

Sechelt Community Forest Tenure Timber Supply Study

March 12, 2005

This study was undertaken to give a preliminary view of what potential areas would be required to meet the Sechelt Community Tenure cut of 20,000 m³/year in both the short and long term. The Sechelt Community Forest Tenure opportunity is for a five year probationary license, which is the short term to be considered. If it is managed successfully, the Province may extend the term of the tenure to a longer term of 25 to 99 years.

This study of the timber supply of areas being considered for the Sechelt Community Forest tenure has been undertaken using data supplied by the SCFD MOF, with local knowledge and local values considered for netdowns to the potential timber harvesting landbase.

Procedure:

This timber supply analysis basically followed the SCFD Timber Supply Review methodology. The steps taken are outlined below, including notes where local knowledge and values were incorporated:

1. Assembly of data files, including area boundaries, LU data files, trim data, satellite images.
2. Netdown of the Forest Cover inventory as per the TSR II definitions, removing:
 - Contributing classes N and X
 - ESA1 categories with 100% netdowns
 - Pine –leading forest polygons
 - Urban and other NP areas
 - Roads
 - Low productivity sites by TSR II species and site index definitions
 - Chapman Gray IWMP “no harvesting” zonation
 - Landscape Unit Plan Old Growth Management Areas
 - Riparian management areas for trim-identified streams
3. Further netdown of areas from the THLB for:
 - Additional NP areas identified locally
 - Hidden Grove recreation area
 - Unstable gullies in lower Angus Burnett area
 - Research plots
 - Potential Marbled Murrelet habitat in Chapman and Gray Creeks
 - Larger stream buffers
4. For each separate area an average Mean Annual Increment was calculated. This was done by either
 - A. Selecting all the stands with at least 300m³/ha. From this selection, stands over 150 years and under 60 years of age were eliminated. This selected only stands that have accumulated representative volume and have not yet stagnated. A weighted average volume and age were then derived and used to produce the average volume per ha per year for each potential tenure area.
or,
 - B. Calculating each area’s MAI from the MOF CF area TSR document by dividing the long run sustainable yield, in m³, by the timber harvesting landbase area in ha. (LRSY/THLB).
5. After the netdowns, a total productive area total was derived for each tenure zone.

6. The potential annual volume production of each tenure zone in m³/year was then calculated by multiplying the MAI by the productive area.
7. The total amount of urban interface area within each tenure zone was then identified, and a 25 % netdown applied as per the direction of the MOF SCFD Planning Forester. This netdown was assumed to be sufficient to also account for potential netdowns for visual quality objectives.
8. Netdowns were then applied for future roads and WTPs consistent with TSR II rules. Productivity figures for Douglas-fir-leading stand within the CDFmm, and CWHxm1 were then adjusted to account for root rot by deducting 12.71 %. This direction was provided by the MOF SCFD.
9. An estimate of the currently available wood supply for each tenure zone was derived by selecting all the stands of at least 60 years of age with at least 300m³/ha and then unselecting the alder, Abies and hemlock-leading stands. From the remaining stands, polygons under 0.5 ha and other significantly isolated stands were removed. A helicopter flight of the area was conducted to assess recent harvesting of both Crown and private lands. Photos and video were taken to accurately map these recent developments. Adjacency of both Crown and private harvesting was then taken into account for short term supply.

Results:

The areas available for the Sechelt Community Forest have enough timber to supply the needs of the five year probationary term.

Long-Term Productivity Results

Tenure Zone	Gross Area ha	Net Productive Area ha	Root Rot Area area ha / reduction ha	Urban Interface area ha / reduction ha	MAI m ³ /ha/yr	Productivity m ³ /yr
Angus/Burnett	3434	1099.9	144.2/18.3	1740.1/435	4.0	4399.6
West Sechelt	1146	900.9	193.6/24.6	78/19.5	5.5	4955.0
Wilson	1117	736.4	144.2/18.3	400/00	6.0	4418.4
Chapman	3063	740.4	0	50/12.5	4.2	3117.1
Gray	3047	1603.6	0	0	4.2	6751.2

Short Term Timber Availability

Tenure Zone	Current Wood Availability ha	Current Wood Availability m ³	Supply Based on Current Availability Years
Angus/Burnett	91.3	45,951	2.0
West Sechelt	188.8	120761	6.0
Wilson	144.0	95118	5.0
Chapman	24.2	9,819	0.0
Gray	142.6	64510	0.0
	590.9	336,159	13.0

Age Class Distribution:

The age class distribution has been calculated using all the productive area in each of the tenure areas and has not considered volumes, species or isolation.

The current supply of harvestable timber, above age class 3, can be seen in the Angus Burnett, Wilson Creek and West Sechelt tenure areas. The lack of available timber in Chapman and Gray Creeks is clear, with the majority of the area being age class 3 and under.

Age Class	Chapman Creek	Gray Creek	Angus Burnett	Wilson Creek	West Sechelt
0	32.7	22.3	0	104.8	3.0
1	385.7	578.8	399.4	192.6	166.6
2	221.9	339.0	129.7	0	113.5
3	59.0	388.2	550.2	4.3	189.2
4	12.3	32.2	94.7	66.3	153.2
5	13.2	146.8	86.9	25.9	40.7
6	0	33.8	165.6	113.5	91.8
7	2.5	0	64.8	316.8	123.1
8	8.8	31.4	24.1	30.4	61.2
9	16.9	20.0	37.7	0	2.7

Conclusion:

The areas available for the Sechelt Community Forest tenure are adequate to supply 20,000m³ of timber per year for the five year probationary period, and likely for another eight to ten years after that. The long term timber supply for this proposal area, for the 20,000 m³ AAC, will face a shortfall beginning approximately 2020 for about two decades. The timing and duration of this shortfall will depend on many factors including:

- Accuracy of the inventory data,
- Market prices for hemlock and Abies,
- Greenup rates affecting adjacency constraints,
- Commercial thinning viability and
- The community's opinion regarding selective harvesting within the Chapman and Gray Community Watersheds.