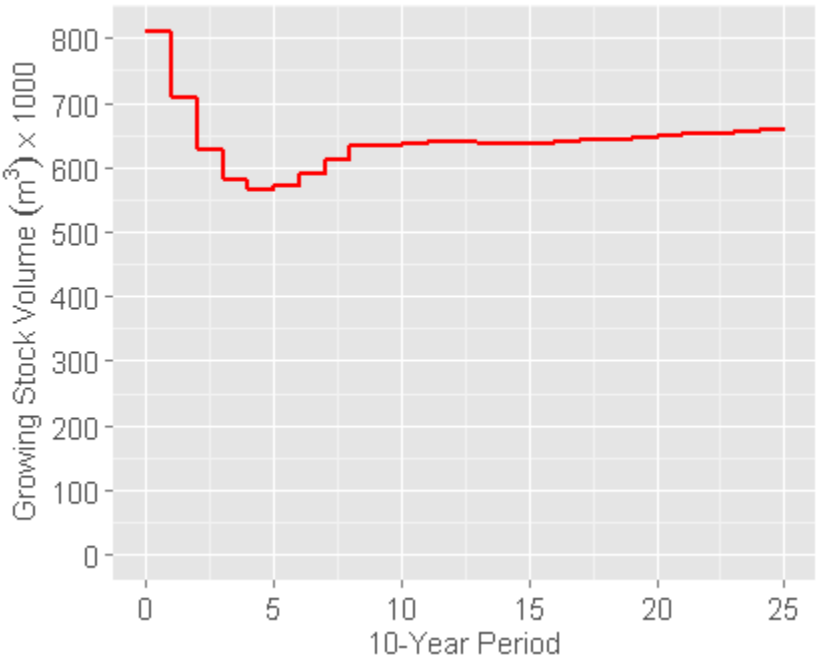

Figure 4.2: Base Case Growing Stock

Figure 4.3 shows the average area harvested per year in each decade throughout the planning horizon. An average of 87 hectares is harvested annually.

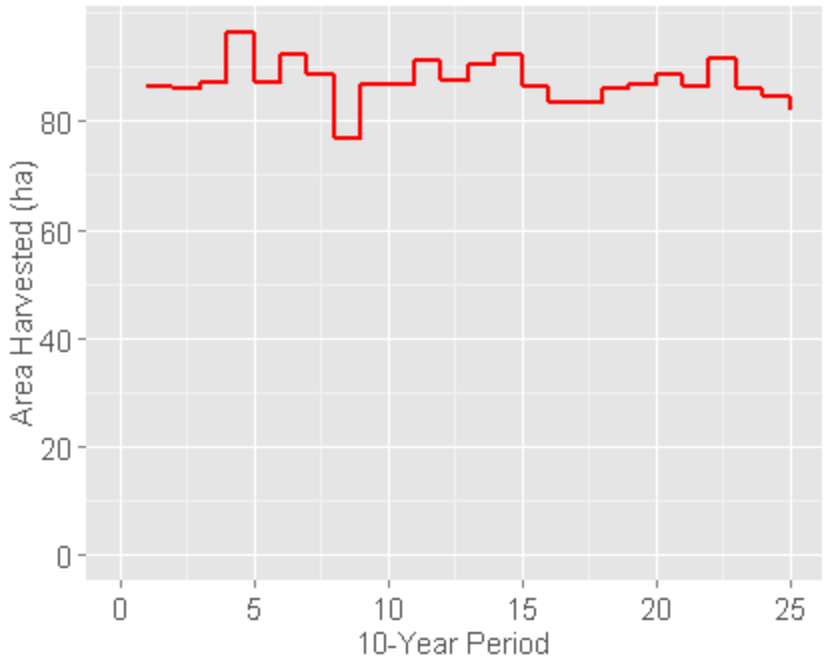

Figure 4.3: Average Harvest Area

Figure 4.4 shows the average volume per hectare harvested throughout the planning horizon. The average is 263 m^3/ha. The average over the first eight periods is 239 m^3/ha and it rises to an average of 272 m^3/ha thereafter.

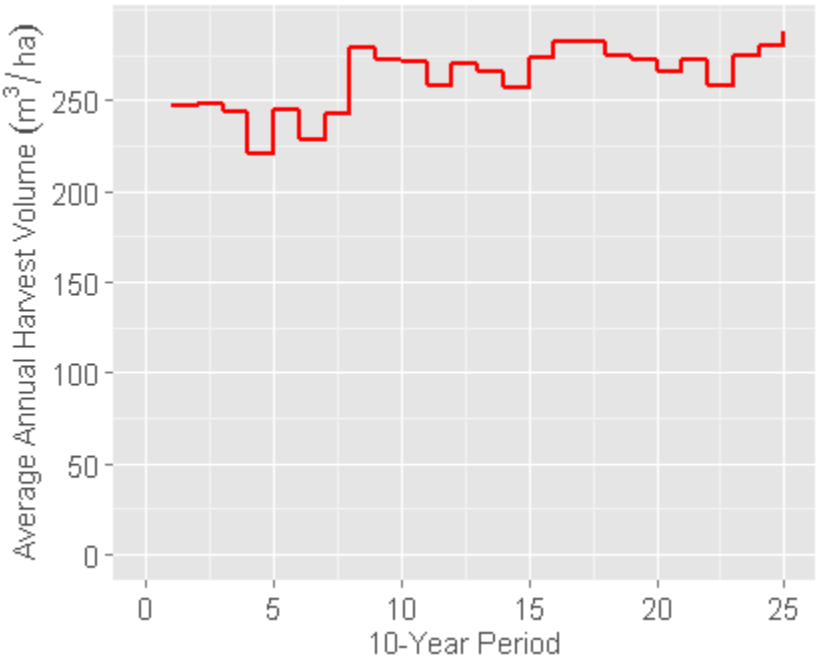

Figure 4.4: Average Harvest Volume per Hectare

Figure 4.5 shows how the average harvest age varies over the planning horizon. It is high (161 years) at the beginning of the planning horizon as existing stands are harvested, but stabilizes at an average of 84 years after period four.

