

**Iisaak Forest Resources Ltd.**

**Tree Farm License No. 57**

**Twenty Year Plan**

November 21, 2003

A handwritten signature in black ink, appearing to read 'Greg Rowe', written over a horizontal line.

Greg Rowe, RPF

Iisaak Forest Resources Ltd.  
Box 639, Ucluelet, B.C.  
V0R 3A0  
Phone: (250) 726-2446  
Fax: (250) 726-2488

## Table of Contents

1.0 Introduction	4
2.0 Background	4
3.0 Assumptions	5
3.1 Format of plan	5
3.2 Watershed Plans	7
3.3 Marbled murrelet management	7
3.4 Forest Development Plan	7
3.5 Rate of harvest	8
3.6 Watershed rate of cut	8
3.7 Green-up/adjacency/block size	8
3.8 Visual resource management	8
3.9 Variable retention harvest system	9
3.10 Old growth management	10
3.11 Community watersheds	10
3.12 Recreation management	10
3.13 Culturally significant areas	10
3.14 Minimum harvest ages	10
3.15 Transition to second growth harvesting	11
3.16 Access and roads	11
3.17 Engineering	13
3.18 Undercut carry forward	13
4.0 Results	13
4.1 Harvest levels	13
4.2 Location of harvest relative to watershed planning units	14
4.3 Harvest systems	14
4.4 Watershed rate of cut	14
4.5 Old growth	14
4.6 Visual resource management	15
4.7 Road construction	16
Appendix – Terms of Reference for the Twenty Year Plan	17

## **List of Tables**

- Table 1 – Minimum harvest ages
- Table 2 – Proposed road construction
- Table 3 – Proposed harvest levels by watershed planning unit
- Table 4 – Planned harvest areas and volumes by watershed
- Table 5- Proposed harvest systems
- Table 6- Number and size of proposed blocks
- Table 7 – Old growth by watershed planning unit
- Table 8 – Estimated distribution of harvest by visual zone

## **List of Maps**

- Map 1 – North and South map sheets – Forest cover and timber harvesting land base
- Map 2 – North and South map sheets – Terrain and visuals

## **1.0 Introduction**

This Twenty Year Plan (TYP) has been prepared as part of Management Plan (MP) No. 1 and is a requirement of both the License Agreement for Tree Farm License (TFL) No 57 and Section 35(1)(d)(viii) of the Forest Act. The TYP is intended to provide a hypothetical sequence of harvesting which supports the area-based Timber Supply Analysis (TSA) and which is consistent with measures to be taken and specifications to be followed for meeting the management objectives of MP No 1.

The TYP includes the period from January 1, 2003 until December 31, 2022.

## **2.0 Background**

TFL 57 is located in the South Island Forest District on the west coast of Vancouver Island in Clayoquot Sound. It is bordered to the north by Strathcona Provincial Park. Pacific Rim National Park and the communities of Tofino and Ucluelet are located to the south and west of the TFL. TFL 57 is about 87,000 ha and includes approximately 32% of the total area of Clayoquot Sound. The remainder of Clayoquot Sound is comprised of Provincial and National Parks and Protected Areas (33%), TFL 54 (21%, held by International Forest Products Ltd.), the Arrowsmith Timber Supply Area, and a variety of smaller tenures, private land, and Indian Reserves. The license area consists of twenty-one separate geographical blocks that are interspersed with the Parks, Protected Areas and TFL 54.

Clayoquot Sound is divided into fourteen Watershed Planning Units that are similar to Landscape Units elsewhere in the province. TFL 57 includes all or part of eleven Watershed Planning Units (Bedingfield, Bedwell/Ursus/Bulson, Clayoquot River, Cypre, Flores Island, Fortune Channel, Hesquiat, Kennedy Lake, Meares Island, Sydney/Pretty Girl, Tofino/Tranquil, and Upper Kennedy). These are further divided into 175 individual watersheds, which are all or partly located in TFL 57. These watersheds are the units used in this TYP to control rate of cut and to report on planned harvesting.

The TFL is located within the traditional territory of the Nuu-Chah-Nulth Central Region First Nations (Ahousaht, Hesquiaht, Tla-o-qui-aht, Toquaht, Ucluelet Bands). The First Nation villages of Ahousaht, Hot Springs Cove, Opitsaht, Esowista, and Port Albion are located near to the TFL.

TFL 57 was created on October 27, 1999 by subdividing TFL 44, (held by Weyerhaeuser and previously by MacMillan Bloedel), into two portions, the "Clayoquot portion" and the "remainder portion". The Clayoquot portion consisted of the entire Clayoquot working circle except for the upper Kennedy Valley. Following the subdivision of TFL 44 the Clayoquot portion was transferred to Iisaak. The following additional changes were also made at that time:

- 24 parcels of MacMillan Bloedel's private land holdings in Clayoquot Sound were removed from TFL 44 (ownership retained by MacMillan Bloedel);
- 15 Timber Licenses inside TFL 44 were transferred to Iisaak (these now comprise the Schedule "A" component of TFL 57); and
- 6 Timber Licenses outside TFL 44 were transferred to Iisaak.

Prior to the subdivisions and transfer to Iisaak, the area had been managed as part of TFL 44 for forty-five years. A significant amount of harvesting has taken place in the area that is now TFL 57 during these years. Minor amounts of harvesting also occurred prior to the establishment of TFL 44, mostly smaller areas along the shoreline. There are presently about 18,000 ha of second growth forest in the TFL, most of this is less than 40 years old. It is mostly of harvest origin with small amounts from natural disturbances. Most of the areas of past harvesting are located in the Kennedy Lake, Cypre, Bedingfield, Fortune Channel, and Tofino-Tranquil watershed planning units.

