

**APPENDIX VI**

**20 YEAR PLAN**

# **TFL 43 Management Plan No.4**

## **20 Year Plan**

### **2000-2019**

#### **1.0 Introduction**

A 20 year plan is a requirement within the tree farm licence management plan planning process. It provides a spatial illustration of the proposed harvest level in the base case scenario of the timber supply analysis.

#### **2.0 Purpose of the 20 year plan**

- In 5 year increments it shows where the projected harvest level in the base case timber supply analysis is achieved while ensuring the management practices and harvesting constraints defined in the Information Package (IP) are satisfied.
- Allows the public and agencies to identify areas of concerns that they may have regarding proposed development scenario.
- Provide strategic guidance for future planning in each Block of the TFL.

#### **3.0 Guidelines and Objectives**

The objective is to validate the proposed harvest level in the base case of the timber supply analysis. The projected harvest levels represent one possible scenario for attaining the proposed harvest level. In this plan cutblocks that will be harvested in 1999 have been shown and labeled as such thus in essence resulting in a 21 year plan.

The Period 1 (first 5 years) of the 20 year plan is generally represented by the currently approved Forest Development Plan (FDP) for each Block of the TFL.

The management practices and harvesting constraints applicable to the 20 year plan are as follows:

- ⇒ Ensure the requirements of the *Forest Practices Code of BC Act* are satisfied.
- ⇒ Harvest the operable land within each Block of the TFL in accordance with the harvest level in the base case scenario of the timber supply analysis. Minor areas of non-merch and sub-merch stands contiguous to proposed cutblocks may be harvested and subsequently converted to hybrid poplar plantations.
- ⇒ A separate 20 year plan has been prepared for each Block of the TFL consistent with managing each Block as an individual operating unit.
- ⇒ Satisfy the requirements with respect to adjacency and green-up (the fast growing nature of hybrid poplar results in green-up in 3 years).

- ⇒ Ensure consistency with the netdowns used for Environmentally Sensitive Areas (ESAs) within the base case scenario of the timber supply analysis.
- ⇒ Harvest the profile of the available operable land base within each Block of the TFL. The uneconomic category delineated in the Homathko Block will not be subject to harvesting within this plan. As a first priority the company will salvage harvest dead, damaged stands or stands at risk of erosion and this will be followed by older age stands within each Block. Moreover, the conversion of lower-value (merchantable) alder and coniferous stands will likely coincide with periods of favourable log market conditions.
- ⇒ Harvesting will be planned to maintain the integrity of the Forest Ecosystem Network (FEN) established in the Homathko Block and other critical wildlife habitat areas (grizzly bear dens and bald eagle nest sites)
- ⇒ Riparian Management Guidebook “Best management practices for hardwood management along large rivers” will be applied to the plan. The main objective will be to ensure that wildlife trees within 20 metres of stream bank are maintained and that minimum of 50% of the trees on the first harvest are retained in this 20m zone.
- ⇒ The maps will show the planned harvest areas for 1999 including the SBFEP timber sale licence in Kingcome Block. Projected volumes will not be listed due the high variability and since the stands scheduled to be harvested at the tail end of this plan are immature at this time.
- ⇒ The Wildlife Tree Retention requirements will be fulfilled through the utilization of the existing riparian reserves, inoperable areas and environmentally sensitive areas to a large extent.
- ⇒ The proposed block areas will exclude applicable riparian reserves. Although the riparian reserves have not been shown on the 20 year plan maps these areas have been deducted from the productive forest through ESA’s and riparian reserves designation. In addition, the final block layout will ensure these areas are set aside during the operational planning stage.
- ⇒ Blocks larger than 40 ha will be split during operational planning to ensure that not more than 40 ha is denuded at any time prior to green-up of the adjacent area.
- ⇒ The harvest areas for this plan are based on the following proposed allowable annual cut for each Block:

Fraser	44.3 ha/year
Homathko	50.1 ha/year
Kingcome	13.8 ha/year

#### 4.0 Maps

The plan will be illustrated on forest cover maps at 1:20 000 scale. Following is a list of elements that will be defined on the maps:

- TFL licence boundaries
- Existing roads
- property boundaries
- water and watercourses
- non productive forest areas
- sand and gravel bars
- inoperable and economically inoperable (EI) areas
- environmentally sensitive areas
- timber type polygons with accompanying attribute sheets
- proposed harvest schedule by block and colour coded by five year periods. Period 1 will consist of essentially existing approved FDP.
- Future road and river crossings where required
- areas not sufficiently stocked (NSR), i.e. recent logging
- areas sufficiently stocked but not free growing
- Visual landscape inventory for the Fraser Block

#### 5. Plan Discussion and Results

##### **Harvest Areas by Period**

The plan lists the proposed harvest areas for each Block of the TFL in 4 five year periods. This plan was prepared in advance of the timber supply analysis leading to minor variances in the proposed harvest levels in this plan and the timber supply analysis. The proposed harvest area for each Block is based on the applicable rotation length and the long term *timber harvesting land base*. The *rotation length used in the current analysis* is 26 years for the Fraser Block (including 1 year regeneration delay) and 33 years for Kingcome and Homathko Blocks (including 3 year regeneration delay).

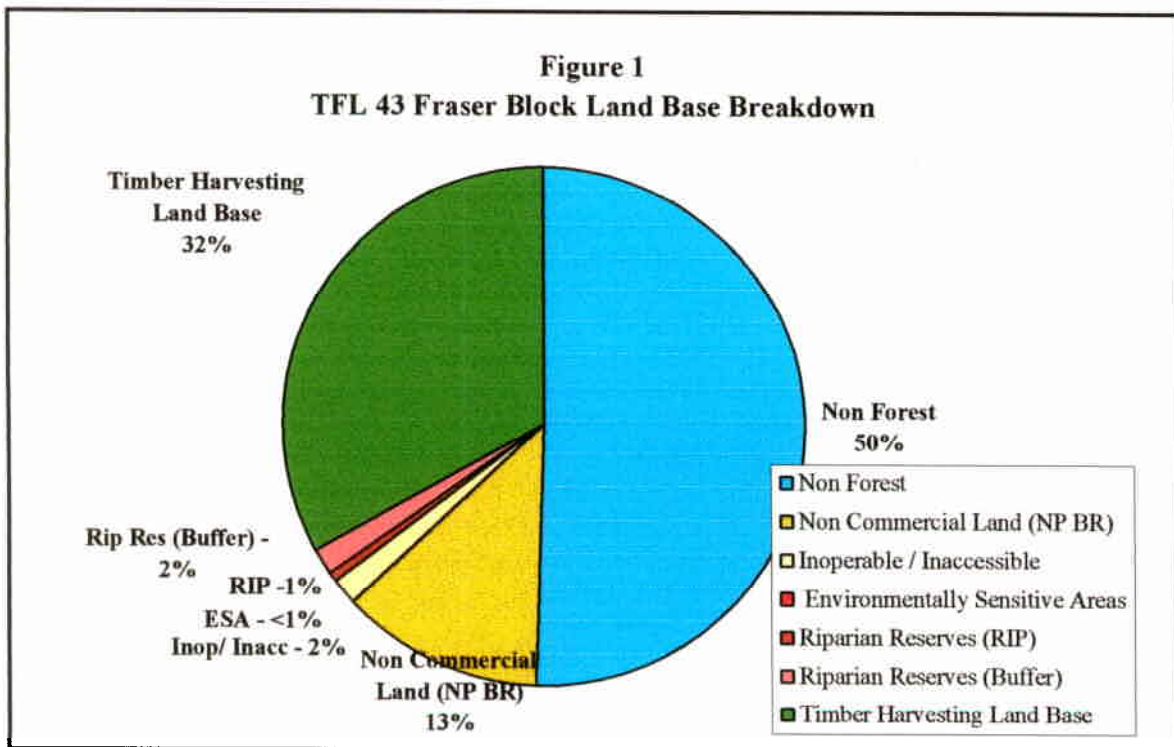
The first period of the 20 year plan consists of currently approved forest development plan (FDP) and as such a number of the cutblocks are within existing cutting permits.