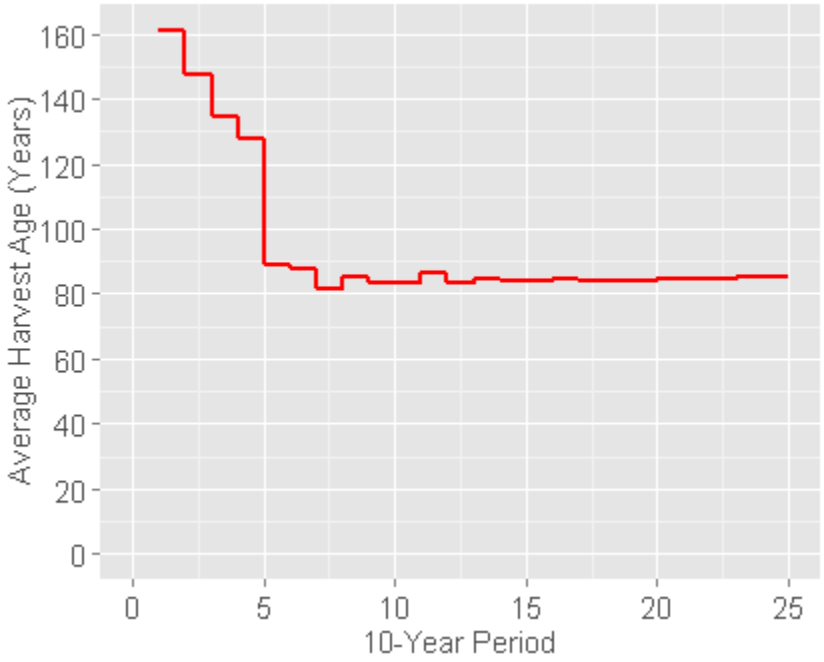

Figure 4.5: Average Harvest Age

Figure 4.6 shows the harvest volume themed by source- from natural or managed stands. Harvesting comes entirely from existing natural stands for the first five periods. No natural stands remain on the THLB after period eight. Beginning in period twelve, the harvest comes entirely from future managed stands.

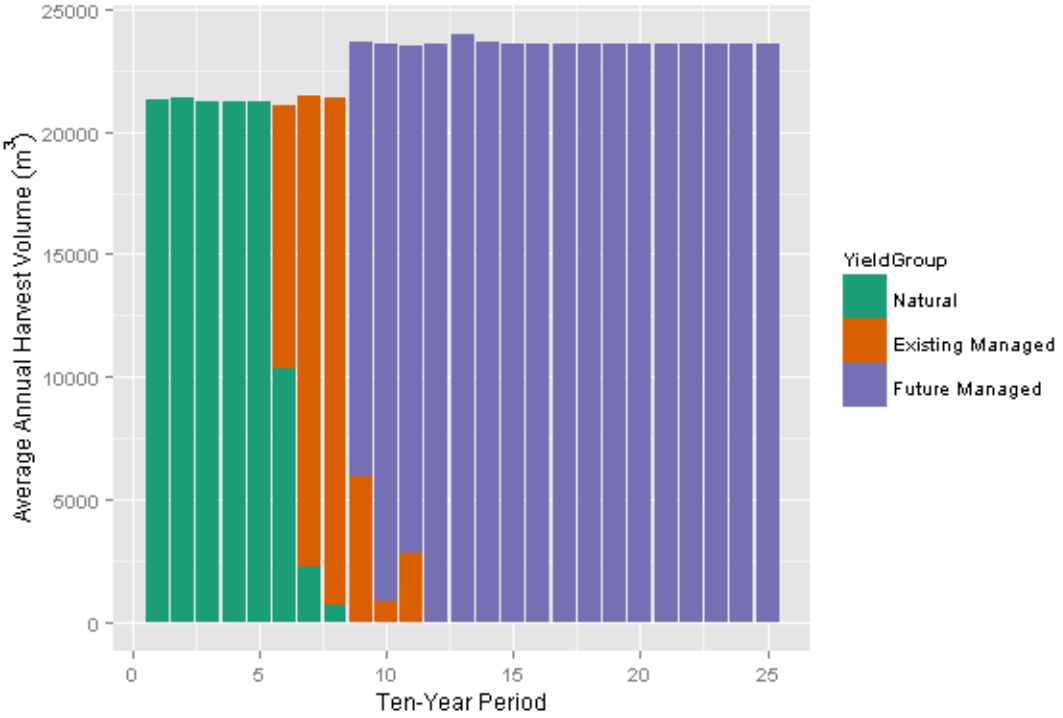

Figure 4.6: Natural to Managed Transition

4.2 Non-Recoverable Losses

The calculation of non-recoverable losses (NRL) started with the TSR4 TSA-level estimates for NRL and pro-rated them for net land base area in the Community Forest. This NRL calculation is shown below in Table 4.1.

Table 4.1: Non-Recoverable Loss Calculation

	Kamloops TSA	LNTCF
THLB (ha)	1,009,305	7,399
% of TSA THLB	100%	0.7%
Fire	12,210	90
Insects	41,130	302
Wind	9,250	68
Total	**62,590**	**459**

4.3 Proposed AAC

The AAC being proposed for the coming ten-year period is the base case initial harvest level less the NRL's calculated above. The calculated NRL value has been rounded to the nearest 100 cubic metres for this purpose. Table 4.2 shows the calculation of the proposed AAC.

Table 4.2: Proposed AAC Calculation

Initial Base Case Harvest Level	21,300	m^3/year
Non-Recoverable Losses	500	m^3/year
Proposed AAC	20,800	m^3/year

The recommended AAC for the next 10-year period is 20,800 m^3/year.

5 APPENDIX A: RESOURCE MANAGEMENT ZONES

5.1 Landscape Level Biodiversity

OGMAS are used to spatially satisfy landscape level biodiversity (mature and old forest retention requirements) on the land base. OGMAs have been removed from the harvestable land base. Figure 5.1 shows a map of OGMA locations.