The southwestern part of the TFL (up to and including the south side of Tofino Inlet and Tofino Creek) is accessible by road from the Provincial Highway system. The other developed areas are accessible by road systems that end at the various log dumps located throughout TFL 57 and TFL 54 including Hecate Bay (Cypre), Bedingfield Bay, Rankin Cove (Tranquil), and Steamer Cove (Flores Island).

MP No.1 takes direction from the *Clayoquot Sound Land Use Decision* (CSLUD, 1993), the *Clayoquot Sound Scientific Panel Report 5, Sustainable Ecosystem Management in Clayoquot Sound: Planning and Practices* (CSSP, 1995), the *Clayoquot Sound Interim Measures Extension Agreement* (IMEA, 2000), and the *Forest Practices Code Act of British Columbia* (FPC Act).

A TYP was not done as part of the last MP for this area since at that time relatively little progress had been made on watershed planning in Clayoquot Sound and there was little operational experience in implementing the CSSP recommendations.

### **3.0 Assumptions**

The following assumptions were used in the preparation of the TYP.

#### **3.1 Format of plan**

The format of the TYP was discussed with Forest Service staff on a number of occasions during the early stages of the MP process. On the basis of these discussions a Terms of Reference was prepared for the TYP and submitted to the Forest Service in January of 2002. Detailed comments on the Terms of Reference were received from the South Island Forest District in March of 2002. The plan format is based on the Terms of Reference and subsequent comments from the Forest Service. Aside from changes

suggested by the South Island Forest District the TYP is generally consistent with what was proposed in the Terms of Reference. Several minor differences are as follows:

- A new FDP was produced by Iisaak after the Terms of Reference was completed which allowed the first 5 years of the TYP to be based on the FDP instead of 2 years as suggested in the Terms of Reference.
- A spreadsheet was used to calculate compliance with watershed rate of cut, old growth and visual requirements instead of the FSSIM model. This was done in order to facilitate integration of the FDP blocks into the TYP and to strengthen the link with the map information.
- An area-based AAC approach is proposed by Iisaak so there is no volume information in the TYP.

Rather than a traditional format with blocks shown on a map the TYP defines the Timber Harvesting Land Base (THLB) and shows watershed boundaries on a 1:50,000 map. A table is provided which lists proposed harvest areas, volumes, and approximate retention levels by watershed unit for each of the four, five year periods of the plan. Area based rate of cut by watershed, visuals, and old growth govern the size, location, and timing of proposed harvesting in the TYP. This approach was used for the following reasons:

- Under the Clayoquot Sound Scientific Panel (CSSP) recommendations for planning, Watershed Plans identify areas to be protected and areas where timber harvesting may occur. In order to identify potential harvest blocks on a map it is necessary to have the watershed plans completed. The watershed plans are nearly completed for four of the twelve watershed planning units in TFL 57. The status of the others varies, with interim watershed plans in place for some.
- One of the major values of a TYP in other management units is the ability to deal with block size and adjacency directly. Block size and adjacency are not major issues in Clayoquot Sound, they are dealt with through the watershed rate of cut and provisions of the variable retention harvest system.

The approach used does show where the harvest will be located, how it meets watershed level CSSP direction, and what the access issues are that are associated with the proposed harvesting. Amount of old growth and area harvested in visual classes are reported.

The TYP includes the following items:

- This report.
- The set of 1:50,000 Twenty Year Plan maps. The TFL is split into two separate map sheets (a “North map” and a “South map”). There is a “Map 1” (forest cover theme), and “Map 2” (contours and visuals).

### **3.2 Watershed Plans**

Watershed planning (both final watershed plans through the Clayoquot Sound Planning Committee and interim watershed plans through the licensees) have been progressing during the period that the MP has been underway. The THLB for the TWP was defined using the latest watershed planning reserve network available. This included:

- The draft Watershed Reserve Plans for Cypre, Bedingfield, and Flores as produced by the Clayoquot Sound Planning Committee (July, 2002).
- The interim watershed plan prepared by Iisaak Forest Resources Ltd. for Tofino/Tranquil (January, 2003).
- The interim watershed plans prepared by Interfor for Hesquiat, Fortune, Upper Kennedy, and the Swim Beach portion of Kennedy Lake.
- The interim watershed plans prepared by Iisaak for the North Ridge and Kennedy Flats part of the Kennedy Lake watershed planning unit.
- Other areas used an older, partly complete reserve network based on available inventories (generally complete except for ecosystem representation reserves and blue listed ecosystem reserves).

There are presently agreements in place regarding completion of watershed plans before accessing undeveloped drainages. The TYP allows time for completion of watershed plans before scheduling harvest in these areas. No harvesting is scheduled in the Clayoquot River or the undeveloped part of the Bedwell/Ursus/Bulson in the TYP.

### **3.3 Marbled murrelet management**

As part of the watershed planning process interim reserves for marbled murrelet habitat have been located in four watershed planning units (Cypre, Flores, Bedingfield, and Tofino/Tranquil). These areas are shown on the TYP maps. No harvesting has been scheduled in these areas in the TYP.

### **3.4 Forest Development Plan**

In December, 2002 Iisaak Forest Resources Ltd. advertised a Forest Development Plan (FDP) for public review and comment. This FDP has approximately five years of proposed harvest volume at the rate of harvest proposed for the TYP. The TFL No.57 part of it (it also includes Timber Licenses outside of the TFL) is therefore used directly for the first five year period of the TYP. This results in some minor inconsistencies with the rate of cut approach used for the TYP, in that the FDP was created on the basis of using the total available rate of cut in some drainages, not just the rate of cut attributable to the TFL No. 57 land base. At the time of preparing the TYP the final version of the FDP had not yet been submitted for approval, all FDP blocks were used in the TYP regardless of category.

