

# Proposed Management Plan No. 1 Tree Farm License 57 2003-2008

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Greg Rowe, Planning Forester

  
Greg Rowe, RPF



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

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## 1.0 INTRODUCTION

Management Plan No.1 (MP No.1) for Tree Farm License 57 (TFL) has been completed according to the requirements of Section 2 of the TFL License document. 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).

MP No.1 for TFL 57 was prepared by Iisaak Forest Resources Ltd. (Iisaak). Iisaak is responsible for forest management on the TFL 57 land-base as described in the TFL 57 license document. Resource management activities within TFL 57 are subject to the *Tree Farm License 57: Clayoquot Tree Farm License Agreement*, the *Forest Act*, the regulations under the *Forest Act*, the FPC Act and the regulations under the FPC Act.

### 1.1 Description of TFL 57

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 87,393 ha in area 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.

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.

The TFL includes several variants of the Coastal Western Hemlock Biogeoclimatic Zone (CWHvh1, CWHvm1, CWHvm2), the Mountain Hemlock Zone (MHmm1), and small areas of the Alpine Tundra Zone. TFL 57 consists of stands comprised mainly of Western hemlock, Amabilis fir (balsam), and Western red cedar with smaller amounts of Douglas fir, Cypress, Sitka spruce, and Pine. TFL 57 includes parts of the two distinct physiographic regions that comprise Clayoquot Sound: the Estevan Coastal Plain and the Vancouver Island Mountains. The Estevan Coastal Plain consists of gently undulating or almost flat land that is subdivided into numerous islands and peninsulas by inlets, channels, and Kennedy Lake. The Vancouver Island Mountains are steep and highly

dissected with ridge-tops rising to over 1000 m and peaks attaining heights of more than 1300 m.

## 1.2 History and Commitments

TFL 57 was created on October 27, 1999 by first subdividing TFL 44, (held by Weyerhaeuser and previously 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).
- 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 the years that it was part of TFL 44. 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).

Upon agreeing to the transfer of TFL 57 to Iisaak it was decided by the Ministry of Forests that Iisaak could operate under the previously approved Management Plan No. 3 (MP No. 3) for TFL 44 until June 2002. This has subsequently been extended to December 31, 2003. TFL 57 has an allowable annual cut of 123,800 cubic metres, of which 8,265 cubic metres are allocated to non-replaceable timber sale licenses.

In addition to specifications contained in the license document a number of commitments were outlined in the Minister of Forests letter authorizing the subdivision of TFL 44 and the transfer of the subdivided portion from MacMillan Bloedel to Iisaak. Some of these are standard requirements from the Legislation or Regulations. The specific commitments from the license document and the letter are summarized below:

- Honor all of Weyerhaeuser's existing road use agreements(s) related to the tenures.

*Current performance* – All road use agreements are being honored. Iisaak has developed a "Liabilities Management Agreement for Roads and Silviculture" with Weyerhaeuser.

- Participate in all integrated forest management planning processes in the tenure area.

*Current performance* – Iisaak is committed to and very interested in participating in all of the processes. At the present time the major integrated forest planning process is the development of the Clayoquot Sound Watershed Plans. Iisaak (or any other forest industry licensees) has not been allowed to participate in the formal watershed planning process. Aside from developing interim watershed plans Iisaak's role at present is confined to reviewing and commenting on draft watershed plans produced by the Clayoquot Sound Planning Committee.

- Provide opportunities for salvage logging operations, including honoring any existing commitments and MB agreements with salvage operators in the tenure area.

*Current performance* – Iisaak has developed an active salvage program, with approximately 12,000 cubic metres per year being harvested.

- Due to the unique opening environment in Clayoquot Sound, provide the Minister of Forests by April 1<sup>st</sup> of each year, an annual report on Iisaak's progress in meeting their goals and objective as outlined in MB's transfer proposal dated July 7, 1999.

*Current performance* – This has been submitted to the Minister of Forests and covers a number of topics including planning activities, interactions with other stakeholders, Forest Stewardship Council certification efforts, local employment and economic diversification.

- Implement the Scientific Panel Recommendations for Sustainable Forest Practices in Clayoquot Sound (CSSP).

*Current performance* - Iisaak has incorporated CSSP recommendations into its operational plans and operations to date. The recommendations are included in this management plan and the associated timber supply analysis.

- Respect any Interim Measures Agreement between the Hawiith of the Nuuchah-Nulth Central Region Tribes and the Province of British Columbia.

*Current performance* – Iisaak was created as a result of commitments made in the 1996 *Interim Measures Extension Agreement* (IMEA) and has operated in accordance with these agreements. Protocol agreements are being developed with the First Nations Bands whose traditional territories cover Iisaak's area of operations.

- Recognize that treaty negotiations are continuing between the Nuuchah-nulth Government, Provincial Government and the Federal Government, in which the issue of ownership and jurisdiction over lands and resources is being addressed.

*Current performance* – Iisaak recognizes that treaty negotiations are continuing between the Nuuchah-nulth Central Region and the Province of British Columbia and Canada, in which the issue of ownership and jurisdiction over land and resources is being addressed. Management Plan No.1 is without prejudice to these treaty negotiations.

- Cooperate with and respect the authority, responsibilities, operations, and objectives of the Central Region Board (CRB) as described in the Interim Measures Agreement.

*Current performance* – Iisaak has developed a good working relationship with the CRB that, in addition to the required referral of operational (FDP's) and strategic plans, has included making additional presentations to the CRB with respect to planning initiatives.

### 1.3 License Holder and Administration

Iisaak Forest Resources Ltd. was formed in November 1998 as a joint venture between Weyerhaeuser and Mamook Development Corporation. Ma-Mook Development Corporation is owned and operated by the Central Region Nuuchah-nulth First Nations: the Ahousaht, Hesquiat, Tla-o-qui-aht, Toquaht and Ucluelet. Iisaak is 51 percent owned by the Central Region Nuuchah-nulth First Nations through Ma-Mook Development Corporation and 49 percent owned by Weyerhaeuser. Iisaak was created as a result of commitments made by the Central Region First Nations and Weyerhaeuser in the 1996 *Interim Measures Extension Agreement* (IMEA).



Iisaak does not own or operate a timber processing facility at this time. Iisaak maintains an office in Ucluelet where staff is based to manage the TFL.

Iisaak's first harvest in TFL 57 took place in the summer of 2000 with approximately 10,000 cubic meters harvested from the Cypre area. By 2002 Iisaak's total harvest had increased to approximately 46,000 m<sup>3</sup> including primary harvesting (in this case from Timber Licenses) and salvage.

This management plan is based on the TFL 57 License document dated October 27, 1999.

#### 1.4 Meares Island

Meares Island was not included in the CSLUD. Meares Island has been subject to a court injunction preventing all timber harvesting on the island since 1985. In 1994, the court action was adjourned indefinitely with the injunction remaining in force. For planning and timber supply analysis purposes the exclusion of Meares Island resulted in a reduction of 3613 hectares from the TFL 57 land-base.

#### 1.5 UNESCO Biosphere Reserve

Clayoquot Sound was designated as a United Nations Education Science and Cultural Organization (UNESCO) Biosphere Reserve in January of 2000. Biosphere reserves are intended to strive to be sites of excellence to explore and demonstrate approaches to both conservation and sustainable development on a regional scale by:

- Contributing to the conservation of landscape, ecosystems, species and genetic variation.
- Fostering economic and human development that is socio-culturally and ecologically sustainable.
- Supporting demonstration projects, environmental education and training, research and monitoring related to local, regional, national and global issues of conservation and sustainable development.

#### 1.6 Long Beach Model Forest

The Long Beach Model Forest (LBMF) was established in 1994. The LBMF includes all of Clayoquot Sound. The goals of the LBMF are:

- To raise awareness and demonstrate the commitment of forest users, managers and researchers, at the local, regional, national and international levels, to the concepts of sustainability and integrated resource management as they apply to the whole range of forest values.
- To demonstrate through ecosystem based forest management how the supply of forest based ecological, social, cultural and economic benefits can be maintained.

Iisaak Forest Resources established a joint monitoring project with the LBMF. The program covers monitoring of the incidence of post harvest wind throw, biodiversity attributes before and after harvest, and regeneration success in the Cypre and Bedingfield areas where Iisaak has already had harvesting operations. It is Iisaak's intention to extend the geographical scope of the agreement each year to include Iisaak's operations. The monitoring program will also be expanded in the future to address growth and stand development implications of the variable retention harvest system. The monitoring program will provide the basis for the adaptive management approach.

As of April 1, 2002 the LBMF is no longer part of the model forest program. The monitoring program is now being operated by Iisaak.

### 1.7 Forest Management Certification

Iisaak achieved Forest Stewardship Council (FSC) certification for TFL 57 in June 2001. Smartwood BC, an accredited FSC certifier conducted an assessment of forest management practices on TFL 57 in September of 2000 and again in November of 2002. This independent, third party certification demonstrates that Iisaak's products are from sustainably managed forests.

During the term of MP No.1 Iisaak intends to further develop its environmental management system and pursue ISO 14001 registration. This is a complimentary system to the FSC certification since it focuses on management systems rather than on forest management performance as does the FSC.

## 2.0 PLANNING

The planning framework for TFL 57 consists of both strategic and operational plans. Management Plan No.1 is a broad, upper level strategic plan. The Management Plan (MP) provides the overall context for operational planning within the statutory framework of the *Forest Practices Code of British Columbia* (FPCBC Act). Iisaak is presently operating under MP No. 3 from TFL 44. The Clayoquot Sound Land Use Decision (CLUD) also provides upper level strategic direction. Watershed plans provide tactical direction at the watershed planning unit (comparable to the landscape unit) level.

### 2.1 Management Plan No. 1

The objectives of Management Plan No. 1 are:

- To develop a resource management plan for the TFL, which looks at both short and long- term implications of management alternatives and provides strategic guidance to operational plans.
- To provide government agencies, First Nations, local communities, and the public an opportunity for periodic review of forest management on TFL 57.
- To assemble a knowledge base to support forest management on TFL 57.
- To recommend an Allowable Annual Cut to the Chief Forester of the Province of B.C. in accordance with CSSP recommendations and the FPCBC Act.

### 2.2 Forest Development Plans

Forest Development Plans (FDP's) generally document the next five years of proposed harvesting and road development. They are updated either annually or every two years. Forest Development Plans take direction from the Management Plan and any Watershed Plans that are in effect. The Forest Development Plan identifies areas to be harvested, silvicultural systems, harvest methods, roads to be constructed, modified, maintained, or deactivated, and structures (culverts and bridges) to be installed or removed. Forest Development Plan advertisements are followed by a 60-day period for review and comment. Forest Development Plans are the main opportunity for public review of proposed forest harvesting, road construction, and road deactivation.

Iisaak's first Forest Development Plan was approved in 2000. This plan included only four blocks in one operating area that were all harvested in 2000. Iisaak's second Forest

Development Plan proposing 3 years of harvesting was approved in December 2001 and a third FDP proposing approximately five years of harvesting was advertised for review and comment early in 2003. Iisaak believes that the Forest Development Plans (and in the future Forest Stewardship Plans) are a critical avenue for public review of harvesting plans and as such goes well beyond required procedures for public involvement. This includes numerous presentations of proposed Forest Development Plans to stakeholder groups.

## 2.3 Site Plans

Site Plans are developed to describe management objectives, measures, and conditions that must be met to accommodate forest resources, resource features and known non-timber resources, and to ensure that the inherent productivity of the site is maintained and that a free growing stand is produced. Site Plans provide cut-block specific information including a site description, management objectives, the silviculture system, harvesting method, stocking standards, and free growing standards.

## 2.4 Cutting Permits and Road Permits

Cutting Permits provide the authority for development and harvesting for each cut-block as proposed in Forest Development Plans. The District Manager can issue Cutting Permits within Tree Farm Licenses in accordance with criteria specified in the *Forest Act* and the Tree Farm License document. Cutting permits provide detailed harvesting specifications. Road Permits provide the authority for development and harvesting of the road right of way and for the construction, use, and maintenance of roads.

## 2.5 The Clayoquot Sound Land Use Decision (CSLUD)

This decision was made in 1993 by the Provincial Government and resulted in part of Clayoquot Sound being allocated into new Protected Areas (PA's) and the remainder into a general integrated management area that was to be managed according to the recommendations of the *Clayoquot Sound Scientific Panel*. This decision resulted in the protected area in Clayoquot Sound increasing from 15 percent (39,100 hectares) of the total area to 33 percent (87,600 ha) of the total area (LUCO, 1996). Clayoquot Sound was excluded from the Vancouver Island Land Use Plan since land use issues here were dealt with under the Clayoquot Sound Land Use Decision (CSLUD). There are no Higher Level Plans approved or proposed for approval in Clayoquot Sound.