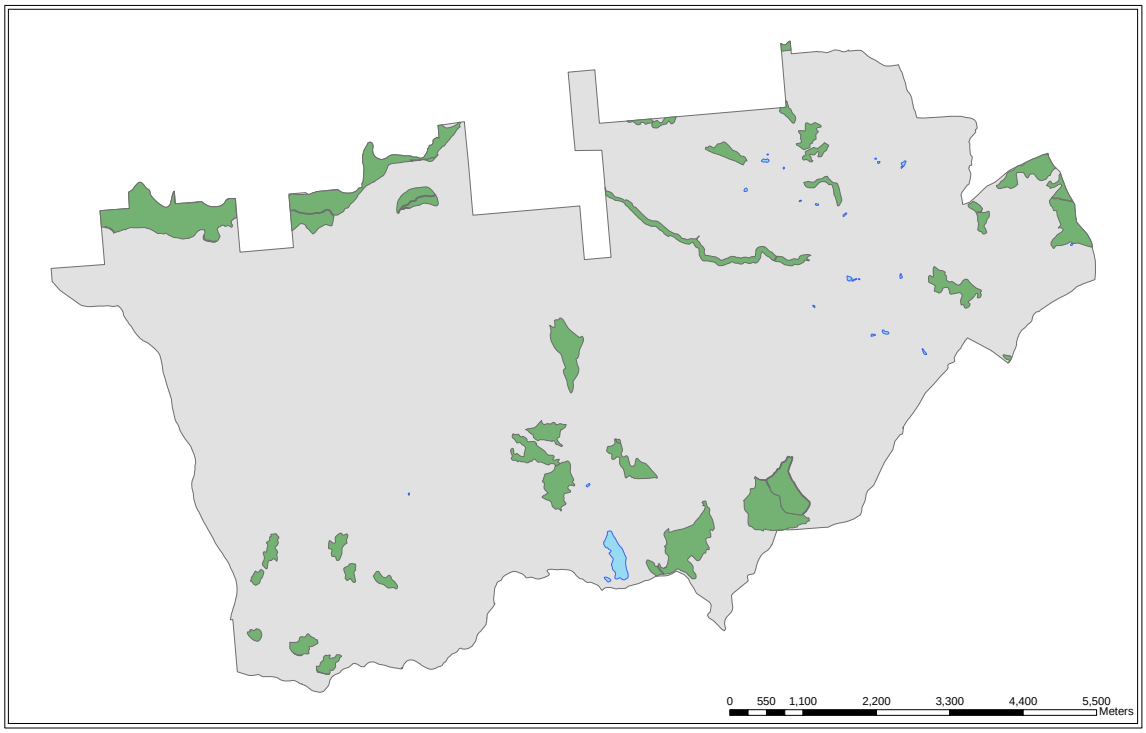

Figure 5.1: Map of OGMA Locations

5.2 Visually Sensitive Areas

Areas that are of important scenic value require altered harvesting practices to keep the visible evidence of harvesting within acceptable limits. Each visually sensitive polygon is assigned a visual quality objective (VQO) which defines a maximum allowable percentage of alteration from harvest or disturbance. Figure 5.2

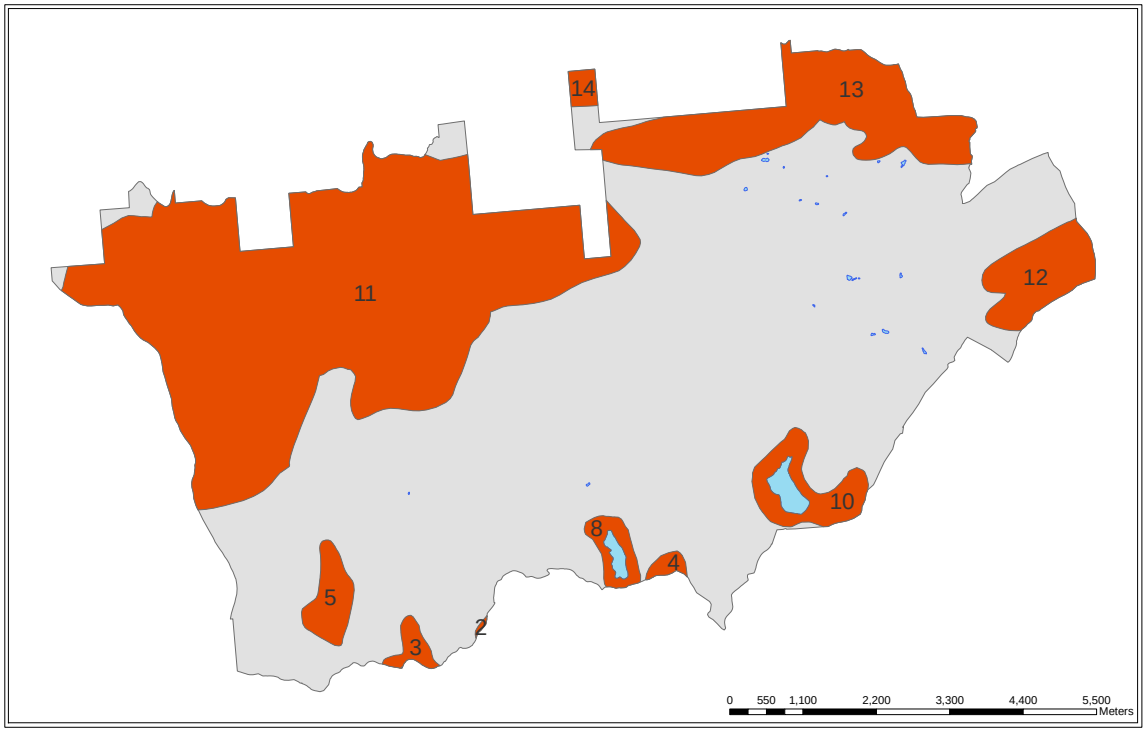

Figure 5.2: Map of Visually Sensitive Locations

5.3 Integrated Resource Management

IRM zone covers areas on the THLB that are not managed for other RMZs. Figure 5.3 shows the IRM locations.