A specific silviculture system has not been identified with each block but clearcutting is the most appropriate and preferred system for hybrid poplar management. In actuality the management of these alluvial sites is such that riparian and/or wildlife reserves are commonly adjacent to the proposed blocks, and the decision regarding the placement and size of the reserves is appropriately made at the operational planning stage. In addition, Scott Paper Limited has made an effort to retain *advance coniferous regeneration* if it does not interfere with regeneration objectives.

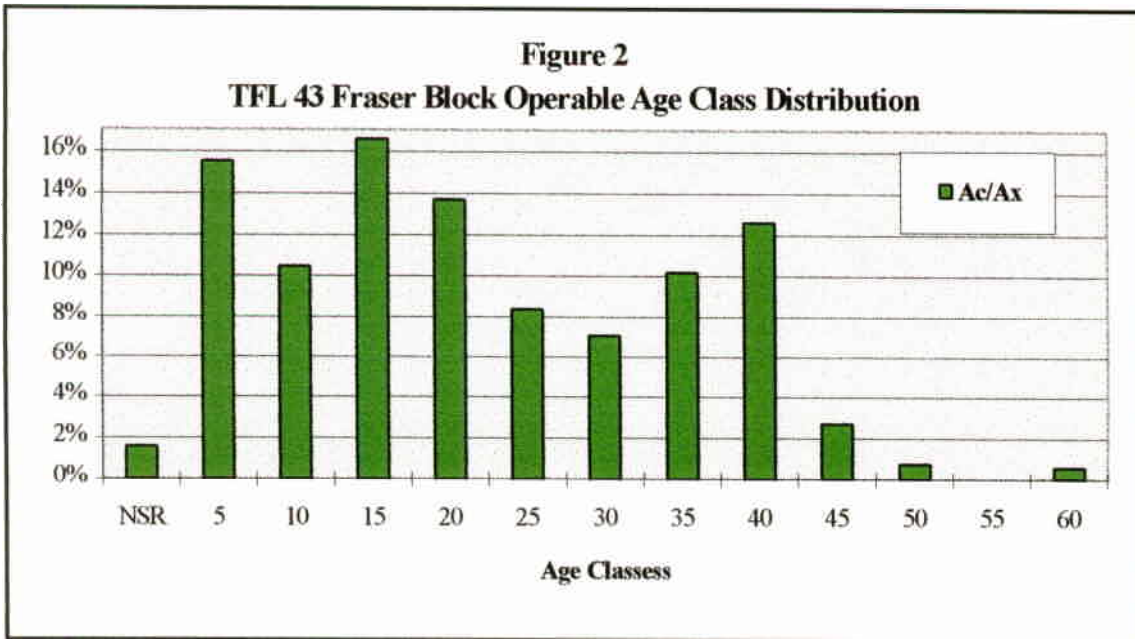
**(a) Fraser Block**

This area is managed at a very intense level because of its proximity to the manufacturing facility, accessibility, favourable growing conditions, and historical use. The Fraser Block 20 year plan has been prepared using the proposed area-based allowable annual cut calculation as the company considers it to be the most appropriate method until more accurate growth and yield information is available and remaining areas are converted to high yielding poplar pulpwood plantations.

Figure 1 provides the current breakdown of the land base within this Block. The total area for this Block is 3546.5 hectares. Approximately 33% of the land base is designated as the long term timber harvesting land base and this amounts to 1152 hectares.



The age class distribution of this available operable land base is shown in Figure 2. A significant proportion of the land base, about 41%, is made up of age classes older than the current planned rotation (26 years) for this Block. The leading species is cottonwood or hybrid poplar for all of stands within this Block.



The Table 1 shows the 20 year plan harvest level by periods for the Fraser Block. The areas are listed by Schedule “A” and Schedule “B” lands. The available operable land base within the Fraser Block consists of approximately 54% Schedule “A” lands and 46% Schedule “B” lands. The plan was not designed to harvest at a level consistent with this distribution but it did occur unintentionally. The plan was prepared to harvest at a constant level using the harvest forecast in the base case scenario of the timber supply analysis. Essentially  $\frac{4}{5}$  (897 ha out of 1152 total ha) of the available operable land base will be harvested during the plan given the 26 year rotation age. The projected volume has not been shown as it would be meaningless after the first period since these are young stands and volume changes are significant over five year periods. The plan has accommodated bald eagle nest sites through the removal of these areas from the timber harvesting land base.