The additional protected areas created by the CSLUD are:

- Megin Watershed – 21,300 hectares
- Hesquiat Peninsula and Trail – 7600 hectares from Hot Springs Cove, to Hesquiat Harbor and past Estevan Point.
- Upper Shelter Inlet, Obstruction Island, Sulphur Passage – 6000 hectares.
- Flores Island (west side) – 4000 hectares
- Clayoquot Plateau – 2800 hectares
- Sydney Inlet – 2400 hectares
- Vargas Island (west side) - 2000 hectares
- Clayoquot Arm/Clayoquot Lake – 1800 hectares
- Dunlap and Morfee Island, Dawley Passage, Kennedy Bog, Kennedy Lake, Tranquil Creek Headwaters, Hesquiat Lake – 600 hectares in total

The remaining area of Clayoquot Sound has been designated as Integrated Resource Management Areas (IRMA) and Special Resource Management Areas (SRMA). IRMA's and SRMA's are intended to support various types of resource activity including timber harvesting and management, wildlife, tourism, fisheries, and mineral development. The distinction between the Integrated Resource Management Areas and the Special Resource Management Areas has been redefined over time by the application of the CSSP recommendations to the entire land base outside of the Protected Areas.

## 2.6 The Clayoquot Sound Scientific Panel Report

Following the CSLUD, the Provincial Government set up an independent Scientific Panel for Sustainable Forest Practices in Clayoquot Sound (the CSSP). The CSSP made its final recommendations to government in 1995. The CSSP produced a series of 5 reports as part of its mandate to prescribe sustainable forest practices for the integrated management portion of Clayoquot Sound. Report 5: *Sustainable Ecosystem Management in Clayoquot Sound - Planning and Practices* provides most of the direct guidance for forest management. It is this report that is referred to in this document as the CSSP report. The report makes a total of 97 recommendations in the following categories:

- Silvicultural systems
- Harvesting systems
- Transportation systems
- Scenic, Recreational, and Tourism values and resources
- Planning for sustainable ecosystem management
- Monitoring

Lisaak is committed to implementing the recommendations of the CSSP.

## 2.7 The Clayoquot Sound Planning Framework and Principles

The CSSP recommended a planning framework for Clayoquot Sound based on a number of guiding principles:

- Adopt an ecosystem approach to planning in which the primary planning objective is to sustain the productivity and natural diversity of the Clayoquot Sound region.
- Adopt physiographic or ecological land units as the basis for planning.
- Use practices that represent the best application of scientific and traditional knowledge and local experience.
- Engage the Nuu-chah-nulth and other local people in all phases of planning.
- Develop plans at sub-regional, watershed, and site levels.
- Ensure that plans are consistent with land-use objectives for adjacent protected areas.
- Base planning on a long-term perspective.
- Inventory, analyze, and plan for a full range of forest resources, uses, and management activities.
- Monitor the effects of plans and check against management objectives (e.g. adaptive management).
- Recognize that the rate and geographical distribution of timber harvesting are more important determinants than is the volume removed when timber harvest is being planned. (CSSP 1995)

The resulting planning framework differs from traditional forest planning in several respects:

- Reserves are designated at the watershed level before the delineation of harvestable areas or other operational planning activities.
- Planning is area based. The planning process identifies the area in the watershed available for timber production and specifies a maximum rate at which the watershed can be harvested.
- The timber volume available for harvesting each year from a watershed planning unit is determined by the planning process.

## 2.8 Watershed Plans

Watershed level planning was identified by the CSSP as the key long-term planning level, because it is at this level that cumulative effects of land use activities create stress on ecosystems. The primary objectives of watershed planning are:

- To identify and describe the environmental resources, natural processes, and cultural, scenic and recreational values in the planning unit.
- To map and designate as reserves specific areas within the watershed that:
  - Protect hydroriparian resources.
  - Protect sensitive soils and unstable terrain.
  - Protect red and blue listed plant and animal species.
  - Protect forest interior conditions in late successional forest.
  - Protect cultural values.
  - Protect scenic and recreational values.
  - Represent all ecosystems.
  - Ensure linkages among watershed level planning areas.
- To map and designate specific areas where forest harvesting or other resource use will not compromise the long-term integrity of the forest ecosystem.
- To develop, within harvestable areas, management plans that respect the sensitivities of the resources to harvesting and other development by considering rate of cut, pattern of development, general retention levels, restoration activities.
- To identify species especially sensitive to human disturbance, map their habitats, and avoid these during road construction.
- To design and implement a monitoring program.

Watershed planning is dependant on comprehensive inventory information for a multitude of resource values in order to identify environmental limitations to resource development.

Clayoquot Sound has been divided in fifteen watershed planning units, twelve of which contain parts of TFL 57. The watershed planning units will serve as landscape unit boundaries and old growth seral requirements are calculated on this basis.

An approach to implementing watershed plans in Clayoquot Sound was developed by the Clayoquot Sound Implementation Team (Provincial Government resource agencies) and the Central Region Board (CRB). This involved a community based planning concept whereby local people and the provincial government work together to develop plans. Specifically, the Clayoquot Sound Planning Committee was formed to take responsibility

for producing watershed plans. The planning committee was comprised of the twelve members of the CRB and one representative each from the Ministry of Environment, Lands and Parks; the Ministry of Forests; the Ministry of Small Business, Tourism, and Culture; and the Ministry of Aboriginal Affairs. This structure has been recently updated through the latest Interim Measures Extension Agreement (IMEA). A Technical Planning Committee, which reports directly to the CRB, has been formed in order to carry out the technical duties associated with watershed planning. Forest Licensees are not represented on the committee.

The Clayoquot Sound Planning Committee has initiated four watershed plans: Cypre, Bedingfield, Flores, and Tofino/Tranquil. Draft reserve networks have been created for these areas including: hydriparian, sensitive soils and unstable terrain, red and blue listed ecosystems, marbled murrelet habitat, and recreational values. Scenic and cultural values have been addressed through creation of management zones and associated standards. Three of these plans (Cypre, Bedingfield, and Flores) were advertised for public review in the summer of 2002. The four Watershed Plans nearing completion cover about 47% of TFL 57's total area.

In order to allow some activities to proceed while watershed planning is underway, *Criteria for Interim Watershed Planning* were developed by the Clayoquot Sound Planning Committee in 1998. Lisaak has developed five interim watershed plans: one for the Bedingfield Watershed Planning Unit, one for the Cypre Watershed Planning Unit, one for the Tofino/Tranquil Watershed Planning Unit, and two for parts of the Kennedy Lake Watershed Planning Unit. These Interim Watershed Plans have been developed using the resource inventories conducted by the government agencies and much of the watershed planning work (e.g. preliminary identification of reserves) done to date by the Planning Committee. The Interim Watershed plans guide Lisaak's development by identifying reserves and harvestable areas. Additional interim watershed plans will be developed as necessary.

In order to preserve options for protecting ecological values the following steps are taken by Lisaak when proceeding with a development on the basis of an interim watershed plan:

- A "coarse filter" evaluation is undertaken early on in the area selection process in order to avoid areas with potential conflicts with watershed plan level issues. This is done on the basis of existing inventory information and progress to date on Watershed Plans.
- An additional site level wildlife habitat assessment is done where reserves to protect wildlife values have not been finalized at the watershed level. This focuses on habitats of red and blue listed species and other species of management emphasis that could potentially be utilizing the old growth attributes of these forests.
- Extensive referrals and discussions with the relevant First Nations are undertaken where cultural reserves have not yet been identified at the watershed level.



- Interim Watershed Plans and Forest Development Plans are taken to the Central Region Board for comment in order to incorporate community interests into the plans.

The reserve network identified through either Interim Watershed Plans or Watershed Plans is a valuable starting point for forest management based on 1:20,000 scale inventory information. The location of individual reserves can vary over time as more detailed information is collected (usually through site level inventories) and experience is gained with a variety of approaches to protecting the resource values.

Iisaak will continue with its work on Interim Watershed Plans as necessary to provide a context for Forest Development Plans. Iisaak will continue to cooperate with the Clayoquot Sound Planning Committee to facilitate the timely completion of the Watershed Plans. Iisaak is willing to take on a more active role in this process, either as a participant or in a leadership capacity.

Iisaak is committed to proceed with identification of reserve areas and potential harvest areas throughout the TFL. This will be done by the Clayoquot Sound Planning Committee as final Watershed Plans or alternatively by Iisaak as Interim Watershed Plans depending on timing of proposed development relative to the schedule for Watershed Plan completion.

## 2.9 Present Management Emphasis: Active Management and Eehmiis Areas

At the start of the Management Planing process, Iisaak informally designated the TFL 57 land base into two categories, draft eehmiis (areas that are very precious) and active forest management areas. The draft eehmiis are within the Integrated Resource Management Area or Special Resource Management Area as defined by the Clayoquot Sound Land Use Decision (e.g. they are not Protected Areas). The draft eehmiis are generally areas where completed Watershed Plans are required before any forest development is permitted. They have been defined by Iisaak considering a number of information sources including the following:

- Discussions with First Nations.
- The Memorandum of Understanding (MOU) with environmental groups.
- Undeveloped watersheds from Chapman report (Chapman, 1998).

At present Iisaak is focusing its forest management efforts on the active forest management areas and is emphasizing non-timber resource values in the eehmiis areas. This is in accordance with current Central Region Board direction regarding the use of interim watershed plans. Aside from the Steamer Cove area on Flores Island (a developed drainage with a Watershed Plan nearly complete) the Twenty Year Plan (see section 4.2.3 for details) does not schedule any harvesting from areas requiring completed Watershed

Plans within the first five year period in order to allow time for these plans to be completed.

There is no harvesting scheduled at any point in the Twenty-Year Plan in the undeveloped watersheds of the Sydney/Pretty Girl watershed planning unit, the undeveloped areas of the Bedwell/Ursus/Bulson watershed planning unit, or anywhere in the Clayoquot River watershed planning unit.

Iisaak intends to further refine management intention for these areas over the term of MP 1. It is anticipated that Watershed Plans will be completed during that time. These Watershed Plans will provide general direction for forest management. Iisaak will do additional timber and habitat supply modeling as necessary to assess management alternatives in more detail for these areas. ✓

### 3.0 RESOURCE INVENTORIES

In 1995 the Clayoquot Sound Resource Inventory Initiative began as a joint venture between the forest licensees in Clayoquot Sound, the Ministry of Forests, and the Ministry of Environment Lands and Parks in order to acquire updated resource information of consistent quality across Clayoquot Sound. A number of inventory projects were initiated and funded by Forest Renewal B.C. (FRBC). The Clayoquot Sound Planning Committee coordinated the collection of the new inventory information relating to many of the resource values of Clayoquot Sound in order to provide the information necessary to complete the Watershed Plans. Iisaak presently uses these inventories in conjunction with inventories previously carried out by MacMillan Bloedel Ltd. for the TFL when it was part of TFL 44. This provides a collection of resource information that is among the most comprehensive available for any area in the Province of B.C. The following inventories were used in the preparation of this Management Plan:

#### 3.1 Forest Cover

A complete re-inventory of Clayoquot Sound according to the Ministry of Forests Vegetation Resource Inventory (VRI) procedure was done between 1996 and 1999. This information is used for Management Plan No.1. Aside from Iisaak's harvesting in 2001 and 2002 there has been no other harvesting in the TFL since the inventory was completed. The VRI data is also being used in the Watershed Planning process since it covers all of Clayoquot Sound (including both TFL 57 and TFL 54).

#### 3.2 Recreation

A new recreation features inventory and Recreation Opportunity Spectrum (ROS) inventory was completed under the guidance of the Clayoquot Sound Planning Committee in 1997 for the entire Clayoquot Sound area. These inventories were apparently completed to applicable government standards of the day (although Iisaak has been unable to obtain documentation confirming this) and are considered to be the best available information.

#### 3.3 Visual Landscape

A number of inventories, studies and plans relating to visual landscape values have been carried out in Clayoquot Sound since the CSLUD was made in 1993. A standard Forest Service visual landscape inventory was done in the early stages of implementing the CSSP planning approach but it was found to be inconsistent with CSSP recommendations

(by the visual landscape consultant who was a CSSP member). This inventory was subsequently revised and merged into the latest version of the Clayoquot Sound Scenic Resource Inventory. This is a significantly different system than that used elsewhere in the Province. In its final form it shows only management classes. See section 4.3.1 for additional details. This information was used in this Management Plan.

### 3.4 Terrain stability

A terrain and terrain stability mapping project was conducted over most of the TFL between 1996 and 1999 under the direction of the Clayoquot Sound Planning Committee. This project was completed to a Terrain Survey Intensity Level B standard. The terrain stability mapping is used in this Management Plan. There is a small area in the southern part of the TFL where this project was not completed, the older MacMillan Bloedel slope stability information is used there. This information is used in the MP to identify Environmentally Sensitive Areas (ESA's) and in the Watershed Plans to identify reserves.

### 3.5 Operability

Both physical and economic operability mapping has been completed for TFL 57. This was done in 1993 and was used in the last timber supply analysis for TFL 44.