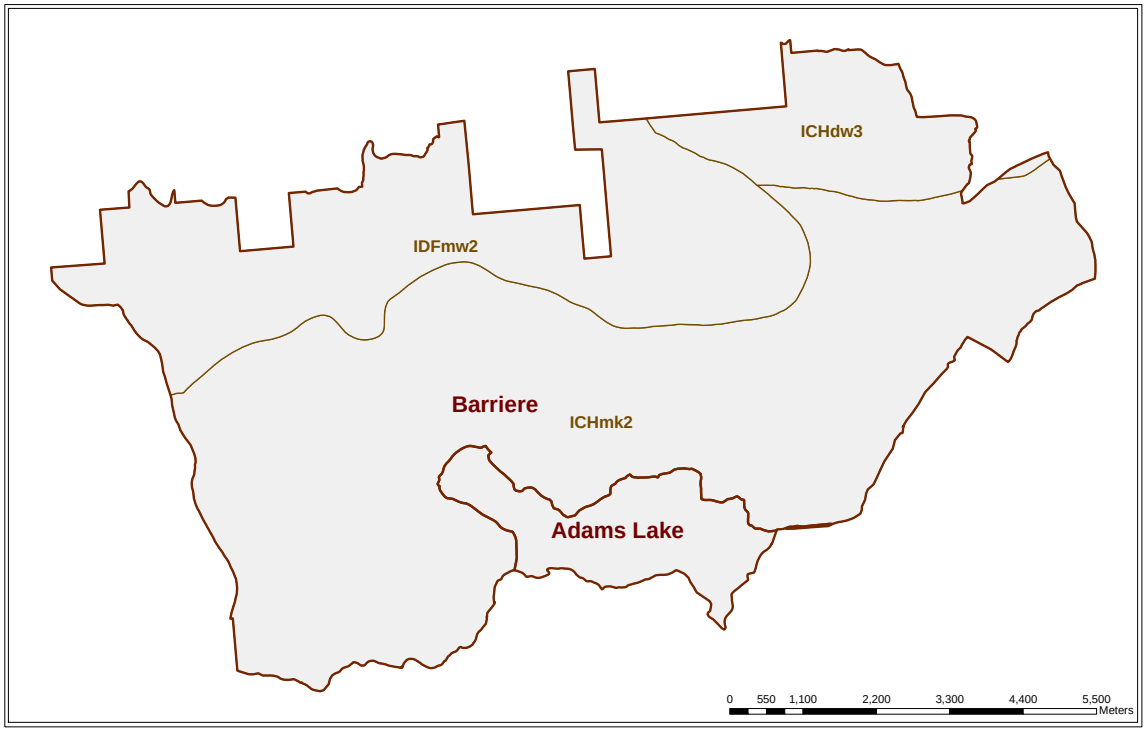

Figure 5.3: Map of IRM Locations

6 APPENDIX B: LAND BASE SUMMARY

Type	Factor	Area
Land Class	Non-THLB	601.5
	THLB	7399.1
Netdown Classification	ESA	61.4
	HARV	7,399.1
	NMER	17.8
	OGMA	425.2
	RIP	97.1
BEC	ICHdw3	646.2
	ICHmk2	5,275.5
	ICHmw3	10.1
	IDFmw2	2,068.7
Leading Species	Balsam	21.7
	Cedar	706.3
	Decid	410.9
	Douglas_fir	4,648.3
	Hemlock	38.3
	Pine	1,843.4
Site Index Class	6	141.4
	9	52.3
	12	217.0
	15	1,270.6
	18	4,164.8
	21	1,915.9
	24	235.0
	27	0.0
	30	3.6
Age Class	0	1,678.1
	10	371.6
	20	165.2
	30	1,047.5
	40	354.3
	50	4.4
	60	40.6
	70	249.6
	80	168.0
	90	744.9
	100	820.9
	110	524.6
	120	331.7
	130	394.0
	140	550.4
	150	277.2
	160	69.2
	170	194.9
	210	13.5
Visual Quality	VQO_PR_1867	498.6

Type	Factor	Area
	VQO_PR_412	21.2
	VQO_PR_429	161.4
	VQO_PR_435	2,066.2
	VQO_PR_523	41.2
	VQO_PR_525	18.7
	VQO_PR_531	71.8
	VQO_PR_536	111.9
	VQO_PR_543	29.1
IRM	IRM_AdamsLake_ICHmk2	458.2
	IRM_Barriere_ICHdw3	210.2
	IRM_Barriere_ICHmk2	3,336.1
	IRM_Barriere_ICHmw3	1.2
	IRM_Barriere_IDFmw2	596.2
Mpb 1	0	9,338
	2002	0
	2003	0
	2004	0
	2005	37
	2006	1,379
	2007	734
	2008	687
	2009	59
	2010	16
	2016	0
	2018	0
	2021	14
	2023	0
	2024	0
Mpb 2	0	7,334.3
	2003	30.6
	2004	47.9
	2005	77.7
	2006	204.0
	2007	225.8
	2008	63.1
	2021	1.3
	2023	16.0

7 APPENDIX C: DATA SOURCES AND NETDOWN

7.1 Data Sources

Table 7.1 lists relevant information about the input data for the netdown classification process and the timber supply analysis. The netdown used in this analysis is from the Kamloops TSA TSR (and the Type 2). This is a brief description of the factors considered in this netdown. For a more in-depth discussion, see the Kamloops Type 2 information package.

Table 7.1: Data Sources

Data Description	Date	Source
Land base Classification		
ESA	2002	MOF
Indian Reserves	Aug-12	LRDW
Land Ownership	2012	LRDW
Old Growth Management Areas	Aug-11	LRDW
Operability	11-Aug	MSRM
Parks and Protected Areas	Feb-12	LRDW
Riparian Classifications	2002	LRDW/TNRG
Terrain Stability	2002	LRDW
TFL Boundary	Feb-11	LRDW
Timber Licenses	Aug-11	LRDW
TRIM Roads	TRIM II	LRDW
Buffered roads	Jan-02	MSRM
TSA Boundary	Aug-11	LRDW
Woodlots and Community Forests	Jun-12	MOF
Disturbance Updates		
Forest tenure blocks (FTA)	Mar-14	LRDW
RESULTS openings	Mar-14	LRDW
Growth and Yield		
Biogeoclimatic Zones (BGC) Version 8	Jun-12	MOF
Mountain Pine Beetle (MPB) Projections	2012	MOF
Vegetation Resource Inventory (VRI)	2012	LRDW
Resource Management		
Biodiversity Emphasis Options (BEO)	2012	LRDW
Community Watersheds	2012	LRDW
Lakeshore Management Zone (LMZ)	2012	LRDW
Landscape Units (LU)	2012	LRDW
Ungulate Winter Ranges (UWR)	2012	LRDW
VLI Inventory	2012	LRDW
Wildlife Habitat Areas (WHA)	2012	LRDW

Figure 7.1 shows the disturbances that were accounted for in the analysis. Recent disturbances from forest tenures (FTA) and RESULTS openings were applied as an age update to the inventory if stand age > 50 years old.