**Table 1**  
**TFL 43 FRASER BLOCK- 20 YEAR PLAN**  
**HARVEST AREA SUMMARY**

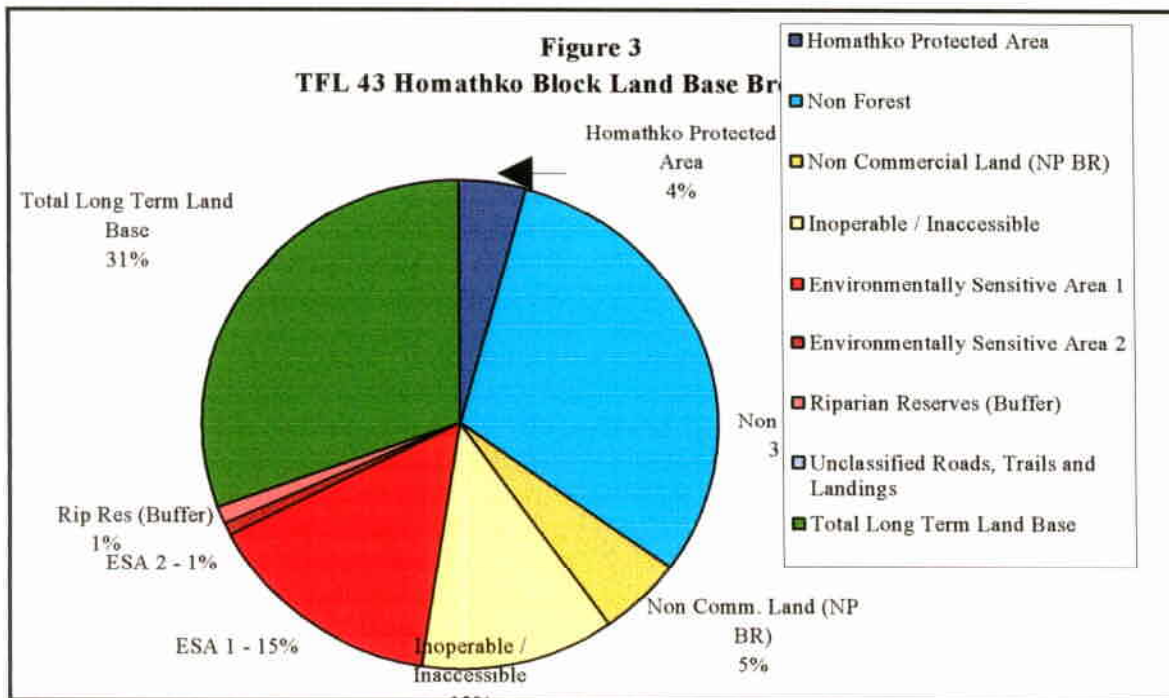
Period	Schedule “A” Area (ha)	Schedule “B” Area (ha)	Total Area (ha)
2000-2004	127	98	222
2005-2009	89	138	227
2010-2014	116	109	225
2015-2019	165	58	223
<b>Total</b>	<b>497</b>	<b>403</b>	<b>897</b>

## Visual Landscape Management

The plan only dealt with polygons assigned Partial Retention (PR) visual quality objective (VQO) as these are considered the most important from a visual landscape management perspective. The visual quality objective of PR is applicable to approximately 91 ha of the operable available land base which amounts to 5% of the total productive land base. A number of these polygons are small islands (less than 25 ha) and it is impractical to adhere to the percent alteration limit of 15% due to operational considerations such as logistics of mobilizing equipment and achieving cost-effectiveness. In these situations the whole island will be harvested in a single entry as it is found that the level topography combined with riparian reserves, highly modified surrounding landscape, sand and gravel bars, deciduous forest cover, and fast green-up mitigates the visual impact of the harvesting. This approach is consistent with current and past approved operational practices carried out on the TFL 43 Fraser Block.