### **3.5 Rate of Harvest**

The TYP has been prepared consistent with the TSA which identifies that TFL No.57 can sustain the proposed harvest level of 375 ha per year (100 ha of even aged harvesting and 275 ha of uneven aged harvesting).

### **3.6 Watershed rate of cut**

The Clayoquot Sound Scientific Panel (CSSP) makes recommendations regarding rate of cut for most categories of watersheds. These allow harvesting of either 5% of the total watershed area in 5 years or 10% in 10 years, depending on the size of the watershed. Available areas were calculated according to rate of cut recommendations for each watershed for each of the four periods of the TYP. Proposed harvest areas were based on the calculated available areas except for period 1, that as noted earlier was based directly on the FDP.

Some of the watersheds are only partly in the TFL No. 57, the rest is either in TFL No. 54, the Arrowsmith TSA, other Timber Licenses outside of TFL No 57, protected areas, or other tenures. In order to maintain consistency with the TSA, and simplify the exercise, available areas are calculated using only the total area of the watershed within TFL No. 57.

For secondary watersheds (e.g. a watershed that drains through a primary watershed before emptying into the ocean) between 200 and 500 ha, a 10 year rate of cut was assigned, even though the CSSP recommends that rate of cut on these watersheds only indirectly (cumulated for the entire drainage) rather than individually.

The retention percentages (described below in section 3.6) were used to calculate an “Equivalent Clearcut Area” (ECA) for the purposes of determining how much area at varying retention levels could be cut while maintaining consistency with rate of cut recommendations. The total area proposed for harvesting was reduced proportionately by the estimated retention percentage in order to calculate the ECA.

### **3.7 Green-up/adjacency/block size**

A variety of blocks sizes and retention levels are planned. Under the CSSP adjacency and block size issues are controlled primarily through rate of cut recommendations for watersheds. In most cases the available area under the rate of cut recommendations and retention recommendations for visual areas combine to produce a cutting regime that also meets FPC requirements for block size and adjacency.

### **3.8 Visual resource management**

The District Manager has designated Clayoquot Sound as a known scenic area. The management of visual resources within TFL No 57 is guided by the Clayoquot Sound Scenic Resource Inventory, which zones the area according to degree of acceptable visible disturbance as follows:

- Natural Appearing – visual disturbance is not discernible to the casual observer.
- Minimal Alteration – visual disturbance may be discernible but not clearly evident in the landscape.
- Small Scale Alteration – visual disturbance must remain visually subordinate in the landscape.

Iisaak has primarily managed these areas using high levels of retention, primarily with small patches and/or narrow strips being harvested. At the Visual Impact Assessment (VIA) stage acceptable visual disturbance has generally been evaluated using Table 4 of the VIA Guidebook (Predicting visual quality objectives using even-distribution, leave-tree, partial cutting silvicultural systems) rather than amount of clear-cut denudation. This approach was also used for the TYP. It assumes that the treatment can be carried out over large areas within a Visual Landscape Unit (VLU) and still meet visual objectives.

### **3.9 Variable retention harvest system**

The CSSP recommends that a variable retention approach be used with a range from 15%-70% retention. Retention according to the CSSP implies trees to be retained through to the next rotation. In the TSA permanent retention is modeled as a land base deduction and shorter term retention (e.g. in visuals until visually effective greenup occurs) is modeled by the use of forest cover requirements. In the TYP the retention percentages include both permanent and temporary retention (trees retained until visually effective greenup occurs, which could be harvested before the next rotation). The two items are combined here since the 20 year time horizon is generally less than the time required to reach visually effective greenup which means there will be no further harvesting in these areas during the term of the TYP.

In the TYP the land base deduction for retention was added back into the THLB in order to make the areas listed in the tables relate more closely to the reserve network shown on the maps.

Retention percentages are based on operational experience and were assigned as follows:

- Natural appearing – 75%
- Minimal alteration – 70%
- Small scale alteration – 65%
- Class IV terrain – 70%
- Recreation management zone- 65%
- Non visible second growth (off site fir and commercial thinning) - 50%
- Other areas - 30%.

These percentages are different than the ones listed in the TSA Information Package for the reasons given above. The average retention percentage is estimated for each watershed. They are intended to provide a realistic estimate of available volumes.

### **3.10 Old growth management**

The CSSP recommends that a minimum of 40% of the forested area of each watershed planing unit be retained in forests older than 140 years. At an operational level this is intended to be calculated for the entire unit regardless of tenure boundaries. However for the purposes of the TYP (as for the watershed rate of cut) in order to maintain consistency with the TSA and to simplify the exercise it was calculated for the area within TFL No 57 only. This resulted in no old growth harvesting was scheduled in Kennedy Lake after the FDP blocks in the first period when in fact small amounts may become available.

### **3.11 Community watersheds**

There is one (Anderson Creek on Flores Island) Community Watershed in the THLB of TFL No. 57 at present.

### **3.12 Recreation management**

Recreation management in TFL No 57 is guided by management zones along the marine shore (a total of 300m including the marine shore reserve) and a 100m reserve around larger lakes. Management guidelines are not specific for these areas, the objective is to protect recreation values through appropriate levels of retention.

### **3.13 Culturally significant areas**

These areas have been identified in some of the watershed planning units (Flores, Cypre, Bedingfield, and Tofino/Tranquil) later in the process of preparing the TYP. They are not shown on the maps but were considered in estimating retention levels for specific watersheds.

### **3.14 Minimum harvest ages**

These are taken directly from the TSA.