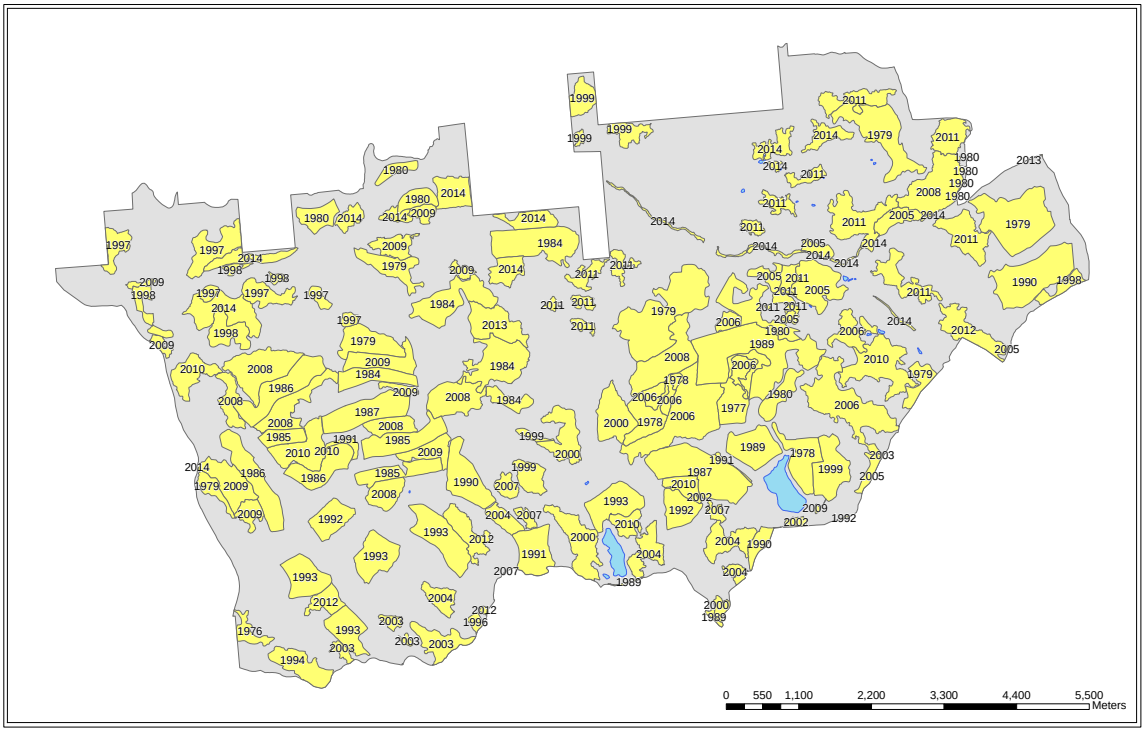

Figure 7.1: Disturbance Map

7.2 Netdown Item Descriptions

The netdown used in this analysis is from the Kamloops TSA TSR (and the Type 2). This is a brief description of the factors considered in this netdown. For a more in-depth discussion, see the Kamloops Type 2 information package.

7.2.1 Non-Crown

Non crown land includes reductions for ownership classes (a code indicating the ownership and administrative responsibility), woodlots and TFLs. The following ownership codes were removed from the land base:

- 40: Private-crown grant;
- 50: Federal reserve;
- 52: Indian reserve;
- 54: Dominion government block;
- 75: Crown Christmas tree permit;
- 77: Crown and private woodlot license; and
- 99: Crown miscellaneous lease.

7.2.2 Non-Productive and Non-Forest

Consistent with the most recent TSR (TSR4), non-productive land was identified from the non-productive descriptor field in the VRI and land classified as non-treed by the British Columbia land classification level 1 and 2 (BCLC). The following non-productive descriptors were used: A (alpine), AF (alpine forest), NP (non-productive) and NPBR (non-productive brush). BCLC level 1 classifies the presence/absence of vegetation and

the code N (non-vegetated) was used to remove non-vegetated land. BCLC level 2 classifies the land cover type - treed/non-treed for vegetated polygons and the code N (non-treed) was used to remove non-treed land.

7.2.3 Existing Roads

Existing roads are removed from the productive land base. The compiled road coverage from TSR4 was used in this analysis. TSR4 roads included highways, access roads, forest service roads and logging and spur roads complied from TRIM and licensee data.

7.2.4 Parks

The parks coverage from the LRDW was utilized to remove all area designated as a park.

7.2.5 Non-Commercial Brush

Last TSR, areas of non-commercial brush were identified as projected type identity 5 (N.C. non-commercial) in the VRI without a harvest history. There was 1,650ha removed from the entire Kamloops TSA last TSR. Since then, the VRI has been updated and no longer includes this attribute. Because it was a very small netdown last time at the TSA level, the impact was judged to be small and it has been omitted from this analysis.

7.2.6 Inoperable

Operability codes describe the presence of physical barriers to harvesting. Consistent with last TSR, the code “I” (inoperable) was used to identify areas to remove from the harvestable land base. Areas that had a harvest history were not removed in this netdown step.

7.2.7 Environmentally Sensitive Areas

Environmentally sensitive areas (ESAs) were identified using a combination of ESA mapping in the old VRI and terrain stability mapping. In all cases, previously logged areas were not removed in this netdown step. Areas identified with the following ESA codes are:

- S: soils,
- P: regeneration,
- R: recreation,
- A: avalanche, and
- W: water.

Terrain stability classifications removed are:

- U: Unstable. High likelihood of landslide initiation following timber harvesting or road construction, and
- V: (5). High likelihood of landslide initiation following timber harvesting or road construction.

7.2.8 Low-Site Growing Potential

There are two low site definitions for the Kamloops TSA using attributes from the VRI:

- Low site 1: characterized by site index <= 8, and
- Low site 2: stand with site index <= 15 and classified as residual stocking class (R).

Again, if a stand was previously logged, it was not removed in this netdown item.

7.2.9 Non-Merchantable Stands

Non-merchantable stands are those that are operable but not currently utilized for harvesting. In all cases, previously logged stands were omitted from this netdown step. The definitions used to describe non-merchantable stands are from TSR4/3 and are shown in Table 7.2.

Table 7.2: Table A-6 from TSR3

Table A-6. Forest types not currently being harvested

Species	Characteristics	SI limit	Per cent (%) excluded
All	All mature and immature stands	≤ 8	100
All species except fir and deciduous	All stands classified as residual stocking class	≤ 15	100
All species except pine (Pl)	All species except pine outside PA 16 older than 80 years of age and less than 19.5 metres in height		100
Balsam and spruce	Balsam and spruce stands outside PA 16 older than 140 years of age, less than 28.5 metres in height, and with a crown closure of less than 36%		100
Pine (Pl)	Pine stands outside PA 16 older than 80 years of age, and less than 19 metres in height		100
Pine (Pl)	Pine stands outside PA 16 classified as 310 or 420	≤ 10	100
All species except pine (Pl)	All species except pine inside PA 16 older than 100 years of age and less than 10.5 metres in height.		100
Pine (Pl)	Pine stands inside PA 16 older than 80 years of age and less than 10.5 metres in height.		100
Deciduous	Deciduous stands outside PA 16		100
Deciduous	Deciduous stands inside PA 16 less than 61 years in age.		100

Pine 310 stands refer to pine (Pl) leading stands of age class 3 (41-60 years), height class 1 (0.1-10.4 metres) and stocking class 0 (immature). Pine 420 stands refer to pine (Pl) leading stands of age class 4 (61-80 years), height class 2 (10.5-19.4 metres) and stocking class 0 (immature).

7.2.10 Riparian

Riparian management zones are areas that are immediately adjacent to streams, lakes, swamps and wetlands and are managed to restrict or exclude harvesting. The buffered riparian layer from TSR4 was used in this analysis.