Three classes of physical operability have been identified:

- Conventional harvest systems (operable) – Timber on productive, physically operable land that is loggable by conventional methods (conventional cable or hoe chuck).
- Non-conventional harvest systems (operable) – Timber on productive, physically operable land that is loggable only by non-conventional methods. These include helicopter, balloon or long-line cable systems.
- Physically inoperable timber – Timber on productive land that is so steep and/or rocky, that is cannot be safely felled or yarded or a significant proportion of the volume could not be recovered.

Conventional and non-conventional harvest systems are included in the timber harvesting land base.

Three classes of economic operability have also been identified:

- Marginally economic
- Uneconomic
- Economic

The economic operability classification is based on a matrix that specifies minimum volume per hectare for various species groups and physical operability type. The complete matrix is included in the Timber Supply Analysis Information Package. Economic and marginally economic areas are included in the THLB.

These definitions may change over time with changes in management approaches and harvest systems brought about by the implementation of the CSSP recommendations. At present Iisaak does not have enough experience implementing the new approaches to consider changes to either the physical or economic operability and therefore the MB information was used for the management plan. This will be reviewed once there have been several years of harvesting experience.

### 3.6 Fisheries

A variety of fisheries inventories have been done for different parts of the TFL but there has not been one complete inventory for the entire TFL. Fish and fish habitat inventories have been completed for Flores Island and the Tofino Tranquil watershed planning unit. A fish habitat inventory has been completed by the Nuuchah-Nulth Tribal Council for the Beddingfield, Cypre, and Flores Island watershed planning units. A number of operational scale fisheries inventories have been completed for various parts of the TFL. The fisheries inventories are used by Iisaak at the operational planning stage but were not included with this management plan due to the lack of consistent coverage of the TFL and the use of the hydriparian inventory to generate reserves. As part of its data management strategy Iisaak will assemble the fisheries information into a properly organized format and supplement it as necessary to support development proposals. This will result in a more suitable inventory base for subsequent management plans.

### 3.7 Wildlife

Wildlife habitat interpretations for red, blue listed, and regionally significant species have been produced from the Terrestrial Ecosystem Mapping (T.E.M.) and V.R.I. data. This included marbled murrelets, bats, black bears, Roosevelt elk, bald eagles, and black tailed deer. This mapping is currently being used by Iisaak as input to interim watershed plans and Forest Development Plans. It is not included as part of this management plan since it is not presently in final format. It is anticipated that these inventories will be finalized during the term of MP #1 so that they can be included in the next management plan.

### 3.8 Cultural Heritage Resources

An archaeological inventory was conducted for Clayoquot Sound between 1996 and 1999. This inventory identified and recorded archaeological sites of First Nations' origin as well as other sites. Culturally Modified Trees (CMT's) were also noted. This inventory is used in the Watershed Planning process in order to identify reserves for cultural values. It is not included in this management plan due to the confidential nature of the information.

### 3.9 Hydroriparian Inventory

The hydroriparian inventory is unique to Clayoquot Sound. It identifies, classifies, and maps at a 1:20,000 scale all streams, lakes, wetlands, and marine shorelines according to the classification system described in the CSSP report. This allows defining of hydroriparian reserves for the protection of aquatic and riparian ecosystems. It has been completed for most of the TFL and is included in this Management Plan. The hydroriparian inventory is based on a combination of information sources including 1:20,000 TRIM maps, 1:15,000 air photos, and field checks. The Hydroriparian inventory was used to generate reserves for the watershed plans that were incorporated into the timber supply analysis for this MP. A table showing the hydroriparian classification system and reserve widths is included in Appendix II.

### 3.10 Terrestrial Ecosystem Mapping

This inventory classified, mapped at a scale of 1:20,000, and described according to Resource Inventory Committee (RIC) standards, the ecosystems of Clayoquot Sound. A survey intensity level 4 was used meaning 10-25% of the polygons were surveyed. The TEM mapping was used to generate reserves for the watershed plans that were incorporated into the timber supply analysis for this MP.

### 3.11 Other Inventories

In addition to the inventories listed above the Clayoquot Sound Planning Committee also coordinated the collection of the following inventories:

- Orthophotos
- Landslide inventory
- A tourism study

Iisaak is currently in the process of setting up a storage and management system for resource data. This inventory includes a systematic approach to updating the inventories

as necessary over time. This system will provide a foundation for monitoring changes in resource conditions and therefore will contribute to the adaptive management program.

## 4.0 MANAGEMENT OBJECTIVES

### 4.1 Corporate Goals and Objectives

Iisaak Forest Resources Ltd. was formed in November 1998 as a joint venture between MacMillan Bloedel Ltd. (now Weyerhaeuser) and the Nuu-chah-nulth Central Region First Nations. The following statements generally describe Iisaak's corporate goals and objectives.

- Conduct commercial forestry and logging operations in Clayoquot Sound in a manner that will incorporate the recommendations of the Clayoquot Sound Scientific Panel Report.
- Create a stable log supply through the application of ecosystem based planning and variable retention harvesting.
- Produce logs for the open market with Weyerhaeuser having right of first refusal on a portion of the production.
- Create training and employment opportunities for First Nations in forest related activities.
- Incorporate traditional native ecological and cultural knowledge to forestry and logging operations in Clayoquot Sound.
- Investigate opportunities for locally based value added manufacturing.
- Improve community stability by better integrating and coordinating forest operations in Clayoquot Sound.
- Manage the resources of the TFL for the benefit of both present and future generations in accordance with sustainable resource management principles.
- Comply with all relevant Legislation and Regulations.
- Certify operations under Forest Stewardship Council criteria.
- Cooperate with other resource users to develop non-timber forest based enterprises.
- Implement a comprehensive monitoring program as the basis for an adaptive management approach to improve our stewardship.



- To create an economically viable forestry operation based on the principles of economic, environmental, and social sustainability.

## 4.2 Management and Utilization of Timber Resources

### Management Objectives:

- Provide information to the Chief Forester of the Province of B.C. that assists in determining a harvest level that is sustainable in accordance with the CSSP recommendations.
- Continue to have opportunities to carry out harvesting activities according to the Clayoquot Sound Land Use Decision and the CSSP recommendations.
- Conduct harvesting operations according to Provincial Acts and Regulations, and the Clayoquot Sound Scientific Panel Recommendations as directed by the government.
- Achieve a level of actual harvest that is within the AAC maximum and is socially, economically and ecologically sustainable.
- Emphasize value rather than volume of wood fiber.

### 4.2.1 *Harvesting Methods*

There are basically three approaches to harvesting: use of wheeled or tracked ground based machines to move logs, ground based cable yarding using spars or cranes, and aerial systems using helicopters or balloons. Harvest costs per cubic meter of wood generally tend to increase from ground-based machines, to cable yarders, to aerial systems. Conversely, the possibility for damage to the soil and requirements for road building decreases in moving from ground based, to cable, to aerial systems.

The CSSP recommended that a variable retention harvest system be used with retention levels ranging between 15% and 70%, with a variety of opening sizes and distributions of retained structures depending on resource values and site sensitivity. Where topography and soil conditions permit, ground-based yarding methods generally provide the greatest flexibility for both the amount and distribution of retention. The wet climate, steep slopes, and silty to loamy surface soils that are susceptible to damage limit the areas in TFL 57 that are appropriate for ground-based yarding methods. The CSSP recommended that ground based logging be restricted to hoe-forwarding and that partial or full suspension cable systems be used to minimize both detrimental soil disturbance and damage to retained trees.

lisaak's current Forest Development Plan proposes a mixture of cable and helicopter harvesting. The implementation of variable retention harvesting and other CSSP recommendations result in helicopter logging representing a larger proportion of the harvest than it has in the past. The selection of harvest systems is based on careful consideration of a number of environmental, economic, and social elements.

lisaak is committed to continual innovation with respect to harvest systems. A recent example of this was the use of a helicopter grapple system to address worker safety and wildlife tree retention objectives in a prescription that combined small patches and individual tree selection.

**Strategies:**

- lisaak will conduct its operations on TFL 57 in compliance with the Timber Harvesting and Silviculture Practices Regulation of the Forest Practices Code of B.C. Act.
- Harvesting proposals will be located following guidance from the applicable Watershed Plan or Interim Watershed Plan including reserve locations (fine tuned as necessary at the site level) and rate of cut recommendations.
- Variable retention harvest prescriptions will be developed based on resource objectives, site factors, and operational considerations.
- Harvesting methods will be selected based on a number of factors including variable retention objectives, topography, soil type, slope stability, timber characteristics, road access options, yarding distance, site engineering considerations, worker safety, resource values, local employment opportunities, operational and management considerations.

#### *4.2.2 Felling, Bucking and Utilization Specifications*

Felling, bucking, and utilization specifications will be applied in accordance with Schedule "C" of the license document. This may be reviewed in the future as our knowledge increases about the amount and function of large woody debris.

#### *4.2.3 Proposed Allowable Annual Cut*

One of the objectives of this management plan is to recommend an Allowable Annual Cut (AAC) to the Chief Forester in accordance with CSSP recommendations and the FPCBC Act. In order to achieve this objective and satisfy requirements of the Forest Act (Section 35(1)(d)(vii)) and the TFL License a timber supply analysis and Twenty Year Plan were completed.

The last AAC determination for this management unit was undertaken when it was still part of TFL 44. At that time watershed planning was in the early stages with few reserve networks identified and therefore a simple calculation was used to support the AAC determination process instead of conventional timber supply modeling. Given the progress made on watershed plans since then it was decided to use the available information and model timber supply using a traditional timber supply model (Forest Service Simulator or FSSIM). It is an area based modeling exercise using the area control features of the timber supply model to implement the CSSP recommendations regarding rate of cut, old growth retention, and visual management. The reserve networks identified from watershed planning work to date are included in the land base net down for the timber supply analysis. For areas without reserve networks estimates were developed based on the areas with reserves and areas deducted accordingly from the timber harvesting land-base (THLB).

Iisaak has long been interested in the area based Allowable Annual Cut (AAC) approach due to its compatibility with the Clayoquot Sound Scientific Panel (CSSP) recommendations. At the time when the Management Plan and timber supply analysis was started there were no provisions in the legislation for area based AAC's and therefore a traditional volume based timber supply analysis (dated December 30, 2002) was completed as part of MP 1. During this time legislation has been changed to allow for area based AAC's and therefore, although it is now late in the management planning process, Iisaak has included an area-based analysis and are requesting an area-based AAC.

The CCSP recommends that a variable retention harvesting approach be applied to the entire land-base. For the purposes of the area-based analysis this is split into even aged and uneven aged silvicultural systems. The area-based timber supply analysis projects an annual harvest of 100 ha of even aged harvesting and 275 ha of uneven aged harvesting for a total of 375 ha. This is an even flow (non declining) harvest forecast for the entire planning horizon. (see Area-based AAC Timber Supply Analysis Report, November 18, 2003).

The volume based timber supply analysis is also included as part of the Management Plan since some of the sensitivity analyses and land base scenarios still provide relevant information.

In the volume based analysis a base case harvest forecast was prepared along with four management options:

- Option A – Alternative harvest flow;
- Option B – Eehmiis removed from the THLB ;
- Option C – Flores included in the THLB but other eehmiis areas excluded;
- Option D - Marbled Murrelet areas removed from the THLB.

In addition to these options the following sensitivity analyses were done:

- Changes in land-base – adjust the THLB by +/- 10%;
- Sensitivity to changes in site productivity;
- Sensitivity to changes in existing stand yields;
- Sensitivity to changes in volumes of future managed stands;
- Sensitivity to changes in minimum harvest ages;
- Sensitivity to changes in forest cover requirements for visual management;
- Sensitivity to how watershed rate of cut is applied to the land-base.

The base case harvest forecast has a non-declining flow of 84,150 M3/year. The non-declining flow approach, in addition to meeting Forest Stewardship Council (FSC) certification criteria, provides a conservative approach to short term harvest levels.

The management options produced the following harvest forecasts:

Management Option	Resulting harvest forecast
A-Alternative harvest flow	105,000 M3/year for one decade, then declining at a rate of 10% per decade to a long term level of 84,150 M3/year
B-Eehmiis excluded from the THLB	Non declining harvest of 65,340 M3/year
C-Flores included but other eehmiis excluded from the TYHLB	Non declining harvest of 71,500 M3/year
D-Marbled murrelet areas excluded from the THLB	Non declining harvest of 80,500 M3/year

The complete sensitivity analysis results are reported in the Timber Supply Analysis Report. The site productivity sensitivity applied Old Growth Site Index (OGSI) adjustments to areas of the land base currently occupied by mature stands. This resulted in a non-declining harvest level of 137,500 m3/year, a 63% increase over the base case.

Following review by the Ministry of Forests Timber Supply Branch an additional scenario was done in order to address some issues that had been identified relating to volumes of existing and future stands, and minimum harvest ages. This resulted in a revised base case harvest flow of 91,000 M3/year.