**Table 1 – Minimum harvest ages**

Leading Species	Site class	Age	Minimum harvest age
Fir/Pine	Good	1-40	60
Fir/Pine	Medium	1-40	70
Fir/Pine	Poor	1-40	100
Fir/Pine	Good	41+	50
Fir/Pine	Medium	41+	90
Fir/Pine	Poor	41+	180
Cedar/Cypress	Good	1-40	60
Cedar/Cypress	Medium	1-40	70
Cedar/Cypress	Poor	1-40	90
Cedar/Cypress	Good	41+	60
Cedar/Cypress	Medium	41+	70
Cedar/Cypress	Poor	41+	160
Hemlock/Balsam/Spruce	Good	1-40	70
Hemlock/Balsam/Spruce	Medium	1-40	80
Hemlock/Balsam/Spruce	Poor	1-40	100
Hemlock/Balsam/Spruce	Good	41+	50
Hemlock/Balsam/Spruce	Medium	41+	70
Hemlock/Balsam/Spruce	Poor	41+	150

### **3.15 Transition to second growth harvesting**

Second growth harvesting included “offsite fir” and commercial thinning in leading hemlock stands. There appears to be little opportunity for final harvest of anything except “offsite fir” within the 20 year period given the minimum harvest ages used in the timber supply analysis (60 years and up depending on species and site).

All significant areas of accessible age class 2+ second growth on reasonable ground in the Kennedy, Upper Kennedy, and Fortune units were scheduled for harvesting (commercial thinning or final harvest of “offsite fir” component). This included significant areas of “offsite” fir and also leading hemlock commercial thinning. Second growth in areas with terrain or access issues (eg. Sand River) were not included. A retention level of 50% (in non visible areas) was assigned. Some smaller areas of second growth were also scheduled in Cypre in the fourth period.

### **3.16 Access and roads**

All proposed roads from the TFL 57 portion of the FDP are included as proposed roads in the first 5 year period of the TYP. Additional road construction in periods 2,3, and 4 is shown on the map and listed below in Table 2.

**Table 2 – Proposed Road Construction**

Watershed Planning Unit	Watershed #	Period	Proposed road construction (km's)
Bedingfield	67	1	0.6
	69.1	1	0.1
	209	1	1.6
Bedwell/Ursus/Bulson	21.1		1.8
Clayoquot River	All	All	0
Cypre	22	1	0.5
	34	1	0.2
	36	1	0.5
	56	1	1.0
	130	1	1.0
	207	1	2.1
	208	1	6.8
	219	1	1.0
Flores	81	2	2.0
	82	2	5.5
	83	2	0.2
	84	2	5.0
	84.1	2	1.0
	85	2	5.0
	86	1	1.7
	87	2	2.3
	88	2	0.3
	90.2	2	0.6
	93.1	2	5.2
	93.1.1	2	1.0
	94	1	1.7
	211	2	3.5
Fortune	200	1	2.1
Kennedy Lake	3	1	0.2
	4	1	1.0
	4.1	1	0.4
	4.2.2	1	0.4
Sydney Pretty Girl	105	2	0.7
	214	2	1.7
Tofino	9.3	2	1.2
	9.4	2	2.4
	11.2	1	2.6
Upper Kennedy	4.12	1	1.7

### 3.17 Engineering

The harvest method is shown in Table 4 as either conventional or helicopter. Conventional is primarily cable, except for areas of ground based (hoe forwarding) in the second growth harvesting.

A 1.5 km maximum flight distance for helicopter is assumed. In order to meet the target no areas were avoided because of harvest system.

Proposed road grades and yarding distances are consistent with practices in area, given that Isaak has had limited operational experience in either of these activities to date.

### 3.18 Undercut carry forward

No carry forward of past undercut volume was included in the TYP.

## 4.0 Results

The results of the TYP are as follows:

### 4.1 Harvest levels

Table 3 shows the harvest levels projected in the TYP.

**Table 3 Proposed harvest levels by Watershed Planning Unit**

Watershed Planning Unit	Area by period (ha)			
	Period 1 (1-5 years)	Period 2 (6-10 years)	Period 3 (11-15 years)	Period 4 (16-20 years)
Bedingsfield	105	100	0	119
Bedwell/Ursus/ Bulson	0	0	310	325
Clayoquot River	0	0	0	0
Cypre	623.5	453.5	405	605
Flores	229	717	615	364
Fortune	178	70	170	99
Hesquiaht	48	10	0	0
Kennedy Lake	209.5	97.5	137.5	108
Sydney/Pretty Girl	0	128	0	81
Tofino/Tranquil	275	270	245	220
Upper Kennedy	215	40	12.5	12.5
Total	1883	1886	1895	1933

The results are consistent with the proposed harvest level of 375 ha per year (1875 ha per five year period).

The proposed harvest consists of both existing stands and second growth. See Table 4 for a detailed report of proposed harvest areas by individual watershed. This report also separates second growth harvest areas from other mature harvest areas.

#### **4.2 Location of harvest relative to watershed planning units**

No harvesting is proposed in the Clayoquot River, the undeveloped parts of Bedwell Ursus/Bulson, or in the Timber License at the head of Sydney Inlet.

#### **4.3 Harvest systems**

**Table 5 – Proposed harvest systems**

Period 1		Period 2		Period 3		Period 4	
Hel.	Con.	Hel.	Con.	Hel.	Con.	Hel.	Con.
%	%	%	%	%	%	%	%
36	64	46	54	54	46	55	45

Table 5 above shows the breakdown of the proposed harvest between helicopter and conventional (cable and ground based) harvest systems on an “equivalent clear cut area” (eg. area reduced for varying retention percentages) basis. The percentage of helicopter is high compared to other operations but is lower than Iisaak’s operations to date. The helicopter percentage would be slightly higher in all periods on a volume basis since the second growth harvesting is entirely conventional and it has a lower volume per hectare.