7.2.11 Old Growth Management Areas

The most recent OGMAs were sourced from the LRDW and were removed from the harvestable land base. For Kamloops TSA, the non-legal current layer is freely downloadable and spatially defines areas of old growth forest that are identified during planning. Because of the non-legal status, licensees are not legally required to follow direction but if so, must manage required old growth targets in other ways. Consistent with the last TSR, the draft 2007 Kamloops TSA OGMAs (considered a milestone data set) were used to satisfy the required old growth targets and are removed from the THLB.

8 APPENDIX D: GROWTH AND YIELD

This section documents the growth and yield information used in this analysis, all information is consistent with TSR 4.

8.1 Analysis Unit Aggregation

Analysis units (AU) are aggregation of stands with similar species composition and growing potential and are important in an analysis to reduce complexity without obscuring important information. In this analysis, TSR definitions for both natural and managed stands are used. TSR2 in 2001 assumed that stands < 25 years have a harvest history, so this analysis assumes that stands with an age < 37 years are managed and stands >= 37 years are natural. AU definitions are from Table A-4 from the 2001 TSR2 Data package.

8.2 Silviculture Prescriptions

Yield curves for natural stands are taken from the volume estimate tables in the TSR document "Table A-22. Timber volume tables for existing natural stands. Managed stand yield tables were developed by BEC zone, subzone, variant and site series.

Table 8.1: Planting Prescriptions

AU	BEC Zone	Sub zone	Vrt	SS	Area (ha)	sp1	pct1	sp2	pct2	sp3	pct3	sp4	pct4	Density
ICHdw3-1	ICH	dw	3	1	384.4	Fd	65	Pl	15	Se	10	Lw	10	1400
ICHdw3-2	ICH	dw	3	2	0.5	Fd	70	Pl	30	Se	0	Lw	0	1200
ICHdw3-4	ICH	dw	3	4	79.1	Fd	65	Pl	15	Se	10	Lw	10	1400
ICHdw3-5	ICH	dw	3	5	123.8	Fd	65	Pl	15	Se	10	Lw	10	1400
ICHdw3-6	ICH	dw	3	6	59.5	Fd	65	Pl	15	Se	10	Lw	10	1400
ICHdw3-8	ICH	dw	3	8	3.9	Se	80	Cw	20					1200
ICHmk2-1	ICH	mk	2	1	3712.3	Fd	60	Pl	15	Se	15	Lw	10	1400
ICHmk2-3	ICH	mk	2	3	103.3	Fd	70	Pl	30	Se	0	Lw	0	1200
ICHmk2-4	ICH	mk	2	4	1019.3	Fd	60	Pl	15	Se	15	Lw	10	1400
ICHmk2-5	ICH	mk	2	5	493.5	Fd	60	Pl	15	Se	15	Lw	10	1400
ICHmk2-6	ICH	mk	2	6	66.0	Se	80	Cw	20					1200
ICHmw3-1	ICH	mw	3	1	10.8	Fd	65	Pl	15	Se	10	Lw	10	1400
ICHmw3-6	ICH	mw	3	6	0.4	Fd	65	Pl	15	Se	10	Lw	10	1400
IDFmw2-1	IDF	mw	2	1	1758.8	Fd	65	Pl	15	Se	10	Lw	10	1400
IDFmw2-01-YC	IDF	mw	2	01-YC	68.8	Fd	65	Pl	15	Se	10	Lw	10	1400
IDFmw2-01-YS	IDF	mw	2	01-YS	13.5	Fd	65	Pl	15	Se	10	Lw	10	1400
IDFmw2-3	IDF	mw	2	3	82.3	Fd	70	Pl	30	Se	0	Lw	0	1200
IDFmw2-4	IDF	mw	2	4	216.1	Fd	65	Pl	15	Se	10	Lw	10	1400
IDFmw2-5	IDF	mw	2	5	28.5	Se	80	Cw	20					600

8.3 Managed Stand Site Productivity

In 2011, Lower North Thompson Community Forest Society completed Terrestrial Ecosystem Mapping (TEM) on the community forest landbase. That TEM data has many potential land management applications. One of those is as a starting point for estimating productivity for managed stands using the provincial SIBEC database.

The '*Site Index by BEC Site Series*' (SIBEC) Project provides tree species site index estimates that reflect the average growth potential of tree species in forested site series in British Columbia. This database is continually updated by the MFLNRO. The most recent estimates for the SIBEC database were input to TIPSY for the purpose of generating managed stand yield tables. These values are listed in Table 8.2.

Table 8.2: SIBEC Site Index Estimates

Zone	Subzone	Variant	Site Series	SIBEC Site Index
ICH	dw	3	1	24
ICH	dw	3	2	15
ICH	dw	3	4	27
ICH	dw	3	5	24
ICH	dw	3	6	24
ICH	dw	3	8	24
ICH	mk	2	0	18
ICH	mk	2	1	18
ICH	mk	2	3	18
ICH	mk	2	4	21
ICH	mk	2	5	21
ICH	mk	2	6	18
ICH	mw	3	1	21
ICH	mw	3	6	24
IDF	mw	2	1	23.1
IDF	mw	2	3	18
IDF	mw	2	4	21
IDF	mw	2	5	18

8.4 Genetic Gain

Three genetic gain eras were applied to each prescription:

1) No genetic gain for stands established prior to 2004;
2) TSR genetic gains for stands established between 2004 and 2009; and
3) Current genetic gains that provided by LNTCF for stands established 2010 or later

Table 8.3 shows the genetic gain factors that were used.

Table 8.3: Genetic Gain Factors

	Genetic Gain (%)	
Species	**TSR**	**LNTCF**
Fd	0.0	16.2
Lw	8.0	10.2
Pl	3.0	7.3
Se	9.0	16.8

8.5 Additional Yield Information

8.5.1 Utilization Level

Utilization levels from TSR have been used based on leading species:

- Pine: minimum DBH (cm) of 12.5;
- All other species: minimum DBH (cm) of 17.5; and

8.5.2 Minimum Harvest Age

Minimum harvest age (MHA) is an estimation of the lowest age a stand is able to be harvested and the minimum harvest age by AU from TSR was used in this analysis (see Table A-15 from the 2001 TSR2 Data package).

8.5.3 Harvest Systems

A harvest system characterizes the type of harvesting expected to occur on a stand and in the Kamloops TSA, clear cut harvesting and selection harvesting are modeled. The following AUs are managed using selection harvesting:

- 1: Natural dry Douglas-fir selection;
- 101: Managed dry Douglas-fir selection;
- 23: Natural Douglas-fir PA 16 selection; and
- 123: Managed Douglas-fir PA 16 selection.

Consistent with TSR, it is assumed that selection harvesting removes 40% of existing volume on the first pass, has a minimum return interval of 30 years and will remove 30% of the original standing volume on entries after the first.