A Twenty-Year Plan was completed for TFL 57. The Twenty-Year Plan is somewhat different than the traditional format in that individual cutblocks are not shown on a map. Instead a table shows proposed harvest areas for each five-year period by watershed. Maps show the watershed boundaries, the timber harvesting land base, and proposed roads. This alternative approach was chosen since watershed plans were not completed for many parts of the TFL.

The Twenty-Year Plan showed it was possible to sustain the proposed AAC for the 20 year period without proposing any harvesting in the following areas:

- The undeveloped watersheds of the Sydney/Pretty Girl watershed planning unit.
- The undeveloped areas of the Bedwell/Ursus/Bulson watershed planning unit.

- The Clayoquot River watershed planning unit.

Iisaak proposes that the Allowable Annual Cut (AAC) be set at 375 ha/year (100 ha of even aged harvesting and 275 ha of uneven aged) for the term of Management Plan 1. This is the level shown in the base case harvest forecast. This harvest level is conservative and will allow some flexibility to deal with uncertainties related to completion of watershed plans, marbled murrelet management, and estimation of site index. The proposed harvest level includes both Schedule A and Schedule B lands in TFL 57.

#### *4.2.4 Cut Control*

The first five-year cut control period for TFL 57 began on January 1, 2000 (Section 6.01 of the license document). Under section 64 of the Forest Act, TFL 57 is subject to both annual and periodic cut control. These requirements are specified as follows:

- The volume of timber harvested during a calendar year is not less than 50% and not more than 150% of the allowable annual cut;
- The volume of timber harvested during a five year cut control period is not less than 90% and not more than 110% of the total of the allowable annual cuts available during that five year period; and
- Volume of timber harvested during a calendar year includes: avoidable residue, unavoidable residue, avoidable waste, and unavoidable waste, as determined by an assessment.

Despite the legislated requirements, Government has noted that the existing AAC is a “the average maximum harvest level that might be attained”. As Iisaak implements watershed planning concepts, evolves as a company, and attempts to maintain a spirit of cooperation among other stakeholders in Clayoquot Sound it may be difficult to satisfy legislated cut control provisions.

The CSSP rate of cut recommendations may preclude the opportunity to accumulate significant carry forward volume.

#### **Strategies:**

Iisaak has proposed, under Section 221.1 of the Forest Practices Code Act (pilot projects to experiment with ways to improve the regulatory framework for forest practices), that TFL 57 be subject to no formal cut control provisions. It is expected that Iisaak, as a small company without a timber processing facility, will follow market opportunity and match activity to the market cycle. Iisaak will have contractual arrangements with forestry contractors and purchasers of our products. These contracts and the ongoing overhead of operating a TFL will encourage operations to continue on a regular and predictable basis over time. While the Iisaak pilot project is no longer active, Iisaak

believes that given the unique characteristics of operating in Clayoquot Sound that this approach will be more workable than the present system.

#### *4.2.5 Maximizing Value from the Harvest*

Iisaak will implement the following strategies in order to maximize value from the volume harvested on the TFL:

- Minimize fiber loss due to breakage by careful harvesting techniques.
- Buck for value maximization.
- Encourage value added initiatives both internal and external to the company.
- Create a “brand” value based on FSC certification and a conservation-based management. To this end Iisaak has and will continue to develop relationships with FSC Chain of Custody certified mills and manufacturing facilities to ensure the availability of Iisaak’s FSC certified products on a consistent long-term basis.
- Deliver wood to local value added enterprises.

#### *4.2.6 Integration with the B.C. Timber Sales Program*

As shown in the following table the B.C. Timber Sales Program (BCTS) has an AAC of 8,265 cubic meters in TFL 57.

Category	Approved Apportionment October 27, 1999	AAC
Schedule A AAC	12,628	
Schedule B AAC		
BCTS (allocation)	8,265	
BCTS (5% take back)	5,145	
Licensee	97,762	
Sub-total (Schedule B)	111,172	
Total TFL 57 AAC	123,800	
Total Licensee AAC	110,390	

To date none of the BCTS allocation has been harvested. There are generally the following options with respect to approaches to BCTS harvesting in TFL’s:

- Blocks planned by the TFL holder and assigned to BCTS.
- An area deletion from the TFL and assigned to BCTS as an operating area.
- An informal agreement between the TFL holder and BCTS on operating areas.

#### **Strategies:**

Due to the area based rate of cut determination for planning purposes recommended by the CSSP, it is not practical to accumulate carry forward volume from one cut control period to the next. Given the cost and time requirements of planning in Clayoquot Sound it is not reasonable to expect the Licensee to plan for BCTS. Iisaak proposes that an informal agreement be developed with BCTS regarding operating areas in TFL 57.

#### *4.2.7 Second Growth Harvest Strategy*

At present Iisaak's harvest is exclusively from original forests. It has been suggested to Iisaak by members of various environmental groups that it would be desirable to begin the transition to second growth harvesting as soon as possible. There are large areas of second growth in TFL 57 but the vast majority (94%) of this is less than 40 years old. There is about 1000 hectares of older second growth stands between 40 and 60 years of age. Minimum harvest ages generally vary depending upon site index, species, product objectives, market conditions and other factors. In the timber supply analysis they are based on achieving both 90% of maximum MAI and a minimum volume of 300 m<sup>3</sup>/ha. These criteria result in minimum harvest ages of 60-100 years for existing second growth stands.

Some of the second growth is Douglas fir that was planted on sites that are now considered to be ecologically unsuitable for its growth. Initial growth was satisfactory, however its present growth rate is very low.

The concept of accessing the second growth stands as early as possible is potentially in conflict with Iisaak's value objectives in that high value products often require longer rotations.

#### **Management Objectives**

- Develop a second growth harvest strategy to expedite the transition to second growth harvesting.
- Begin harvesting some second growth stands as soon as stand development and product markets permit.
- Increase future value of second growth stands.

#### **Strategies:**

In the short term (next 10 years), Iisaak will investigate the following second growth harvesting opportunities:

- Commercial thinning - There are likely some opportunities for this in 30-50 year old stands of leading hemlock and Douglas fir. It is limited in the Douglas fir stands by high initial planting densities (which resulted in both smaller piece sizes and lower live crown ratios).

- Commercial thinning in mixed stands containing off-site Douglas fir- Gradual species removal will be implemented through commercial thinning entries. This will include the removal of Douglas fir once it reaches a merchantable size, releasing the hemlock, western red cedar, and amabilis fir. The western hemlock and amabilis fir can be removed in a subsequent commercial thinning leaving the western red cedar to develop high quality wood.
- Early final harvest of "off site" Douglas fir - A significant part of the 21-40 year old Douglas fir was planted on sites that are now considered to be ecologically unsuitable for this species.

These short-term opportunities have a number of unknowns (markets, best treatment approaches, harvesting economics) associated with them. Iisaak is intending to initiate trial harvests to test the feasibility of these opportunities. The first one will be started during the term of MP No.1.

A more substantial shift to second growth harvesting can likely begin once significant areas of second growth reach about 60 years of age (in about 20 years). The Timber Supply Analysis and Twenty-Year Plan provide additional insight into the timing of the transition to second growth harvesting. The Timber Supply Analysis shows the shift to harvesting second growth stands begins in decade 9 and is completed in decade 16. This is based on the timber supply model selecting stands for harvest according to a "relative oldest first" harvest rule (e.g. selecting those stands with the greatest difference between their current age and their minimum harvest age) which results in postponing the shift to second growth. The Twenty-Year Plan proposes a considerable amount of harvesting in second growth (ranging from 9.2% to 20.8% of total volume by period). This harvesting consists of both final harvest of "offsite" Douglas fir and commercial thinning in leading hemlock stands. The Twenty-Year Plan found little opportunity for final harvest of anything except offsite fir within the 20-year period given the current stand and minimum harvest ages. Iisaak's most recent Forest Development Plan also includes a significant number of blocks of "offsite" Douglas fir and commercial thinning.

#### *4.2.8 Salvage Program*

In addition to the primary timber harvesting program outlined above Iisaak also has an active timber salvage program. There are excellent salvage opportunities in the TFL due in part to the abundance of western red cedar. In 2000 the salvage program focused on primarily on salvage associated with road deactivation (danger tree removal, bridge stringers and log culverts) with some areas of windthrow also being salvaged. In the future there are also salvage opportunities for shake material in previously logged blocks. Iisaak plans an annual salvage recovery of about 10,000 –15,000 m<sup>3</sup>/year over the next 10 years.

All salvaging will be done in accordance with CSSP recommendation 3.10 (no harvest of blow down in retention units except where it threatens desired values). At the present



time salvage activities are directed by a salvage FDP and Iisaak's "Standard Operating Procedures for Salvage Operations".

### 4.3 Protection and Conservation of Non-timber Values and Resources

#### 4.3.1 *Visual Quality*

The major visual landscape management issues are associated with views from boats traveling in Clayoquot Sound. On Nov. 13, 1998 the District Manager of the South Island Forest District designated the Clayoquot Sound visual corridors as known scenic areas. Another letter from the District Manager on May 23, 2001 specified that all Visual Impact Assessments should be submitted. A visual landscape inventory (VLI) has been completed for TFL 44 (including the portion that is now TFL 57). The Clayoquot Sound Scenic Resources Inventory was completed following the CSSP report and provides recommendations for management of scenic corridors (areas visible from the waters of Clayoquot Sound or highways).

#### **Management Objectives**

Manage the various visual landscapes of TFL #57 in accordance with their assigned value and the associated guidelines.

#### **Strategies**

Iisaak will apply the Clayoquot Sound Scenic Resources Inventory visual standards to planning and operations in Clayoquot Sound. These standards divide the scenic areas into the following three management zones with associated guidelines:

- Natural appearing - visual disturbance not discernible (no visible bare ground).
- Minimal alteration - visual disturbance may be discernible but not clearly evident (<4% cumulative visual disturbance in perspective).
- Small-scale alteration - visual disturbance must remain visually subordinate (<8% cumulative visual disturbance in perspective).

Iisaak will use a variety of visual landscape analysis and design techniques including digital terrain modeling to assist with layout and design of forest operations in these areas. The approach to visual impact assessment will vary according to issues associated with individual sites. Viewpoints for the Visual Impact Assessments (VIA's) will be determined in consultation with an expert in visual landscape management. The results of the VIA will be incorporated into the Site Plans and harvest block design. Visual landscape considerations will be addressed by block design and by specifying

patterns and levels of retention for the variable retention harvest system in the scenic areas of the TFL.

#### 4.3.2 *Biological Diversity*

Biological diversity (or biodiversity) has become a major issue in forest management in British Columbia in general and in Clayoquot Sound in particular. Biodiversity can be considered at a number of different scales.

- At the stand level coarse woody debris and retained structures (single trees or groups of trees) are significant aspects of biodiversity.
- At the landscape unit (or watershed planning unit in Clayoquot Sound) the amount of older seral forests is an important item.
- At the regional, provincial, national, or even international scale the concept of “high conservation value forests” is a significant aspect of biodiversity.

The TFL is located in Natural Disturbance Type 1 (ecosystem with rare stand initiating events). These wet, coastal forests historically were composed of mostly old growth. These forest ecosystems were usually uneven-aged or multi storied even aged, with regeneration occurring in gaps created by the death of individual trees or small patches of trees. Where disturbances such as wind, fire, and landslides occurred, they were generally small and resulted in irregular edge configurations and landscape patterns.

In most areas of the Province outside of Clayoquot Sound, biodiversity emphasis is assigned to a landscape unit (often through a strategic planning process) and objectives are assigned for specific aspects of biodiversity including old growth retention, seral stage distribution, landscape connectivity, stand structure, species composition, patch size, and wildlife tree retention. Guidance on defining the objectives is provided in the FPC Biodiversity Guidebook. In Clayoquot Sound the approach is to use the CSSP recommendations for retention of old growth and levels of wildlife tree retention instead of the values recommended in the Biodiversity Guidebook. The other aspects of biodiversity are dealt with through the variable retention harvest system.

There are no known Forest Ecosystem Networks (FENs) in the TFL. Connectivity is an important element of biodiversity. It can be dealt with directly through designation of corridors or through maintenance of critical attributes in the forest matrix (the dominant patch type).

High conservation value (HCV) forests are a biodiversity related item that has arisen through international forest certification systems (e.g. Forest Stewardship Council). The definition of HCV forests is evolving over time but at present these can be defined as forests that possess one or more of the following attributes:

- Forest areas containing globally, regionally or nationally significant:
  - concentrations of biodiversity values (e.g. endemism, endangered species, refugia); and/or
  - large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.
- Forest areas that are in, or contain, rare, threatened or endangered ecosystems.
- Forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control).
- Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health) and/or critical to local communities traditional cultural identity (areas of cultural, ecological, economic, or religious significance identified in co-operation with such local communities).
- Forests significant to the maintenance of water quality, quantity, and flow regimes in domestic watersheds.

### **Management Objectives**

- To sustain healthy ecosystems.
- To sustain biological diversity.
- To identify and conserve rare ecosystems.