#### **4.4 Watershed rate of cut**

Available area according to CSSP rate of cut recommendations and proposed harvest is shown for each watershed in Table 4.

#### **4.5 Block size**

The approximate number and size of proposed harvest blocks is shown in Table 6.

#### **4.6 Old growth**

**Table 7 – Old growth by Watershed Planning Unit**

Watershed Planning Unit	TFL 57 forested area (ha)	TFL 57 present old growth (ha)	TFL 57 present old growth (%)	20 YP harvest area (ha)	TFL 57 old growth at end of year 20 (%)
Beddingfield	2264	1722	76.1	330	61.5
Bedwell/Ursus/Bulson	16726	13308	79.6	610	75.9
Clayoquot River	4784	4255	88.9	0	88.9
Cypre	15967	9910	62.1	2084	49.0
Flores	10132	9603	94.8	1899	75.0
Fortune	4840	2526	52.2	655	39.7
Hesquiaht	839	801	95.5	58	88.6
Kennedy Lake	8592	3360	39.1	1023	37.8
Sydney/Pretty Girl	1995	1857	93.1	210	82.7
Tofino/Tranquil	10079	7123	70.7	1000	60.8
Upper Kennedy	1542	1008	65.4	315	48.2

Table 7 above shows old growth for each watershed planning unit before and after the harvesting proposed in the 20 year plan. The harvest areas in this table 7 are from the “gross harvest area” columns in Table 4, which means the area is the area within the outer block boundary and includes areas of reserves. It is, therefore, slightly greater than the area used for the proposed area based AAC, and as such is a conservative approach to old growth management.

In the case of Kennedy Lake the initial percentage of old growth in TFL 57 is below the 40% recommended level. The present level for the entire watershed planning unit is approximately 42%, FDP blocks were proposed on that basis. Old growth harvesting is proposed in Period 1 only since this is taken from the FDP.

Any old growth areas proposed for harvest (even at high rates of retention) are assumed to no longer contribute towards old growth in the above table.

#### 4.7 Visual resource management

As was explained in section 3.8 the Lisaak approach to harvesting in visually sensitive areas is one that is independent of the area harvested since it is based on small openings and can be applied over a large area while still meeting visual objectives. The forest cover requirements (maximum percent removal) are incorporated into the retention percentages and therefore the gross areas of the proposed harvest in the individual visual zones are not used for controlling area proposed for harvesting. The visual zones are shown on the TYP maps and were a major factor in estimating retention levels.

#### Table 8 Estimated distribution of harvest by visual zone

Watershed Planning Unit	Natural appearing %	Minimal alteration %	Small scale alteration %
Bedingfield	10	35	30
Bedwell/Ursus/Bulson	0	26	0
Clayoquot River	0	0	0
Cypre	4	17	34
Flores	38	36	0
Fortune	18	71	0
Hesquiaht	0	90	0
Kennedy Lake	3	0	0
Sydney/Pretty Girl	5	80	0
Tofino/Tranquil	12	6	5
Upper Kennedy	19	23	0

#### 4.7 Road construction

Table 2 summarizes the proposed road construction for the period of the TYP, proposed road locations are shown on the TYP maps.

## **Appendix – Terms of Reference for Twenty Year Plan**

Table #6 - Number and size of proposed blocks

WPU	WS#	Name	Period 1 Approx. #	Av size	Max. size	Period 2 Approx. #	Av. Size	Max. size	Period 3 Approx. #	Av. Size	Max. size	Period 4 Approx. #	Av. Size	Max. size
Beach	2													
Bedingfld	66	Moyeha Bay	1	32	32	2	40	40				2	15	25
Bedingfld	67	Bedingfield Bay												
Bedingfld	69	Atleo River												
Bedingfld	69.1	Adrienne	1	10	10							1	11	11
Bedingfld	72	Shelter Inlet										1	28	28
Bedingfld	73.1	Shelter Inlet												
Bedingfld	73.2	Shelter Inlet												
Bedingfld	74	Shelter Inlet				1	20	20				3	17	40
Bedingfld	209*	Herbert west												
Bedingfld	210*	Millar Channel										1	50	50
Bedwell	19	Warn Bay E							3	27	40	3	33	40
Bedwell	20	Warn Bay trib							3	17	30	3	17	30
Bedwell	21	Lower Bulson							4	20	30	1	25	25
Bedwell	21.1	L Bulson W trib							6	17	40	6	17	40
Bedwell	21.2	L Bulson E trib												
Bedwell	21.3	Not accessed												
Bedwell	21.4	Not accessed												
Bedwell	21.5	Not accessed												
Bedwell	21.6	Not accessed												
Bedwell	32	Not accessed												
Bedwell	32.1	Not accessed												
Bedwell	32.2	Not accessed												
Bedwell	32.2.1	Not accessed												
Bedwell	32.2.2	Not accessed												
Bedwell	32.2.3	Not accessed												
Bedwell	32.2.4	Not accessed												
Bedwell	32.2.5	Not accessed												
Bedwell	32.3	Not accessed												
Bedwell	32.6	Not accessed												
Bedwell	32.7	Not accessed												
Bedwell	32.8	Not accessed												
Bedwell	205*													
Clay. Riv	4.3.6	Not accessed												
Clay. Riv	4.3.6.1	Not accessed												
Clay. Riv	4.3.6.4	Not accessed												
Clay. Riv	4.3.6.5	Not accessed												
Clay. Riv	4.3.6.6	Not accessed												
Clay. Riv	4.3.6.7	Not accessed												
Clay. Riv	4.3.6.8	Not accessed												
Clay. Riv	4.3.6.9	Not accessed												
Cypre	22	Warn Bay	3	35	70	3	30	40						
Cypre	23	Matleset				1	30	30						