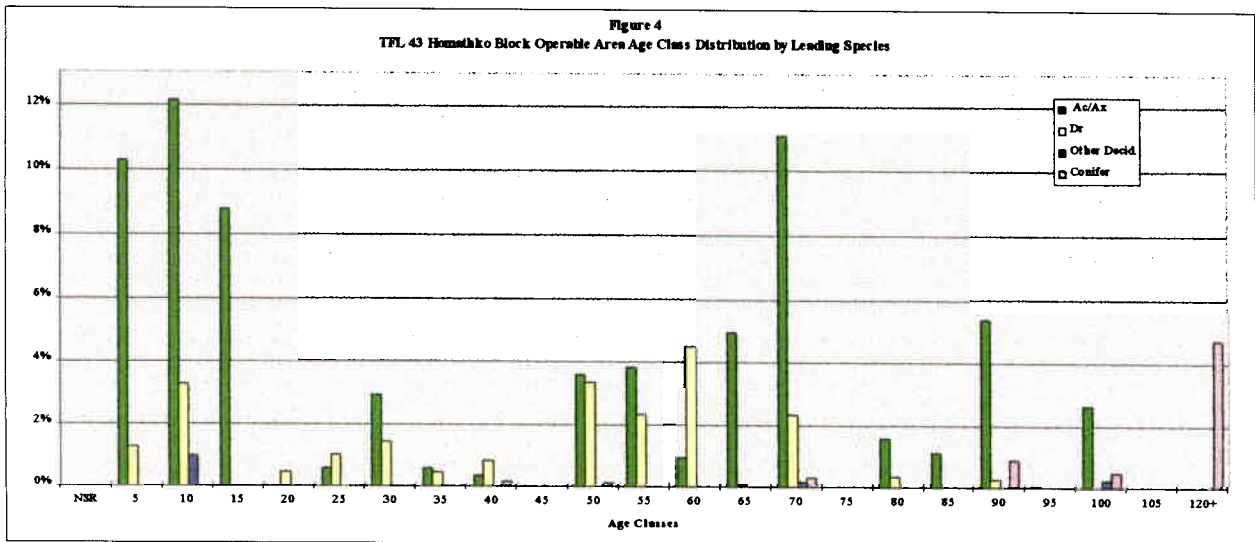
### (b) Homathko Block

The Homathko land base breakdown is shown in Figure 3. The total Block area is 5603.8 hectares. About 31% of the land base is classified as long term timber harvesting land base for management plan #4. In addition, 50% of the ESA2 areas (53 ha.) are available for harvesting within this plan.



The total long term timber harvesting land base is 1706.9 hectares. The age class structure of this available operable land base by leading species is shown in Figure 4. The leading species in stands older than 121 years is dominated by conifers where as 51 to 100 year old stands consist mainly of cottonwood.





The harvest levels for this plan are shown in Table 2. The harvest levels are based on the proposed AAC of 50.1 ha for this Block. The harvest level in this Block has been reduced significantly due to a decrease in the operable land base as a result of increase in the economically inoperable category. A further 3% reduction has been applied to the Timber Harvesting Land Base to account for Wildlife Tree Retention within cutblocks. It is assumed that 75% of stand level reserves will be met through existing constrained areas. The percentage is based on the current forest development plan. The areas listed are net areas excluding reserves. A significant portion of this Block has been reserved from harvesting as shown in Figure 3. The constrained areas have been designed to ensure the retention of the forested ecological network (FEN) developed for MP #3.

The Homathko plan was prepared by using environmentally sensitive area (ESA's) netdown limits applied within the timber supply analysis. A total of 986 ha of productive forest classified as environmentally sensitive is reserved from harvesting within this plan. Although a 98% netdown has been applied to ESA1 areas in the timber supply analysis, it is expected that on a site specific basis this may vary from a 90% to 100%. This arrangement was confirmed with the Ministry of Environment, Lands and Parks to ensure that critical wildlife habitat polygons are reserved from harvesting while providing flexibility in less critical areas for Scott Paper Limited to carry out minor boundary refinements during cutblock layout and engineering. The plan areas are consistent with 50% of the ESA2 areas being available for harvesting.