### **Strategies**

- Emphasize ecosystem based planning.
- Follow the CSSP recommendations with respect to 40% retention of old growth at the watershed planning unit level. This will ensure that biological diversity is sustained at the landscape level. This was considered by the CSSP to be a level at which natural ecosystem functioning could continue. The present levels of late successional forests were calculated as of 1997 (Chapman, 1998).
- Restore degraded areas on a priority basis.
- Leave levels and sizes of coarse woody debris well distributed across the harvest unit that are consistent with the latest Utilization Standards for Coastal B.C. Harvesting these over mature cedar, hemlock, and balsam forests will generally result in significant amounts of coarse woody debris left on site due to breakage associated with these types of stands.

- Wildlife tree patches, riparian reserve zones and management zones, and the retained trees from the variable retention harvest system will all provide future sources of coarse woody debris.
- Implement the variable retention harvest system as recommended by the CSSP. This will retain different levels, dispersion (aggregated in patches or dispersed more evenly), and types of structures depending on the values to be protected. The following stand characteristics will be used to select areas for retention in order to maximize biodiversity values:
  - Snags.
  - Dead tops, particularly candelabra cedar.
  - Bear dens, eagle nests, or other evidence of wildlife use.
  - Large trees with large limbs.
  - Areas close to wetlands rock outcrops, meadows.
  - Wind firm stand characteristics.
- Connectivity values will be sustained through a combination of the watershed level reserve network and the application of the variable retention harvest system to retain individual trees and patches of forest. This should create a forest matrix that is conducive to movement for many organisms.
- Tree species diversity will be sustained by considering the existing species profile when developing the variable retention harvest prescription and through planting an ecologically suitable mix of species.
- Identify red and blue listed ecosystems through the use of the terrestrial ecosystem mapping and the B.C. Conservation Data Center list, and designate appropriate reserves at the watershed planning stage.
- High Conservation Value Forests (HCV) are protected in TFL #57 in the following manner:
  - *Forests containing globally, regionally or nationally significant concentrations of biodiversity values* - Many of these areas are already protected through the Clayoquot Sound Land Use Decision and therefore are not included in TFL #57. Others are presently being identified by Ministry of Environment as habitat for red or blue listed species.
  - *Forests containing rare or endangered ecosystems* - These areas are protected through the watershed planning process in which all red listed ecosystems are reserved, 50% of all blue listed ecosystems are reserved, and at least 30% of all other ecosystems are reserved.
  - *Forests that provide the basic services of nature in critical situations*- All Class V terrain is reserved. Field terrain stability assessments are completed

on areas of Class IV terrain prior to development and the variable retention harvest prescription is developed in accordance with the assessment recommendations with an objective of protecting slope stability. An extensive system of hydriparian reserves protects hydriparian values.

- *Forest areas that are fundamental to meeting basic needs of local communities and/or are critical to local community cultural identity*-The First Nations whose traditional territory is included in TFL 57 are presently developing cultural inventory maps that will identify these values so that they are protected. Lisaak undertakes a consultation process with the relevant First Nation in order to identify and protect these values whenever a development is proposed.
- *Forests significant to the maintenance of water quality*- these areas are protected through the hydriparian reserves and through the application of the CSSP rate of cut recommendations.

#### 4.3.3 Soils and Terrain

TFL 57 includes parts of the two distinct physiographic regions that comprise Clayoquot Sound: the Estevan Coastal Plain and the Vancouver Island Mountains. The Estevan Coastal Plain consists of gently undulating or almost flat land that is subdivided into numerous islands and peninsulas by inlets, channels, and Kennedy Lake. The Vancouver Island Mountains are steep and highly dissected. TFL 57 experiences some of the highest rainfall events in North America due to its exposed, west coast location.

In most parts of the TFL, landforms and surface characteristics are related to the distribution and characteristics of surficial materials, such as glacial deposits, stream and marine sediments, and colluvium. The physical properties of these materials were determined by the processes of deposition. Deposition took place during the last glaciation, about 12,000 years ago.

Soils vary throughout the TFL including podzols that have developed in glacial till and other surficial materials, folisols (forest floor over rock), and gleysols (poorly drained mineral soils). Many of the soils have a relatively high silt and clay content.

On the steep terrain of much of Clayoquot Sound, the shallow surface materials overlying compact glacial till or bedrock are prone to mass wasting in the prevailing wet climate.

The CSSP makes recommendations that all stability Class V terrain be included in watershed plan reserves. Sensitive soils (e.g. blocky colluvium, very shallow organic soils over rock) are also recommended to be reserved. Higher levels of retention are recommended for Class IV terrain. Recommendations regarding harvest methods are made to protect sensitive soils (see section 4.2).

Terrain and terrain stability mapping was completed for most of the TFL in 1999 to a TSIL "B" standard. The older MacMillan Bloedel slope stability information is used for the small area in the southern part of the TFL where this project was not completed.

Soil management issues in the TFL include both the potential for landslides and surface soil erosion.

**Management Objectives:**

To protect sensitive soils and unstable or marginally stable terrain.

**Strategies:**

- Class V terrain and sensitive soils are placed in a reserve at the watershed planning level.
- Terrain stability hazard mapping guides the need for terrain stability assessments. Terrain stability assessments are completed as recommended by the CSSP (e.g. for all areas mapped as Class IV terrain) and other areas identified on the ground.
- Surface soil erosion hazard assessments are carried out where there are concerns about soil erosion.
- These assessments provide recommendations on:
  - Whether or not development should proceed.
  - Cut block design and variable retention prescriptions.
  - Road alignment and construction practices.
- Site level inventories (at the engineering stage) often identify additional areas of sensitive soils that were not shown on the 1:20,000 scale inventories. Retention areas are located at the site level as necessary to protect these areas.
- All operations will comply with the TH&SPR requirements.
- The terrain mapping and slope stability class mapping, land slide inventory, and terrestrial ecosystem mapping all are used to aid in identifying areas with sensitive soils.
- Deactivate roads that are no longer needed for management access or for protection purposes.
- Slides that have a detrimental impact upon resource management objectives will be evaluated and where appropriate stabilized to:

- Control surface erosion and improve stability through re-vegetation or other techniques.
- Re-establish conifer crops or appropriate deciduous species as required to meet objectives.

#### 4.3.4 *Water*

Due to the location of the TFL on the west coast of Vancouver Island and the resulting large amounts of precipitation there is an extensive system of streams in the TFL ranging from numerous small streams to some significant rivers. There are also a number of lakes, many of them small but ranging in size up to Kennedy Lake, one of the largest lakes on Vancouver Island. Stream systems in the TFL may contain fish from the following groups of species: Pacific salmon (Coho, chum, pink, sockeye, and Chinook); trout (steelhead and cutthroat, and non-anadromous forms of these species); char (Dolly Varden); as well as several others.

Water quality, quantity, and timing of flow can potentially be affected by forest development. Resource protection issues associated with water are centered on maintaining these attributes at reasonable levels.

The CSSP recommendations include an extensive hydriparian classification and reserve system that is fundamentally different than that used elsewhere in the province under the Forest Practices Code (FPC). The CSSP system includes streams, lakes, wetlands, and the marine shore. The classification system for streams is based on stream channel geomorphology (e.g. alluvial or non alluvial channels), channel gradient, entrenchment of the channel, stream width, and continuity of flow. Unlike the FPC system, classification under the CSSP is not dependent upon use of the stream, either by fish or as a community water supply. There are no management zones, only reserves. See Table in Appendix II for details of the CSSP hydriparian classification system).

There are several small Community Watersheds in the TFL (all but one of these are on Meares Island) and a small number of licensed domestic water users. There is a proposal under consideration at the present time for both Tofino and Ucluelet to obtain their water supplies from Kennedy Lake. If this proposal proceeds it would potentially include a substantial area in the southern part of the TFL in Community Watershed designation. Fishery resource values are generally high and protection of fish habitat and associated water quality ranks as a significant priority. Potential hydrological impacts are of critical importance in community watersheds, domestic watersheds, and in watersheds with high fisheries values.

Watershed assessments were done for some of the larger drainages with a history of development in the TFL. An extensive FRBC funded watershed restoration program has been ongoing in the TFL for the past few years, both in TFL 57 and in parts of TFL 54 (held by Interfor) that are located in shared drainages with TFL 57.

**Management Objectives:**

- To maintain water quality, quantity, and timing of flow within the range of values which have occurred historically in the rivers and streams of the TFL.
- To protect hydriparian values.

**Strategies:**

- Implement the CSSP recommendations with respect to hydriparian reserves. These reserves should minimize the amount of sediment reaching watercourses, regulate stream temperature, and maintain bank integrity.
- Follow the CSSP recommendations with respect to terrain management (e.g. terrain stability field assessments on all Class IV terrain, relatively high levels of dispersed retention where necessary to protect slope stability). This should minimize the incidence of harvesting induced landslides with subsequent positive effects on water quality.
- Continue with the Watershed Restoration program subject to funding remaining available.
- The CSSP made recommendations about watershed rates of cut including the following:
  - Limit the area cut in any watershed larger than 500 ha. in total area to no more than 5% of the watershed area within a five year period.
  - In primary watersheds of 200-500 ha in total area, limit the area cut to no more than 10% of the watershed area within a 10-year period.
  - There are also several other recommendations about past rates of cut and transition to the CSSP recommended rates.

These rate of cut recommendations will be followed by Lisaak.

In watersheds not subject to the CSSP rate of cut recommendations (e.g. watersheds <200 ha) the variable retention harvest approach (with retention type and levels generally directed by visual requirements) will protect watershed values.

In addition to the protection afforded by the measures described above, the following measures will be taken during operations to protect water resources:

- Minimizing wet weather road construction and surface grading. Road construction and grading will be shut down during periods of heavy rain and high runoff. This



will be based on rainfall shutdown guidelines adopted by Iisaak See Appendix III for a copy of these guidelines).

- Minimizing ground disturbance during harvesting through site assessments and careful selection and use of harvest systems.
- Sediment control procedures will be implemented as necessary. Examples of these measures include use of filter fabric, hay bales, and excavated sumps to trap sediment.
- Road cuts and fills will be seeded in accordance with Section 10 of the Forest Road Regulation. Suitable native plant species will be included in the seeding mix subject to availability at reasonable cost.
- Regular inspections of ditches and culverts including road patrols after major storm events.

#### *4.3.5 Recreation Resources*

There are significant opportunities for recreation and tourism in the TFL 57 area due to its location in Clayoquot Sound. In much of the TFL, however, recreation use is limited due to the relative inaccessibility of the area (boat access only). The southern part of the TFL is accessible by road and therefore is more heavily used. The area around Quait Bay (Cypré watershed planning unit) also experiences more land and water based recreational use due to the location of the Clayoquot Wilderness Lodge there.

Aside from the road based recreation in the south part and the lake based activities on Kennedy Lake most of the higher recreation values are generally along the marine shore of Clayoquot Sound.

Recreation activities in the area of the plan are mostly water oriented including boating, kayaking, fishing, and general tourism. Most of these activities rely on the scenic values of the area.

There is local concern over road access, particularly in the southern part of the TFL and how this is affected by road deactivation. The CSSP recommends integration of road deactivation planning with watershed level planning to recognize that roads are needed for land management, stand tending, protection, and recreation.

During the term of MP No.1 recreation use is not expected to increase following development with the possible exception of the Quait Bay area where proposed road development may facilitate use by guests of the Clayoquot Wilderness Lodge.

A number of recreation inventories have been completed in recent years including the recreation features inventory, recreation opportunity spectrum classification, and a tourism study.

Recently developed recreation guidelines (by the Clayoquot Sound Planning Committee) to protect recreation values in accordance with CSSP direction are used by Lisaak to guide development. The guidelines include the following items:

- A 100 m reserve (70 m in addition to the 30 m hydriparian reserve) around larger lakes in Clayoquot Sound. Larger lakes are defined as Riley, Muriel, Kennedy, Pretty Girl, and Adrienne Lakes.
- A 70 m recreation management zone beyond the existing 30 m hydriparian reserve around smaller lakes.
- A 300 m recreation management zone along the marine shore (including the existing marine shore hydriparian reserve).
- Reserves (50 m) and management zones (extending an additional 150m beyond the reserve) to protect special, high value features such as significant trails and waterfalls.

In the management zone variable retention harvest prescriptions will be developed to protect the particular recreational values located there.

### **Management Objectives:**

To protect recreation features and maintain, and where possible, enhance, recreational opportunities.

### **Strategies:**

- The recreation reserve and management zone approach (described above) will be used in conjunction with the recreational inventories to ensure that recreation values are integrated with forest development and protected.
- Variable retention harvest prescriptions will be developed to protect recreational values.
- Recreational access will be a significant consideration in formulating plans for road development and deactivation. It will be balanced with mitigation of environmental risk, operational requirements, and CSSP recommendations regarding the maximum percent of the land base that should be devoted to permanent access structures.
- Opportunities for public review and comment of proposed road construction and deactivation are provided at the FDP stage.