8.5.4 Regeneration Delay

Regeneration delay is a measure of the time between harvest and establishment of new trees. It is applied to yield curves at the AU level and ranges between 0 years (for selection harvested stands) to 3 years consistent with TSR assumptions.

8.5.5 Forest Estate Model

The timber supply model "Forest Planning Studio" is used in this analysis. FPS is the most recent version of the timber supply model previously known as ATLAS (A Tactical Landscape Analysis Software). FPS was developed at the University of British Columbia by a team headed by Dr. John Nelson. FPS is a commonly used and accepted forest simulation model in BC. It is a spatially explicit harvest simulation model that is designed to schedule timber harvesting while considering a wide variety of spatial and temporal objectives.

8.5.6 Planning Horizon

A 250 year planning horizon is used in this analysis to ensure the long term sustainability of the harvest level.

8.5.7 Harvest Priority

The order of harvest will be determined by using the oldest first harvest priority rule.

8.5.8 Volume Reductions

The volume reductions that are applied to yield curves are consistent with TSR4:

- A 6.5% reduction is applied to each stand upon harvesting for the first time to account for the permanent disturbance associated with future roads, trails and landings;
- A 1.9% reduction is applied at harvest to account for wildlife tree patch (WTP) retention; and
- Volume curves will be reduced by the deciduous component in conifer leading stands because this portion of the stand is not normally utilized.

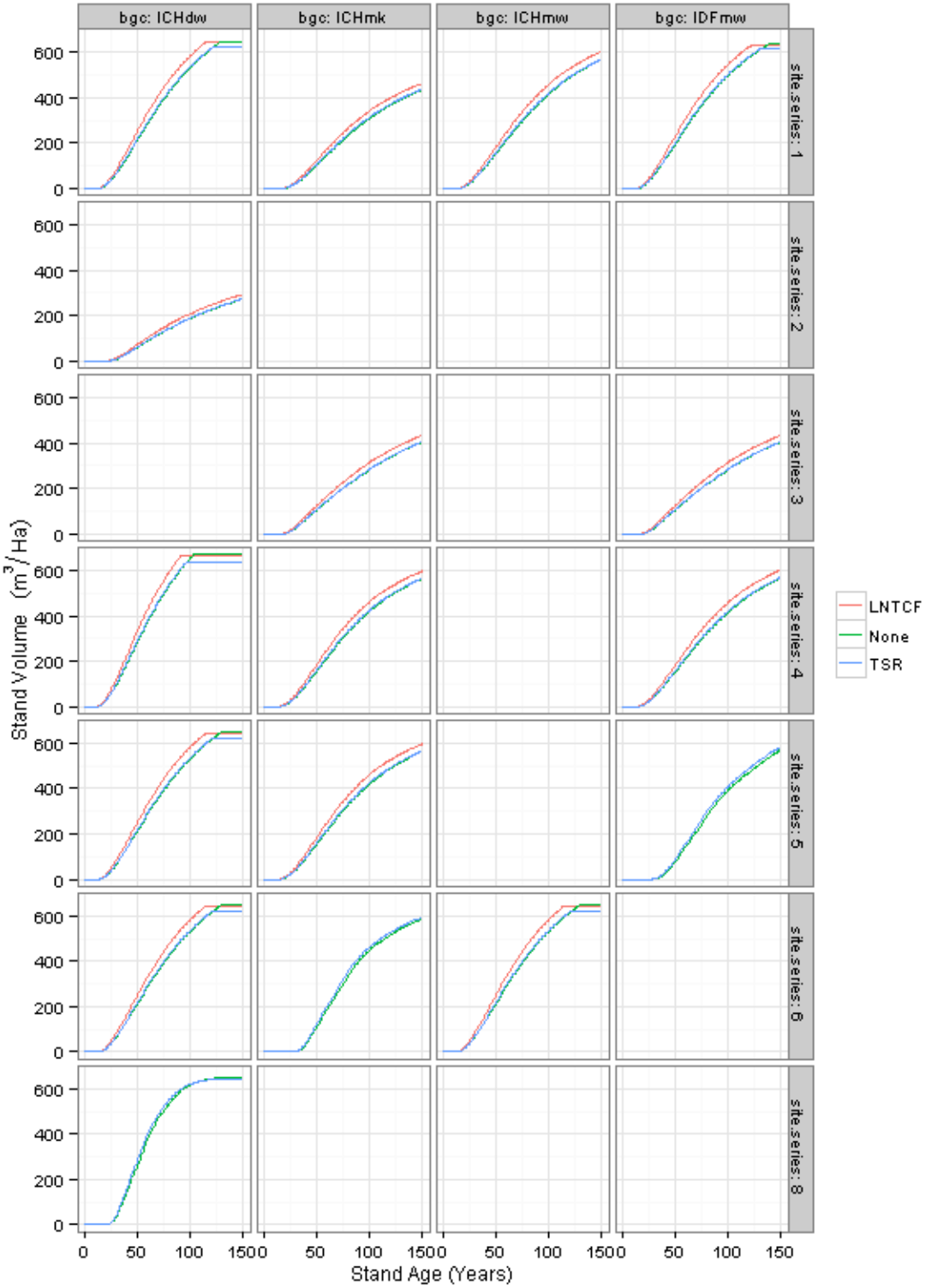

Figure 8.1: MSYT by BEC, Site Series and Genetic Gain Era

These yield tables were applied at that stand level, and then area-weighted into the TSR analysis units for modeling purposes. These are shown in Figure 8.2 and Figure 8.3.