WPU	WS#	Name	Period 1 Approx. #	Av size	Max. size	Period 2 Approx #	Av. Size	Max. size	Period 3 Approx #	Av. Size	Max. size	Period 4 Approx. #	Av. Size	Max. size
Cypre			1	7		7	1	20						
Cypre	24	Mattleset												
Cypre	26													
Cypre	27													
Cypre	28													
Cypre	30													
Cypre	31	Bedwell East												
Cypre	31.1	Bedwell East					2	40						
Cypre	31.2	Bedwell East												
Cypre	33	Bedwell West					1	25	25					
Cypre	34	Quait North lake	1	50	50				1	15	15			
Cypre	35	NE of Mort Lk	1	49	49				1	10	10			
Cypre	36	Cypre River	1	23	23				3	17	35	6	17	40
Cypre	36.1	Cypre W trib										5	20	40
Cypre	36.2	Up. Cypre E					3	35	40	25	40	5	20	40
Cypre	36.3	Upper Cypre												
Cypre	37	Hecate Bay					1	15	15					
Cypre	38													
Cypre	56	Bawden Cr.	1	42	42		1	10	10					
Cypre	57		1	12	12				1	10	10			
Cypre	58	Whitepine					1	20	20					
Cypre	59													
Cypre	60													
Cypre	61	Gibson Cove							2	25	30			
Cypre	62	Eaglenest Cr.												
Cypre	63						2	25	40					
Cypre	64	Cotter Creek												
Cypre	64.1	Cotter basin												
Cypre	130	Mort Lake	3	40	60									
Cypre	205*	Warn Bay	1	10	10		1	18	20					
Cypre	207*	Bedwell Sound	2	35	60				4	20	60	4	20	60
Cypre	208*	Cypress Bay	2	33	60							4	18	40
Cypre	209*	Herbert west	2	45	60				5	20	60	4	25	70
Cypre	219*	Calface	1	25	25							3	20	30
Flores	81						2	15	25			2	10	15
Flores	82						3	25	40			1	25	25
Flores	83								3	17	40			
Flores	84						4	20	30			4	20	30
Flores	84.1						3	20	30					
Flores	84.2													
Flores	85						4	30	40					
Flores	86	Anderson Cr.	1	66	66							5	20	35
Flores	87								3	20	40			
Flores	88						2	27	35	20	40	2	20	30
Flores	89						2	15	20					



[illegible]

**Greg Rowe**

---

From: "Biggs, Dan T FOR:EX" <Dan.Biggs@gems1.gov.bc.ca>  
 To: "Greg Rowe" <rowe@island.net>  
 Sent: March 11, 2002 1:29 PM  
 Subject: RE: TFL 57 - 20 year plan - Iisaak proposal

Thanks for the reply. If you can incorporate John's suggestions then John and I will be recommending to Cindy to accept your terms of reference.

So stay tuned I will let you know when that happens.

Regards,

Dan Biggs, RPF  
 Planning Officer  
 South Island Forest District  
 ph: 250-731-3049 fax: 250-731-3010  
 e-mail: [Dan.Biggs@gems1.gov.bc.ca](mailto:Dan.Biggs@gems1.gov.bc.ca)

-----Original Message-----

From: Greg Rowe [mailto:[rowe@island.net](mailto:rowe@island.net)]  
 Sent: Monday, March 11, 2002 10:18 AM  
 To: Biggs, Dan T FOR:EX  
 Subject: Re: TFL 57 - 20 year plan - Iisaak proposal

Dan,

Most of these suggestions seem reasonable enough. Some of them were already dealt with (although perhaps not explained clearly enough in the Terms of Ref)-for instance concerns about rate of cut, old growth, visuals constraints were already implicit in the 20 YP through its link to the timber supply model. Most of the rest can be added easily enough. The number and size of blocks is likely not very meaningful however, in the CSSP context (total area harvested in a watershed and levels of retention are the critical items). These numbers, can, of course be created easily, but will, in my opinion, be of little value.

What is the next step on this?

Greg Rowe

----- Original Message -----

From: "Biggs, Dan T FOR:EX" <[Dan.Biggs@gems1.gov.bc.ca](mailto:Dan.Biggs@gems1.gov.bc.ca)>  
 To: <[rowe@island.net](mailto:rowe@island.net)>  
 Sent: Friday, March 08, 2002 2:10 PM  
 Subject: FW: TFL 57 - 20 year plan - Iisaak proposal

> Greg, as discussed attached are John Laing's comments regarding the terms of  
 > reference for your 20 year plan.  
 >

17/04/2003

> Let me know what you think.

>

> Regards,

>

> Dan Biggs, RPF

> Planning Officer

> South Island Forest District

> ph: 250-731-3049 fax: 250-731-3010

> e-mail: [Dan.Biggs@gems1.gov.bc.ca](mailto:Dan.Biggs@gems1.gov.bc.ca)

>

>> -----Original Message-----

>> From: Fenn, Dean FOR:EX

>> Sent: Friday, March 08, 2002 10:48 AM

>> To: Biggs, Dan T FOR:EX

>> Subject: FW: TFL 57 - 20 year plan - Iisaak proposal

>>

>>

>>

>> -----Original Message-----

>> From: Bach, Greg FOR:EX

>> Sent: Thursday, February 28, 2002 9:25 AM

>> To: Fenn, Dean FOR:EX

>> Subject: FW: TFL 57 - 20 year plan - Iisaak proposal

>>

>>

>>

>> Greg Bach

>> South Island Forest District

>> Ph: (250) 731-3036

>> Fax: (250) 731-3010

>>

>>

>>

>> -----Original Message-----

>> From: Laing, John FOR:EX

>> Sent: Wednesday, February 27, 2002 6:16 PM

>> To: Bach, Greg FOR:EX

>> Subject: TFL 57 - 20 year plan - Iisaak proposal

>>

>> As requested, my comments on the Iisaak TFL 57, 20 year plan (TYP)

>> proposal dated January 10, 2002.