- Work with the MOF to maintain established recreational areas including existing sites and trails in cases where this is agreed upon as a desirable approach. Iisaak does not have active role in maintaining any recreational facilities at present.
- Identify, new, significant recreational attractions in the course of inventory or development work and protect them.
- Consult with recreational user groups during development activities to assist in identifying recreational features.
- Cooperate with the MOF and authorized caving organizations to protect cave entrances, underground cave features and to assist in the management of public access.

#### *4.3.6 Cultural Heritage Resources*

Cultural Heritage and Archaeological Resources include sites, objects, or locations of traditional aboriginal societal practices that are of historical, cultural, or archaeological significance to the province, a community, or an aboriginal people.

The TFL is located in the traditional territory of the Nuu-Chah-Nulth Central Region First Nations (Ahousaht, Hesquiaht, Tla-o-qui-aht, Toquaht, Ucluelet Bands).

There are a number of different types of Culturally Modified Trees (CMT's) in parts of the TFL.

Iisaak, being 51% owned by the Central Region First Nations, is very sensitive to protecting these values.

#### **Management Objectives:**

To protect cultural and heritage resources in accordance with the Heritage Conservation Act, the Interim Measures Extension Agreement, and direction provided by the appropriate First Nation.

#### **Strategies:**

- Iisaak engages in an extensive consultation process with the appropriate First Nation early on in the Forest Development Planning process to identify areas with high cultural and heritage values.
- Iisaak employs a number of First Nations members in various aspects of fieldwork associated with block development. As part of this work, these individuals are also identifying cultural and heritage values.

- These values are mapped and classified according to a procedure developed by Iisaak. Cultural heritage resource values are protected in accordance with the Interim Measures Extension Agreement. This is done through the development of management prescriptions, which consider First Nation's advice, comply with the Heritage and Conservation Act, and consider other advice that is provided. The CMT's in particular are then considered in conjunction with the appropriate First Nations CMT policy and appropriate protection measures are developed. The variable retention harvest system will be used to protect these values by considering CMT's for inclusion in retained patches.
- The First Nations are presently mapping areas of high cultural values. These inventories will be used incorporated into future watershed planning when they become available and subsequently into Iisaak's forest management.

#### 4.3.7 Fish and Wildlife Habitat

There are a number of large streams and numerous smaller ones in the TFL as well as a number of small lakes and some larger ones (including Kennedy Lake). Stream systems in TFL 57 may contain fish from the following groups of species:

- Pacific salmon - Coho, chum, pink, sockeye, and Chinook
- Trout – steelhead and cutthroat and non-anadromous forms of these species
- Char- Dolly Varden
- Sculpins, minnows, sticklebacks, and lampreys

Fisheries resource protection issues are centered on the protection of habitat and water quality.

The TFL area provides a variety of habitats that are used by a range of wildlife species. Most of the area is classified as the Coastal Western Hemlock Biogeoclimatic zone, which has one of the richest vertebrate faunas among the 14 biogeoclimatic zones in British Columbia. Because of their isolation on Vancouver Island, Clayoquot Sound forests do not show the same richness in amphibian or mammal species, as do similar forests on the mainland however.

Under the Forest Practices Code species of wildlife considered to be at risk are defined as “identified wildlife”. The CSSP uses the B.C. Conservation Data Center Rare Vertebrate Animal tracking list for red and blue listed species. Species that could use the forests of the TFL include the following:

Common Name	Provincial List
<b>Birds</b>	
Northern Goshawk	Red
Great Blue Heron	Blue
Marbled Murrelet	Red
Peale’s Peregrine Falcon	Blue
Peregrine Falcon	Red
Vancouver Island Pygmy Owl	Blue
Western Screech Owl	Blue
<b>Amphibians and Reptiles</b>	
Sharptail snake	Red
Gopher snake	Red
Red-legged frog	Blue
<b>Mammals</b>	
Roosevelt Elk	Blue
Wolverine	Red
Vancouver Island Ermine	Blue

Keen's Long-eared Myotis	Red
Vancouver Island Water Shrew	Red
Black Bears	Yellow (regionally important species)
Black tailed deer	Yellow (regionally important species)

There are no known Wildlife Habitat Areas in the TFL. At the present time the major issues are:

- Identification and protection of specialized habitat for large mammals, primarily deer, elk, and black bears.
- Identification and protection of the best marbled murrelet nesting areas.
- Developing variable retention harvest prescriptions to protecting habitat for bald eagles, black bears, and black tailed deer.
- The habitat requirements of other wildlife species are dealt with by the coarse filter approach to biodiversity management, which maintains a well distributed representation of ecosystems.

**Management Objectives:**

- Protect fish habitat values.
- Maintain well-distributed representative habitats for red and blue listed species within the TFL.
- Sustain habitat for other species through the application of the ecosystem based forest management approach recommended by the CSSP.

**Strategies:**

- Apply the CSSP hydriparian and rate of cut recommendations.
- Restore degraded areas on a priority basis.
- Manage habitat according to the CSSP ecosystem based model rather than on a single species basis.
- Continue to undertake detailed stream inventories for operational plans.
- Continue to identify and implement enhancement, mitigation and rehabilitation opportunities with funding from FRBC in cooperation with other stakeholders in the area.

- Iisaak will use the services of a wildlife biologist where necessary to provide advice on habitat and occurrence of red and blue listed species. The necessary surveys will be done to verify the use of any potential habitat by these species.
- Iisaak is committed to participate in any planning exercises necessary to define habitat areas to be protected for these species (marbled murrelets in particular) at the watershed planning unit or larger scale.
- The application of the CSSP recommendations with respect to variable retention harvesting, the hydriparian reserve network, rate of cut, and 40% old growth retention within the watershed planning unit, should be adequate for protection of most species of wildlife and their habitat.
- There are no known ungulate winter ranges in the TFL as defined in Section 69 of the O&SPR. Black tailed deer do use the parts of the TFL however. Much of the TFL lies in the shallow snowpack zone, where climatic and topographic factors are the least limiting for black-tailed deer in the winter months. As a result deer can meet their needs for forage and cover in many stand types as long as security cover, thermal cover, and forage can be found in relatively close proximity.

The variable retention harvest system and riparian reserves will provide a mix of security cover, thermal cover and forage that should be satisfactory for deer winter range requirements. In areas with evidence of significant winter use by black-tailed deer the variable retention prescription will ensure that travel distance between thermal shelter is kept to a reasonable distance.

- There are a number of bald eagle nests within the TFL, mostly located near the shoreline of the ocean. The locations have been identified for all of Clayoquot Sound by MOELP (now MWLAP). There are no known osprey or great blue heron nests. The eagle nests will be protected by retaining trees around them and restricting the timing of activities around the nests.
- Black bear den sites that are already known or discovered during lay out will be retained as part of a wildlife tree patch or retained forest aggregate. If other bear den sites are located during harvesting they will also be retained. It is also important to retain large (>100 cm. in diameter) coarse woody debris structures for future den sites. This will be done through the riparian reserve network and the variable retention harvest system.

#### 4.4 Integration of Harvesting Activities with Non-timber Uses

Clayoquot Sound has been the site of intense interest, both locally and world wide, with respect to the interaction between timber harvesting, recreational, tourism, cultural, and

ecological values. This attention has resulted in the protests of the early 1990's, the Clayoquot Sound Land Use Decision, the CCSP reports, and other initiatives. The interest is ongoing, as timber harvesting once again becomes a significant activity in Clayoquot Sound there will be close attention given to how successfully it is integrated with other resource values and uses.

**Management Objectives:**

- To integrate Iisaak's forest management activities with other users of the resources of Clayoquot Sound to as great a degree as is practical.
- Balance the legitimate, and often conflicting demands or expectations of the various segments of society.
- To implement the spirit and intent of the interim measures agreements.

**Strategies:**

- Implement ecosystem based planning and variable retention harvest systems.
- Provide opportunities for public and First Nations involvement through the FPC requirements defined in legislation and regulations, the Central Region Board, and other informal consultation opportunities.
- Cooperate with the Central Region Board and other agencies in completing the watershed plans.
- Consult with other resource users (tourism operators, fish farm operators, mineral tenure holders, water users, trappers and guide outfitters) when planning harvesting, road building, or road deactivation and incorporate input into plans and prescriptions where possible.
- Design developments wherever possible so that there is mutual benefit to other resource users.
- Consult with other interested groups and individuals on an ongoing basis.

#### 4.5 Forest Fire

The TFL is located in a wet, coastal climate where large fires are not common. However, there still can be periods of high fire hazard during the summer, particularly in some of the more inland portions of the TFL.



**Management Objectives:**

- Minimize losses from fire through a program of fire prevention and suppression.

**Strategies:**

- Burn slash piles where appropriate in order to abate fire hazard and for silvicultural purposes as prescribed.
- A Fire Preparedness Plan has been completed and submitted to Coastal Fire Center
- Ground and aerial patrols are made as required by regulation.
- Access additional fire suppression equipment through the B. C. Ministry of Forests Regional Fire Center if necessary.
- Iisaak is part of the Weyerhaeuser network of fire weather stations and as such is connected to the MOF Fire Weather Information Network.

#### 4.6 Forest Health

The forest health factors most likely to affect TFL 57 are:

- *Wind throw* – This can be a significant post harvest issue on the west coast of Vancouver Island regardless of the silviculture system used.
- *Hemlock Dwarf Mistletoe* - This is a common endemic forest health issue in old seral stands on the west coast of Vancouver Island. The traditional management approach for Hemlock Dwarf Mistletoe (DMH) is clear cutting with a 2-3m knockdown of infected residual under story. It will be necessary to modify this approach to be compatible with the CSSP recommendations regarding the variable retention approach to harvesting.
- *Spruce Weevil* - Parts of the TFL are within a high hazard area.
- *Deer Browse* - This is not usually a major concern but can be an issue with respect to cedar plantations.
- *Ambrosia Beetle* - This insect reduces wood quality in felled timber by tunneling into the wood.

Rationalization of effective approaches to forest health management with the variable retention harvest system is a significant management issue for TFL 57.

**Management Objectives:**

- To maintain losses to insects, disease, wind throw, and other damaging agents at a level that is socially and economically acceptable consistent with overall ecosystem management objectives.

**Strategies:**

- Wind throw will be managed at the block engineering stage of development. Windthrow assessments will be carried out at the site planning stage where there is a reasonable likelihood for or evidence of windthrow and where the treatment being considered is likely to significantly affect the susceptibility of the stand to windthrow. These assessments will identify the windthrow hazard and strategies to mitigate the hazard where necessary. Cutblock boundaries, levels or retention, location, and selection of retained trees will be designed to reduce the risk for windthrow.
- Monitoring levels of windthrow and their relationship to retention approaches and reserve sizes is a key component of Iisaak's monitoring and adaptive management program. Recovery of windthrow will be undertaken where practical and in accordance with CSSP recommendations (R3.10) with respect to recovery of windthrow from retention areas.
- The traditional management approach for Hemlock Dwarf Mistletoe (DMH) is clear cutting with a 2-3m knockdown of infected residual understory. This will be modified to fit the variable retention approach to harvesting. Selection of trees to be retained will consider DMH. When selecting areas for retention, preference will be given to stands with low levels of infection. Infected trees will not be favoured as leave trees within or along the periphery of openings. In areas of heavy infection the perimeter of harvested areas will be planted with a component of well-spaced disease resistant species. Some endemic levels of DMH will be tolerated in regenerated stands along with associated costs to wood production in order to achieve objectives for other resource values. Monitoring, especially during pre-spacing assessments, will prescribe removal of any infested juvenile trees and preference for retention of species other than Hw within 15m of any infected Hw.
- The general management strategy for spruce leader weevil is to avoid planting Sitka Spruce unless resistant stock is available. Up to 10% Sitka spruce will be accepted in order to provide flexibility to meet biodiversity objectives.
- Deer browse will be monitored carefully where cedar is planted. If deer browse is precluding the achievement of regeneration or free growing objectives as

specified in the Site Plan, protection methods will be used to ensure that these standards are achieved.

- Felled wood will be removed as soon as possible (no longer than one year) after felling in order to minimize damage from ambrosia beetle. Pheromones and trap logs will be used as necessary around log sorts and storage areas.

#### 4.7 Silviculture

The CSSP made a number of recommendations regarding silvicultural systems in Clayoquot Sound. These recommendations were based on the dominant management objective being to maintain ecosystem integrity. Specific issues relating to the implementation of the CSSP recommendations and silviculture in general in TFL 57 include:

*Implementation of the variable retention harvest system* - The CSSP recommended that a variable retention harvest system be used with retention levels ranging between 15% and 70%, with a variety of opening sizes and distribution of retained structures depending on resource values and site sensitivity. This approach will result in harvesting that reflects the natural disturbance regime (rare stand initiating events, usually death of individual trees or small disturbances from wind, landslides, and occasionally fire) of the area and will maintain connectivity both within and between watershed units. It will preserve, in managed stands, many of the characteristics of natural forests. There is little precedent for some of the recommended levels of retention in coastal old growth forests and therefore the adaptive management approach will be an integral component.