The conversion of existing stands within this Block is expected to be completed by the end of this 20 year plan since all available operable areas have been included in the project harvest levels. Appendix 1 lists the harvest areas by individual mapsheet and period.

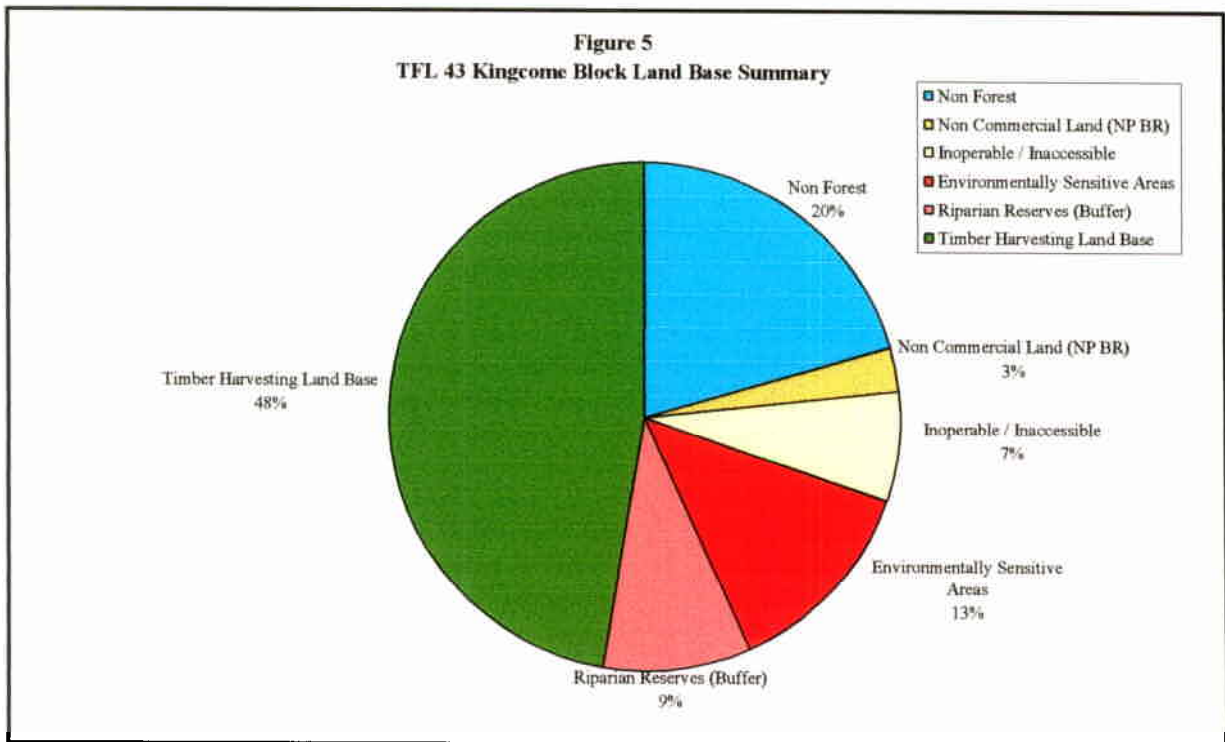


**Table 2**  
**TFL 43 HOMATHKO BLOCK - 20 YEAR PLAN**  
**HARVEST AREA SUMMARY**

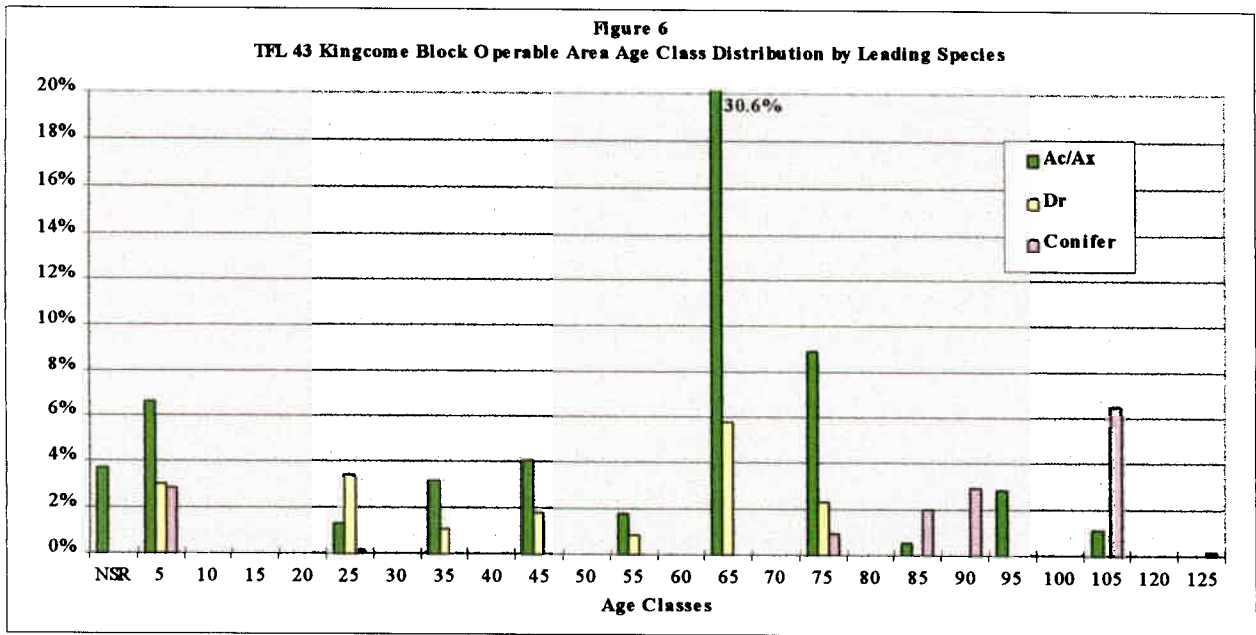
Period	Area (ha)
2000-2004	251
2005-2009	248
2010-2014	252
2015-2019	278
<b>Total</b>	<b>1029</b>

**(c) Kingcome Block**

The total land base breakdown is shown in Figure 5. The total area of this Block is only 955.9 hectares. The long term timber harvesting land base is approximately 48% of this total area.



The age class structure of the long term timber harvesting land base of 445.6 hectares is shown in Figure 6. The older age classes generally consist of conifers as leading species. About 40% of area consists of 61 - 75 year old cottonwood leading stands.



The harvest levels within this plan are listed in Table 3. The harvest levels are based on the proposed AAC of 13.8 ha. A constant harvest level is projected over the term of this plan. The harvest areas do not vary significantly in each period of the plan but the company expects a high degree of variance in volumes depending upon the stand composition. The areas have been reduced for riparian reserves found adjacent to the blocks within this plan. Appendix 1 provides the harvest level by mapsheet and period.

**Table 3**  
**TFL 43 KINGCOME BLOCK - 20 YEAR PLAN**  
**HARVEST AREA SUMMARY**

Period	Area (ha)
2000-2004	70
2005-2009	72
2010-2014	73
2015-2019	77
<b>Total</b>	<b>292</b>

Approximately 308 ha of productive forest consisting of ESA's, inoperable, riparian and non productive brush areas are reserved from harvesting within this plan. These constrained areas along with Ecological Reserves 40A and 40B (total area of approximately 400 ha) will largely fulfill the landscape level biodiversity requirement within this Block.