>>

>> 1. The requirements of the TYP are outlined in section 2.18 of the TFL 57

>> licence agreement. This section of the licence states what the TYP must describe/ contain/ address. There is no flexibility for the District

>> Manager on the content requirements. However, there may be flexibility in

>> how the content requirements are presented.

>>

>> 2. The TYP branch guidelines recommends the submission of mapping to be

at

> > 1:50,000. The Iisaak proposal discusses the use of working maps at a  
> > scale of 1:50,000 but the final product submitted at a 1:100,000 scale.

I

> > recommend the submission to MOF be at the recommended scale of 1:50,000  
> > scale so that we have some ability to understand the information on the  
> > maps. Current TFL 25 and 44 TYPs are at 1:20,000 scale.

> >

> > 3. The TYP must identify all the required elements of section 2.18 of  
the

> > licence agreement. Mapping is the only way I know of how to identify the  
> > requirements in a reasonable manner. This includes: (1) timber  
> > harvesting land base, (2) harvested areas (3) existing and proposed road  
> > access within the net timber harvesting landbase (4) areas subject to  
> > special integrated resource management constraints, such as use of the  
> > licence area for purposes other than timber production, (5) categorize  
> > areas within the THLB by type and quality of timber as well as  
harvesting

> > methods suitable to terrain ( operability). With respect to these  
> > required elements, I am not convinced with the Iisaak proposal as  
> > submitted will adequately present the following:

> >

> > (a) proposed roads within the THLB - The Iisaak proposal states only "

a

> > list of proposed main access roads by watershed planning unit". This  
may

> > not imply that roads will be show on the mapping. As with the existing  
> > approved FDP, conventional vs non-conventional harvesting was an issue.

I

> > recommend that the proposed main roads be shown on the TYP mapping to me  
et

> > the TYP licence requirements and demonstrate an understanding of the  
> > operability within the watershed planning units where operations are  
> > proposed in the TYP.

> >

> > (b) harvested areas - I do not recommend that the Iisaak proposal  
> > adequately addresses this TYP requirement

> >

> > (c) areas subject to special resource management constraints - I do not  
> > recommend that the TYP proposal adequately addresses this TYP  
requirement.

> > While the proposal discusses showing the approximate THLB based the  
major

> > spatially defined area deductions - non-forest, inoperable, uneconomic,  
> > preliminary watershed reserves; the Iisaak proposal does not indicate  
that

> > the TYP will show on the mapping these individual components defining  
the

> > THLB. The TYP is to show areas subject to special resource management  
> > constraints. I recommend that the proposal has not committed to showing

> > such standard information recommended in the TYP guide. This may include

> > operability, management zone boundaries for such items scenic areas(  
> > visual constraints in Clayoquot), sensitive sites for such as terrain  
> > class V as a major backbone of the reserves and the hydriprarian  
reseves  
> > that can be identified at the broad scale of mapping.  
> >  
> > (d) type and quality of timber - TYP guidelines recommends broad timber  
> > types, including areas younger than green -up age. The Iisaak proposal  
> > uses only a mature and immature classification. I suggest that this may  
> > be too broad a classification of timber types for the TYP. I recommend  
> > increasing the age class groupings to increase understanding of how the  
> > CSSPR recommendations on watershed rate of cut can be applied and how  
the  
> > age classes define operable timber. ( ie. differeniate stands that are  
> > less than 10 years old ( or FTG), stands that are between that and some  
> > defined entry age for harvesting ( as defined in the MP), less less than  
> > OG age that are harvestable age as defined by the MP and old growth as  
> > well as showing NSR).  
> >  
> > (e) harvesting methods suitable to the terrain - I do not see the Iisaak  
> > proposal discussing showing terrain information to demonstrate harvest  
> > methods suitable to the terrain conditions within the TFL. Terrain is a  
> > normal constraint shown by polygons on TYP mapping.  
> >  
> > 4. The TYP must in support of the timber supply analysis, set out a  
> > hypothetical sequence of cutblocks in 5 year increments over a period of  
> > 20 years. I understand the Isaak proposal is to not show cutblocks on  
the  
> > mapping by 5 year periods. In my opinion, the key here is a  
"hypothetical  
> > sequence of cutblocks" requirement of the licence agreement. It does  
not  
> > say that the mapping must show cutblocks but that the TYP must support  
the  
> > TS analysis. However, the licence does use the word sequence and  
> > cutblocks. I recommend that the Iisaak proposal should at the minimum  
> > provide some additional information if the spatial distribution and  
> > sequence of cutblocks is not shown on the FDP mapping. This would  
include  
> > in tabular form : number of proposed cutblocks by 5 year period, average  
> > size of cutblock by 5 year period, maximum gross cutblock size by 5 year  
> > period, area harvested during 5 year period, volume harvested by 5 year  
> > period, approximate retention levels by cutblock, approximate harvest  
> > volume by harvest methods for 5 year period with all of these defined  
for  
> > each watershed unit. I recommend that the tabular form be constructed  
to  
> > demonstrate consistency with the CSSPR rate of cut constraints ( and  
which  
> > one under R3.1) and any maintenance of old growth requirements by  
> > watershed under CSSPR. This additional information provides some