*Regeneration and stand performance following variable retention harvesting* – This is a relatively new approach to harvesting with considerable variation in the site conditions created for establishment and growth of a new stand. In many cases (particularly when yarded by helicopter) there is no access for site preparation equipment and access by foot for manual site preparation and planting can be difficult. The retained trees may affect light levels available to the regenerating stand and consequently growth rates. Existing growth and yield data for managed stands may not be applicable to regenerated stands in areas with high levels of dispersed retention.

*Off site Douglas fir stands* – There are presently about 3000 ha of leading Douglas fir stands under 40 years of age. A significant portion of these stands are on sites that are now considered to be ecologically unsuitable for the growth of Douglas fir. Initial growth was satisfactory but present growth rates are very low.

*Ecological characteristics of second growth stands* – There are about 18,000 ha of second growth stands in the TFL (about half of the THLB). Many of these are large, contiguous areas without reserves or remnants of older forest as a result of the progressive clear-cut approach that was applied in the past.

*Backlog reforestation* – There are no significant areas of backlog NSR in TFL 57. There are however some existing backlog plantations, which may require some treatment to reach free growing status.

*Quality objectives for regenerated stands* – At present log values vary with species and are associated with diameter, narrow or even ring widths, small or no knots, and a small proportion of juvenile wood. Producing high value stands from regenerated stands will likely require either long rotations or incremental silviculture treatments.

#### **Management Objectives:**

- To maintain the ecological integrity of harvested areas.
- To ensure that all harvested areas are regenerated promptly with appropriate native species, densities, and stock types considering silvical characteristics, economic values, and characteristics of the retained stand.
- To manage the available timber harvesting land-base with variable retention silviculture systems, consistent with the recommendations of the CSSP. Within the parameters of the CSSP recommendations, implement a specific version of the variable retention system that is best suited to achieve objectives for each harvest area according to regulations, watershed plan direction, resource values, silvicultural needs, and economic feasibility.
- To encourage productivity and development of high value stands in existing second growth areas.
- To attain reasonable levels of stand growth and development in terms of both volume and value in stands regenerated following variable retention harvesting in keeping with overall ecosystem management objectives.
- Enhance the productivity of the timber harvesting land base through incremental silviculture subject to available funding and in accordance with the Incremental Silviculture Strategy for TFL 57.
- To integrate ecosystem restoration with incremental silviculture treatments wherever possible.
- To harvest hardwood stands in response to market demand.
- To develop and maintain a system of silviculture records that is appropriate for management of the TFL and useful for implementing an adaptive management program.

**Strategies:****Variable Retention Harvesting and Silviculture Systems**

Lisaak begins with the existing watershed level inventories and then collects additional site level information to identify resource values and to determine the levels and types of retention necessary to protect them. The variable retention system specifies structures (trees or snags) to be retained through to the next rotation. A detailed variable retention prescription is then developed which specifies levels of retention, spatial distribution of the structures to be retained, and details about the types of structures (e.g. large trees, snags, wildlife trees, etc.) to be retained. Key items that are considered include:

- Resource objectives from strategic plans (MP #1, Watershed Plans, and the FDP);
- Silvics of tree species;
- Ecological site factors;
- Forest health considerations;
- Aspect of the landscape;
- Terrain considerations;
- Exposure to high winds;
- Worker safety;
- Economic feasibility;
- Equipment limitations.

The variable retention system is primarily a harvest system with specifications about what to retain in order to protect various resource values. It does not specifically consider regeneration or the distinction between even aged or uneven aged management. Generally areas with high levels of dispersed retention become a group selection or strip selection system (uneven aged management). Areas of aggregated retention generally become a patch cut system (even aged management). In some cases a variable retention approach is applied with multiple harvest entries. This approach can be used in areas where a high level of retention is specified for resource protection but where the regenerated stand will fulfill that role fairly quickly (e.g. visual or hydrological green up which may occur in 15-30 years). There will still be CSSP recommended levels of permanent retention in these areas for maintenance of ecosystem integrity, biodiversity, and wildlife values.

The following criteria will guide Lisaak's implementation of the variable retention harvest system:

- Retain at least 15% of the forest, except in very small working units (e.g. less than four tree heights across).
- Retain most structures as forest aggregates of 0.1-1.0 ha well dispersed through the cutting unit.

- Identify “no-work zones” representing a minimum of 15% of the cutting unit area (e.g. areas including snags and other danger trees) before any harvesting takes place.
- Regardless of retention level, ensure that no place in an opening is greater than two tree heights from the edge of an existing aggregate or stand.
- In general, retain a representative cross section of species and structures of the original stand.
- In areas with high non-timber values or sensitive areas (e.g. Class IV terrain) a variable retention prescription specific to the protection of values on the site will be developed. In general there will be a higher level of retention, smaller patches, and a relatively uniform distribution of retention on these sites.

Lisaak will develop a strategy to ensure that retained trees are representative of the original stand while achieving other objectives of variable retention harvesting. This will involve balancing retention representation with other objectives including retention of specific structures with wildlife values, worker safety, and operational and economic objectives.

## 4.8 Site Plans

The Site Plan describes management objectives, critical factors, and identifies special values to be protected. The Site Plan also includes specifications for stocking requirements, free growing targets and limits on permanent access structures and the amount of soil disturbance. The Operational and Site Planning Regulation specifies information that must be available and the content of the Site Plan. Consideration is also given to the information contained in the Field Guide for Site Identification and Interpretation for the Vancouver Forest Region (Land Management Handbook Number 28), and the Establishment to Free Growing Guidebook for the Vancouver Forest Region.

### 4.8.1 *Species selection and Stocking Targets*

Lisaak bases species selection on the following factors:

- Silvical characteristics of the individual species and the ecological characteristics of the site.
- Ecosystem management objectives with respect to species diversity.
- Forest health considerations.
- Stand value objectives.

- The Stocking Standards included in Iisaak's Forest Development Plan will be used when assigning stocking targets in the Site Plans.

On harsh sites, where stocking of the existing forest prior to logging is lower than normal for reasons specific to the site, exemption from the normal restocking targets and free growing times will be sought if necessary. Stocking standards will also vary in areas of dispersed retention. These areas will generally be given greater opportunity to restock naturally, with a lower target and minimum stocking requirement.

#### *4.8.2 Site Preparation*

The necessity for and method of site preparation, is prescribed in the Site Plan through assessment of planting spot availability, slash loading, regeneration method, biodiversity requirements, fire and pest risks. The prescription is reassessed and amended if necessary following a post logging site inspection. On many sites there is little or no benefit to site preparation and therefore no treatment will be done.

Site preparation may consider the Site Preparation Guidebook. Site preparation can include manual preparation of spots through cutting and moving of logging slash. It can also include the use of excavators to create plantable spots. Site preparation methods are carefully considered in terms of overall site objectives before a decision is made.

#### *4.8.3 Forest Regeneration*

Reforestation is carried out as soon as practical following harvest and any site preparation that is necessary. The following approach will be used on the majority of sites:

- In areas where planting is prescribed this will usually be done within one year of harvesting in order to minimize regeneration delay.
- Planting will be done at densities, which in combination with anticipated natural regeneration, will ensure prompt achievement of target stocking levels.
- Appropriate planting stock sizes will be used in order to address any site concerns such as brush competition.
- Genetically improved stock will be used where available.
- Planted or natural seedlings may be fertilized on brushy sites in order to achieve crown closure more quickly.
- Natural regeneration will be prescribed on some sites, particularly in areas where a dispersed retention harvesting approach has been used.

- Iisaak does not own a seed orchard and therefore purchases suitable seed from other producers.

#### *4.8.4 Brushing and Weeding*

Salmonberry, red alder, and salal can be significant brush problems on some sites in the TFL. Brushing and weeding will be done wherever the new tree crop is endangered or an acceptable level of stocking will not achieve free growing status.

The general objective will be to avoid the need for brushing by planting appropriate stock types soon after harvest and fertilizing if necessary.

Brushing will generally be done by manual or mechanical means.

#### *4.8.5 Silviculture Surveys*

A silviculture survey program will be undertaken in order to support Iisaak's basic silviculture activities. The survey program will include:

- An inspection at harvest completion to examine site conditions and refine prescriptions for site preparation, planting or natural regeneration if necessary.
- An inspection after site preparation (if any) to determine the effectiveness of the treatment and to further refine the planting prescription if necessary.
- Inspections are done during planting to assess stock and planting quality.
- A survival survey is done about one year after planting. If necessary, a fill plant or replant is scheduled.
- At least one regeneration performance survey is done to confirm stocking status. This is done three years after planting or three years after declaring an area stocked naturally. Fill planting or brushing is scheduled if necessary.
- A free growing assessment is done near the end of the free growing period. Any necessary weeding or spacing treatments are scheduled at this time.

#### *4.8.6 Free Growing*

A free growing condition will be achieved on all regenerated sites according to the Forest Practices Code of BC Act, the Timber Harvesting and Silviculture Practices Regulation, and the Site Plan. The free growing standards are specified in the Site Plan for individual growing sites and stands.



#### *4.8.7 Incremental Silviculture*

##### **Juvenile Spacing or Pre commercial Thinning**

This will be done primarily to meet wildlife objectives (through restoring habitat values in riparian areas) or as part of an integrated management regime to set stands up for pruning or a later commercial thinning.

##### **Fertilization**

Iisaak does not have or envision a major fertilization program, however some type of planting fertilization may be done on selected salal sites. Research (the Salal Cedar Hemlock Integrated Research Program or SCHIRP) has shown this approach to produce a significant response. It can be quite effective in reducing time to free growing and subsequently to required green up heights for other resource values. In visual zones this can enhance short-term timber availability. Fertilization may also be part of treatment regimes to address other site-specific issues.

##### **Pruning**

Pruning increases the volume of clear wood, can reduce the amount of juvenile wood and therefore may increase log value. The economic return is uncertain however, given the high costs of pruning and the long investment period. Cedar and hemlock on better sites are the priority stands for pruning. The present pruning program includes both initial pruning of stands and follow up (second lift) pruning of stands previously pruned to 3m. Iisaak will participate in government funded pruning programs.

##### **Rehabilitation of Sites Planted with Off-Site Species**

A variety of treatments will be necessary to restore future growth and yield of these areas including:

- Conifer release/fertilization.
- Commercial thinning (see also section 4.2.6 for more details).
- Fill planting.

#### **4.9 Infrastructure and Roads**

There are a large number of existing roads in TFL 57. Some of these are required for ongoing operations and others are not. Road permits have been transferred to Iisaak (from Weyerhaeuser) for many of these.

There are several log dumps and dry land sorts in the TFL and also other ones in TFL 54 that may be used periodically by Iisaak under agreements with Interfor. The facilities are located as follows:

- Hecate Bay – Cypre – Iisaak
- Steamer Cove – Flores – Iisaak
- Stewardson – Sydney Pretty Girl – Interfor
- Bedingfield Bay – Bedingfield – Interfor
- Rankin Cove – Fortune Channel – Iisaak/Interfor
- Berryman Point (barge landing) – Fortune Channel- Iisaak

There is also a major dry land sort at Ucluelet (Kennedy Lake dry land sort). This is presently owned by Weyerhaeuser and is operated by an independent contractor. It is used by Iisaak and others for sorting and storage of logs prior to sale.

**Management Objectives:**

- To maintain and develop access required for on going operations.
- To allow public access consistent with management objectives.
- To minimize environmental risk associated with infrastructure, existing roads, and proposed roads consistent with operational requirements.
- To continue a cooperative working relationship with International Forest Products (holder of TFL 54) with respect to shared use of infrastructure.
- To maintain access to a log storage and sorting facility in the Ucluelet area in order to facilitate availability of logs to local purchasers.
- Identify existing roads that are required for long-term management activities.

**Strategies:**

- Road building and deactivation plans will be reviewed with the Ministry of Forests as part of the Forest Development Plan process. These plans are available for public review during the FDP review and comment period.
- The public will be given access to roads in the TFL, unless access restrictions are necessary and are approved by the District Manager. Under some circumstances road access may be restricted for reasons of safety, fire hazard, security, environmental or other conditions. The public assumes a reasonable risk associated with the use of industrial forest roads.

- The commercial use of roads, log dumps, or dry land sorts, by others within the TFL may result in charges that apply to the maintenance or modification costs arising out of such use. These charges will be specified in a clearly stated agreement entered into by both parties.
- Deactivation to various levels is proceeding on roads that are not required for ongoing operations by Iisaak. This is presently being managed by Weyerhaeuser. These operations are subject to an agreement on road liabilities between Iisaak and Weyerhaeuser. In the future Iisaak will undertake deactivation associated with roads used in its harvesting operations as outlined in Forest Development Plans.
- Road maintenance plans will be reviewed with the Forest Service through the Forest Development Plan process.
- All new construction of roads, bridges, log dumps, and dry land sorts will conform to current standards as specified in the relevant FPC regulations. Recommended practices as specified in the relevant guidebooks will also be considered.
- Areas of landings will not exceed the allowable limits for site degradation. Upon completion of logging, site restoration of landings will be completed in conformance with commitments or requirements specified in the Site Plan. In cases where logs must be landed in restocked areas, the area impacted will be kept as small as practicable given the operational realities presented by the site. These areas (except for road surfaces, gravel pits, etc.) will be restored following use so that a free growing stand can be established.