**APPENDIX 1**

**20 YEAR PLAN HARVEST AREAS BY MAPSHEET**

**TFL 43 - FRASER BLOCK 20 YEAR PLAN AREAS BY MAPSHEET**

<b>MAPSHEET</b>	<b>AREA (ha)</b>	<b>HARVEST PERIOD</b>	<b>SILVICULTURE SYSTEM</b>	<b>COMMENTS</b>
FR 1-1	48.7	2000-2004	CCCUT/ CC(RES)	
FR 1-1	40.2	2005-2009	CCCUT/ CC(RES)	
FR 1-1	15.5	2010-2014	CCCUT/ CC(RES)	
FR 1-2	48.5	2000-2004	CCCUT/ CC(RES)	
FR 1-2	88.2	2005-2009	CCCUT/ CC(RES)	
FR 1-2	44.7	2010-2014	CCCUT/ CC(RES)	
FR 1-2	78.5	2015-2019	CCCUT/ CC(RES)	
FR 2-1	14.2	2015-2019	CCCUT/ CC(RES)	
FR 2-2	52.3	2000-2004	CCCUT/ CC(RES)	
FR 2-2	95.6	2005-2009	CCCUT/ CC(RES)	
FR 2-2	150.3	2010-2014	CCCUT/ CC(RES)	
FR 2-2	58.6	2015-2019	CCCUT/ CC(RES)	
FR 3-1	72.3	2000-2004	CCCUT/ CC(RES)	
FR 3-1	14.9	2010-2014	CCCUT/ CC(RES)	
FR 3-1	42.5	2015-2019	CCCUT/ CC(RES)	
FR 3-2	31.9	2015-2019	CCCUT/ CC(RES)	
FR 1-1	34.4	1999	CCCUT/ CC(RES)	1999 Harvest Areas
FR 2-2	50.5	1999	CCCUT/ CC(RES)	1999 Harvest Areas

**TFL 43 - HOMATHKO BLOCK 20 YEAR PLAN AREAS BY MAPSHEET**

<b>MAPSHEET</b>	<b>AREA (ha)</b>	<b>HARVEST PERIOD</b>	<b>SILVICULTURE SYSTEM</b>	<b>COMMENTS</b>
HOM 1-1	5.6	2000-2004	CCCUT/ CC(RES)	
HOM 1-1	55.9	2005-2009	CCCUT/ CC(RES)	
HOM 1-1	40.4	2010-2014	CCCUT/ CC(RES)	
HOM 1-2	50.4	2000-2004	CCCUT/ CC(RES)	
HOM 1-2	21.0	2005-2009	CCCUT/ CC(RES)	
HOM 1-2	7.5	2010-2014	CCCUT/ CC(RES)	
HOM 1-2	27.3	2015-2019	CCCUT/ CC(RES)	
HOM 1-3	109.8	2000-2004	CCCUT/ CC(RES)	
HOM 1-3	98.4	2005-2009	CCCUT/ CC(RES)	
HOM 1-3	126.6	2010-2014	CCCUT/ CC(RES)	
HOM 1-3	57.3	2015-2019	CCCUT/ CC(RES)	
HOM 2-1	55.8	2000-2004	CCCUT/ CC(RES)	
HOM 2-1	73.8	2005-2009	CCCUT/ CC(RES)	
HOM 2-1	27.2	2010-2014	CCCUT/ CC(RES)	
HOM 2-1	35.0	2015-2019	CCCUT/ CC(RES)	
HOM 2-2	29.2	2000-2004	CCCUT/ CC(RES)	
HOM 2-2	17.3	2010-2014	CCCUT/ CC(RES)	
HOM 2-2	80.0	2015-2019	CCCUT/ CC(RES)	
HOM 3-1	33.4	2010-2014	CCCUT/ CC(RES)	
HOM 3-1	78.0	2015-2019	CCCUT/ CC(RES)	
HOM 3-1	31.1	1999	CCCUT/ CC(RES)	1999 Harvest Areas

**T.F.L. 43 - KINGCOME BLOCK 20-YEAR PLAN AREAS BY MAPSHEET**

<b>MAPSHEET</b>	<b>AREA (ha)</b>	<b>HARVEST PERIOD</b>	<b>SILVICULTURE SYSTEM</b>	<b>COMMENTS</b>
MAP 1-1	45.8	2000-2004	CLRCUT/ CC(RES)	
MAP 1-1	39.8	2005-2009	CLRCUT/ CC(RES)	
MAP 1-1	73.3	2010-2014	CLRCUT/ CC(RES)	
MAP 1-1	53.1	2015-2019	CLRCUT/ CC(RES)	
MAP 1-2	23.9	2000-2004	CLRCUT/ CC(RES)	
MAP 1-2	31.8	2005-2009	CLRCUT/ CC(RES)	
MAP 1-2	24.0	2015-2019	CLRCUT/ CC(RES)	
MAP 2-1	33.4	1999	CLRCUT/ CC(RES)	SBFEP Sale - To be Sold in 1999