> > understanding of resource values, such as visuals, being adequately  
 > > considered in supporting the AAC. The TYP mapping must have the  
 watershed  
 > > units labelled and referenced in the tabular summary. So while I  
 support  
 > > not showing actual hypothetical cutblocks on the TYP mapping, I  
 recommend  
 > > additional information is committed being supplied in the tabular  
 summary  
 > > prior to accepting any such proposal.  
 > >  
 > > 5. As commentary only regarding a Clayoquot TYP, I suggest the TYP  
 > > include sufficient information to clearly demonstrate that the forest  
 > > resource values are the basis in realizing harvested timber from  
 > > watersheds rather than a AAC determined by the Chief Forester and that  
 > > Lisaak is clearly committed to managing within their Clayoquot  
 commitments  
 > > under the TFL 57 licence agreement. This is another opportunity to  
 manage  
 > > these issues. Since the licensee must spend money on a TYP, the  
 > > licensee should be encouraged to figure out how to get maximum value for  
 > > the exercise since it must be done anyway.  
 > >  
 > > In summary, I do not recommend that the SIFD accept the terms of  
 reference  
 > > of the TYP as submitted in the January 10, 2002 letter.  
 > >  
 > >  
 > >  
 > > John Laing, R.P.F.  
 > > Tenures Officer  
 > > South Island Forest District  
 > > Ph: (250) 731-3014  
 > > Fax: (250) 731-3010  
 > > emailto:John.Laing@gems9.gov.bc.ca  
 > >  
 > >  
 >

## **Iisaak Forest Resources Ltd. - Tree Farm License 57**

### **Twenty Year Plan – Terms of Reference**

(January 9, 2002)

#### **1.0 Background**

The Twenty Year Plan (TWP) sets out hypothetical sequence of harvesting over a period of at least 20 years. The TWP utilizes a hypothetical sequence of harvesting with little or no field information, to test the spatial feasibility of a harvest level that conforms to current standards and practices as specified in the Base Case in the Timber Supply Analysis Information Package. As such, the TYP is subjected to all of the zone level spatial constraints incorporated into the long-term analysis.

The TYP will be designed to identify:

- The timber harvesting land base (THLB) to the degree that is possible with the present status of watershed plans.
- Any blocks which are currently part of the existing Forest Development Plan or a proposed amendment to it (if they are available in time).
- Harvest areas, approximate retention levels, volumes, and anticipated harvest method by watershed unit (these are smaller units within the larger watershed planning units) for each of the five year periods within the 20 year planning horizon.
- Existing road access within the timber harvesting land base.
- Approximate locations of additional, proposed main access roads required over the 20 year period.

The TYP will be prepared with these objectives in mind. It is not intended to be an operational plan, but rather a test of timber availability given the spatial distribution of both the timber resource and other resource values.

Iisaak's TYP is different than a traditional mapping approach used in many other Tree Farm Licenses. The reasons for this include the following:

- Under the Clayoquot Sound Scientific Panel (CSSP) recommendations for planning, Watershed Plans identify areas to be protected and areas where timber harvesting may occur. In order to identify potential harvest blocks on a map it is necessary to have the Watershed Plans completed. The Watershed Plans are partially completed for four of the twelve watershed planning units in TFL 57. It is not meaningful to locate TYP blocks in areas where the watershed planning has not been done.
- One of the major values of a TYP in other management units is the ability to deal with block size and adjacency directly. Block size and adjacency are not major issues in Clayoquot Sound, they are dealt with through the watershed rate of cut and provisions of the variable retention harvest system.

## **2.0 Methodology**

1-Generate a maximum available area summary by watershed unit (these are smaller units within the larger watershed planning units) for each of the four, five year periods within the TYP. These have been delineated for all Clayoquot Sound. There are about 135 of these with significant area in TFL 57. The available area summary will be generated using FSSIM, with the same constraints as in the base case. It will likely include more area and volume than the proposed AAC since it is based on using the timber supply analysis constraints for a shorter time period. This will be reduced in subsequent steps as necessary.

2-Produce working maps at a scale of 1:50,000 showing the approximate timber harvesting land base (e.g. total area with the major spatially defined area deductions removed – non forest, inoperable, uneconomic, preliminary watershed plan reserves). The remaining area (approximate THLB – it is approximate because the watershed plans are not finished) will be identified as mature or immature. The watershed boundaries and labels will be superimposed as will existing main roads. The intent of the map is to provide a general visual reference to locate available areas from the summary table, not to try to locate blocks on (aside from the existing FDP blocks which will be on the map).

3-A office based, engineering overview will be conducted to select from the available areas produced by the timber supply model. This will incorporate the following considerations:

- General feasibility of road access.
- Logical grouping of harvest areas within time periods.
- Operational considerations with respect to balancing species, difficulty of operations, harvest systems, etc.
- Local knowledge of the TFL.

## **3.0 Application of assumptions**

- Rate of cut in general – five year or ten year rate of cut will be applied depending on watershed size in accordance with the CSSP recommendations.
- Rate of cut in shared drainages – Some of the watersheds are shared between Interfor (TFL 54) and Iisaak (TFL 57). The rate of cut will be allocated in proportion to the area distribution between the two TFL's.
- Face units – These areas do not have a rate of cut limitation. The forest cover requirement for visuals or recreation from the timber supply analysis will be applied within each watershed to regulate rate of cut.
- Existing FDP – This will provide areas for the first 2 years, and blocks from a proposed amendment will be added to this if available in time.

## **4.0 Final product**

- A tabular summary by watershed for each five year period showing area, volume, approximate retention levels, and harvest method.

- An overview map (1:100,000 scale) showing the watershed units and approximated timber harvesting land base.
- A list of proposed main access roads by watershed planning unit.

#### 5.0 Timeline

- Completion of the maximum available area summary – February 8, 2002
- Completion of the engineering review and TYP – March 8, 2002
- Submission for Forest service Review – March 31, 2002