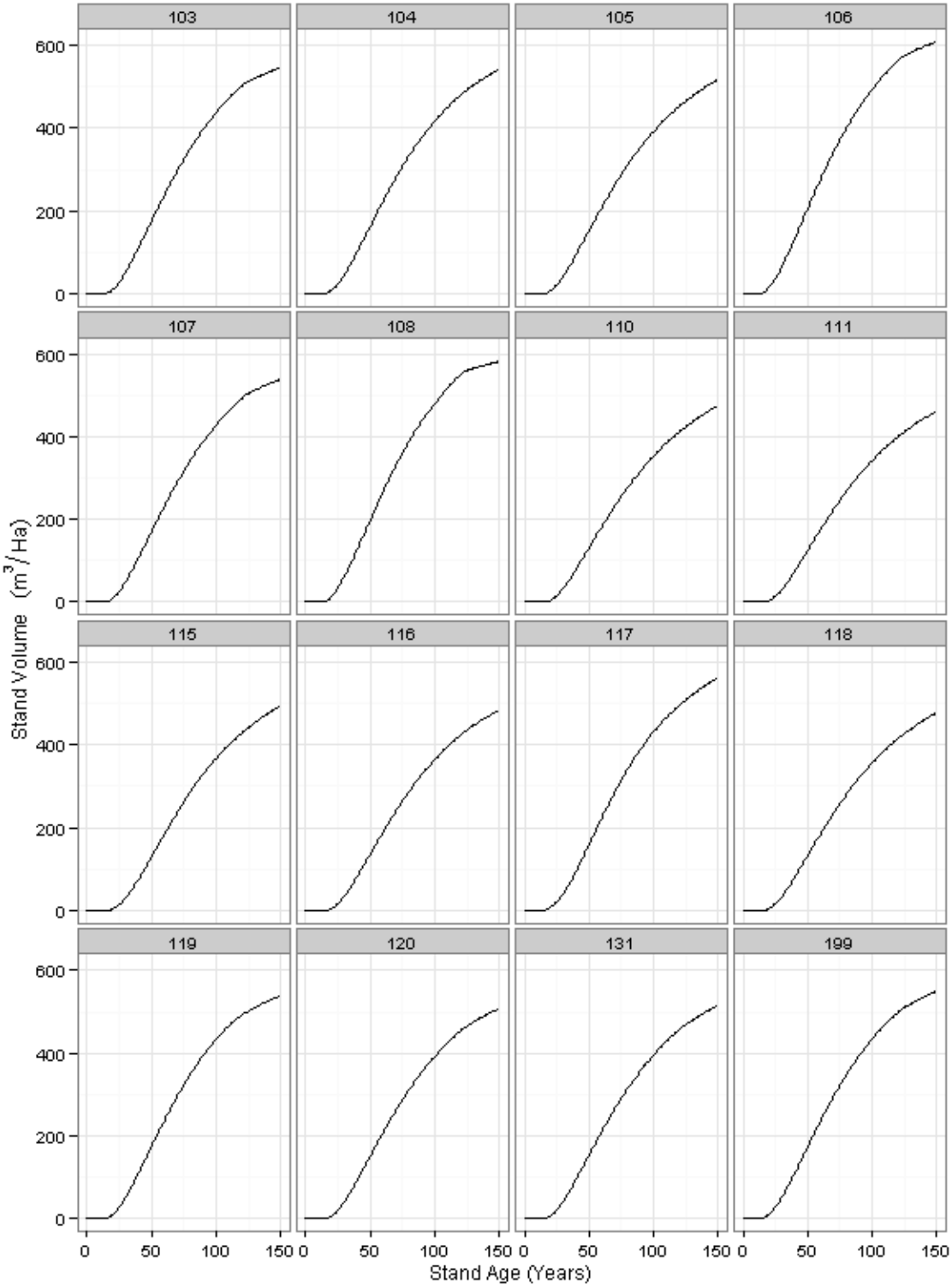

Figure 8.2: Existing MSYT by Analysis Unit

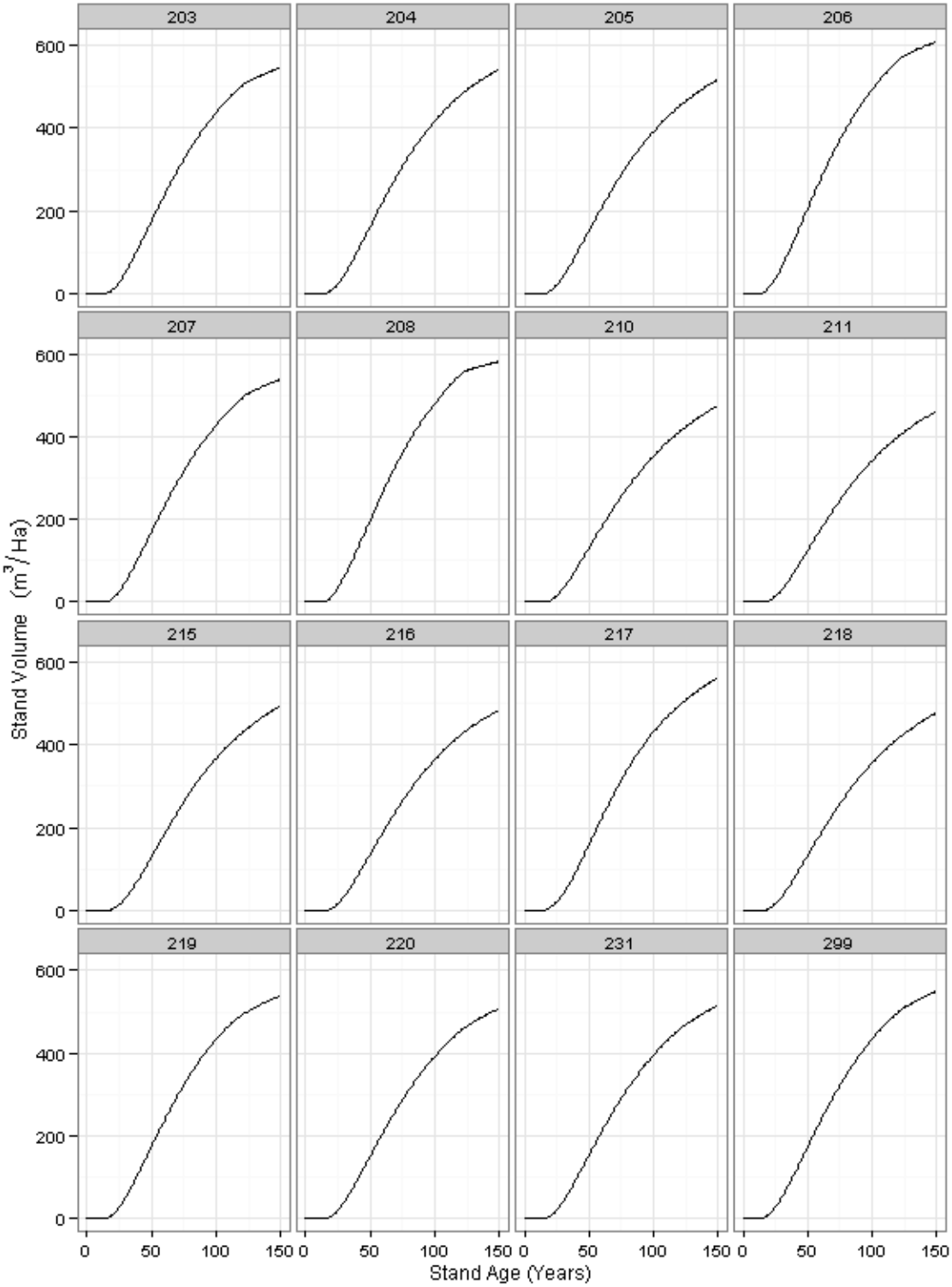

Figure 8.3: Future MSYT by Analysis Unit