## 5.0 CONSULTATION WITH OTHER RESOURCE USERS

There are a number of other resource users in the TFL area including trappers, guide outfitters, fish farm operators, licensed water users, tourism operators, and mineral tenure holders. There are also organizations representing forest workers and contractors in the area. The TFL is made up of a number of individual blocks that are interspersed with TFL 54 (Interfor). In addition to this the TFL is located in the traditional territory of the Nuu-Chah-Nulth Central Region First Nations (Ahousaht, Hesquiaht, Tla-o-qui-aht, Toquaht, Ucluelet Bands). Iisaak recognizes that treaty negotiations are underway between the Nuu-Chah-Nulth Central Region and the Province of British Columbia and Canada, in which the issue of ownership and jurisdiction over land and resources is being addressed.

In keeping with the direction of the Interim Measures Extension Agreement and the CSSP recommendations regarding consultation with other resource users Iisaak takes the following steps:

- Iisaak attempts to identify other resource users in areas of the TFL that could be affected by operations or planning initiatives. In the case of licensed resource users (mineral tenures, fish farms, licensed water users) this is done through the relevant government agencies. The resource users are contacted individually to consult with them about proposed developments or plans. Attempts are also made to identify trappers and guide outfitters where possible. Resource users who are not formally licensed by government (some tourism operators) are generally contacted through trade organizations such as the Tofino Chamber of Commerce.
- In addition to legally required advertisements and open houses Iisaak makes numerous additional presentations of proposed plans to a variety of local community groups and provincially based environmental organizations with an interest in forest management in Clayoquot Sound.
- Iisaak is in the process of developing protocol agreements with the First Nations Bands whose traditional territories cover Iisaak's area of operations. In addition Iisaak uses an extensive consultation process for any major planning or development initiatives. This often involves several meetings with band representatives. Band members are generally involved in carrying out site level cultural resource inventories on behalf of Iisaak.
- Iisaak consults regularly with Interfor with respect to planning and operational items and cooperates on areas of mutual interest including interim watershed plans and use of infrastructure.

## 6.0 IMPACT SUMMARY OF MP IMPLEMENTATION

This will be the first Management Plan for TFL 57. It reflects the corporate goals of Iisaak, the CSSP direction, and the FSC certification status of the TFL. It is likely that management approaches on the TFL will continue to evolve as watershed planning is completed, Iisaak matures as a company, and results from the monitoring and adaptive management programs are incorporated into future approaches.

Implementation of the draft MP could impact the following factors in the manner described below:

### 6.1 Harvest Levels

The current AAC is 123,800 cubic meters.

Prior to the creation of TFL 57 (on October 27, 1999) there had been no harvesting in the TFL 57 area for several years. In 2000 approximately 10,000 cubic meters was harvested, in 2002 Iisaak's total harvest had increased to approximately 46,000 cubic meters (in this case mostly from Timber Licenses), the 2003 harvest is expected to be roughly similar to 2002. The impact of the proposed reduction to the current AAC can be considered in the context of these harvest levels.

The AAC is a determination made by the Chief Forester based on a number of considerations outlined in section 8 of the Forest Act. As the holder of TFL 57 Iisaak provides information (in particular a timber supply analysis and twenty year plan) to the Chief Forester to assist in his determination of the AAC.

Iisaak proposes an AAC of 375 ha/year.

See section 4.2.3 for more details regarding the timber supply analysis.

### 6.2 Economic Opportunities

#### 6.2.1 Numbers of Employees and Contractors of Licensee

The number of employees and contractors of Iisaak is generally related to harvest levels. The numbers provided below are estimates due to the stage of development that Iisaak is presently at. Employees and contractors are grouped together in the following table. All logging is done by contractors. Planning and engineering is done partly by employees and partly by contractors. Iisaak does not operate a processing facility and therefore the employment numbers for that phase are either contractors in the cases where Iisaak

contracts to have logs processed or employees of other organizations in cases where Lisaak sells the logs.

Full time employment equivalent estimates are as follows:

Category	Annual harvest				
	10,000 m3/year	30,000 m3/year	50,000 m3/year	84,000 m3/year	100,000 m3/yr
Primary harvest	9.4	16.0	22.1	33.0	38.1
Salvage	13.7	13.7	13.7	13.7	13.7
Manufacturing	5.9	17.5	29.0	48.7	58.0
Total	29.0	47.2	64.8	95.4	109.8

### 6.3 Protection and Conservation of Non-Timber Values

*Visual quality* – The draft MP commits to managing according to the Clayoquot Sound Scenic Resources Inventory visual standards which will provided a high degree of protection for scenic resources.

*Biological diversity* - Biological diversity will be well protected in TFL 57 under the draft MP by ecosystem based planning, an extensive reserve system, and appropriate application of the variable retention harvest system.

*Soils and terrain* - Reserves for unstable terrain and sensitive soils as well as stability assessments and higher levels of retention on Class IV terrain will ensure that these values are afforded appropriate levels of protection.

*Water* - An extensive hydroriparian reserve network, careful terrain management, and application of the CSSP rate of cut recommendations will protect water resources.

*Recreation resources* - Recreation reserves, management zones, variable retention harvesting, and consultation with recreational user groups will ensure a high level of protection for recreational values.

*Cultural heritage resources* – A detailed inventory and mapping approach done primarily by First Nations personnel along with an extensive consultation process with the appropriate First Nation ensures protection of these values.

*Fish and wildlife habitat* – Hydroriparian reserves, rate of cut recommendations, and use of the variable retention harvest system will protect these values.

## 7.0 SIMILARITIES AND DIFFERENCES BETWEEN MP'S

The items below are some of the key similarities and differences between the current Management Plan (MP No. 3 for TFL 44) and this draft Management Plan (MP No. 1 for TFL 57).

- Both the current MP No. 3 for TFL 44 and the draft MP No.1 are intended to meet the criteria for management plans as specified in section 2 of the TFL license document.
- The current MP applies to all of TFL 57 and TFL 44 (approximately 410,600 ha) whereas the draft MP No. 1 only applies to TFL 57 (87,393 ha).
- The draft MP No. 1 reflects the fact that the entire TFL area is now subject to the CSSP recommendations by including more detail on these in the MP.
- The First Nations majority ownership of Iisaak is reflected in the draft MP No. 1 with a greater emphasis on working relationships with the First Nations in the TFL.
- The management objectives in the draft MP No. 1 are now consistent with Iisaak's corporate objectives.
- Iisaak is committed to achieving and maintaining Forest Stewardship Council certification. Some additional items have been included in the draft MP No. 1 in order to satisfy FSC criteria for management planning.
- MP No. 3 for TFL 44 used the Weyerhaeuser (MacMillan Bloedel at the time) TFL 44 information base as the basis for the MP. The draft MP No. 1 is primarily based on the new Clayoquot Sound inventories, with some use of the Weyerhaeuser information.
- Significant progress has been made on some of the Clayoquot Sound watershed plans since MP No. 3 was done. This additional information is included in the timber supply analysis and the 20-year plan components of the draft MP No. 1.
- The current AAC for TFL 57 is 123,800 cubic meters. The AAC proposed under the draft MP No. 1 is 375 ha.

## 8.0 SCHEDULE B PRORATE

Land category	Timber harvesting land base (hectares)
Schedule A	6,112
Schedule B	20,773
Total	26,885

This page was e-mailed by  
Greg Rowe on Dec. 14, 2003.



## 8.0 SCHEDULE B PRORATE

Land category	Timber harvesting land base (hectares)
Schedule A	6,112
Schedule B	20,773
Total	26,885

Received via cover letter from  
Greg Rowe dated Nov. 27, 2003

R. Brick

## 9.0 PUBLIC REVIEW

The draft Management Plan is the only component subject to public review. The review process for the draft MP is as follows:

*Review period* – August 22, 2001-October 22, 2001

*Advertising* – Advertisements were placed in the Westerley News and in the Alberni Valley Times (Wednesday August 22, 2001 and Wednesday August 29, 2001). Copies of the advertisements are included in Appendix IV.

*Plan viewing locations* – Iisaak's office (2395 Pacific Rim Highway, Ucluelet), Ministry of Forests South Island Forest District (Port Alberni), Vancouver Forest Region (Nanaimo)

*Open houses* – The following open houses were held in order to allow public viewing of the draft Management Plan:

Location	Date
Ucluelet- Iisaak office	September 4, 2001
Tofino – Weigh West	September 5, 2001
Ahousaht – Band Office	September 6, 2001
Opitsat – Band Office	September 10, 2001

*Stakeholder notification* – Known stakeholders (including other resource users, First Nations, local governments, environmental organizations, forestry and business organizations) were contacted and invited to view the draft Management Plan. A list of the individuals contacted is included in Appendix V.

### Summary of Comments:

Agency or Individual	Comment	Action to address	Changes to the MP
Ministry of Forests	Section 1.1 – Area of the TFL should be the same as in the Timber Supply Analysis Information Package.	Section 1.1 was reviewed.	TFL area revised to correspond to the Information Package.
	Section 1.2 – Delete reference to maximum with respect to AAC.		“maximum” deleted from the AAC statement.
	Section 1.2- 8265 m3 applies to non replaceable timber sale licenses.		“SBFEP” changed to “Non-replaceable timber sale

			licenses.”
	Section 3.0 –Standards for recreation inventories are unclear and the recreation features inventory and recreation opportunity spectrum inventories do not show enough detail.	Section 3.2 and map folio were reviewed.	A sentence was added to section 3.2 explaining the reasons why the standards are unclear, the recreation features inventory map was revised.
	Section 3.5- Specify criteria used for operability.		Description of criteria added to Section 3.5.
	Section 4.2.4 – Cut control – reference section of FPC Act.		Changed as suggested.
	Section 4.2.5 - Provide more detail on how value will be emphasized.		More detail added with respect to FCS chain of custody.
	Section 4.2.6 – SBFEP volumes and 5% take back.		Table of volumes adjusted to reflect 5% takeback.
	Section 4.2.7- second growth harvest strategy.		Clarification added to this section.
	Section 4.3.1 – Concerns about Clayoquot Sound visual standards and VIA’s.	Section 4.3.1 was reviewed.	Some additional detail added to this section.
	Section 4.3.2 – Impact of high conservation value forests on long term harvest levels.	Section 4.3.2 was reviewed	No changes made, since no impact anticipated.
	Section 4.3.4 – Provide more detail on the hydriparian classification system.		A tabular summary of the CSSP hydriparian system was added in appendix II.
	Section 4.3.5 Recreation resources – management of sites and recreation analysis?		This was clarified in section 4.3.5.
	Section 4.4 – Provide details of consultation to be used.	Section 4.4 was reviewed.	No changes were made.
	Section 4.6 – Concerns about hemlock dwarf mistletoe management.	Section 4.6 was reviewed.	The paragraph about DMH as revised.
	Section 4.8.7 – Incremental silviculture –more detail on	Section 4.8.7 was reviewed.	Clarification was added.

	juvenile spacing and wildlife objectives.		
Department of Fisheries and Oceans	The draft MP appears to adequately address fisheries and riparian concerns.	No action necessary.	No changes made.
Clayoquot Sound Central Region Board	General comments about sustainability, recommendations about striving for a consistent level of harvest, utilization of alder and maple, and development of local capacity in specialized harvesting techniques.	Section 4.2 (Management and Utilization of Timber Resources) and 4.7 (Silviculture) were reviewed.	No changes made, utilization of hardwoods subject to markets was already an objective.
Friends of Clayoquot Sound	Section 2.9 – Eehmiis areas- Please confirm that Iisaak is still committed to not logging in the eehmiis areas.	Section 2.9 was reviewed.	This section was revised to clarify Iisaak's intentions with respect to management of the eehmiis areas.
	Section 6.1 – Harvest levels – concern about harvest levels, request clarification on maximum harvest level.	Section 6.1 was reviewed.	The proposed harvest level is clarified.
	Section 4.2.7 – Second growth harvesting – suggests that Iisaak should shift to second growth sooner.	Section 4.2.7 was reviewed.	More detail was added regarding second growth harvesting proposed in the most recent FDP and 20-Year Plan.
	Section 4.3.2 – Suggests that Iisaak should retain more old growth than the 40% minimum recommended by the CSSP.	Section 4.3.2 was reviewed.	No changes were made.
	Section 4.3.5- Suggests that 70% retention should be specified in the recreation management zone.	Section 4.3.5 was reviewed.	No changes were made.

In addition to changes made to the draft Management Plan in response to the comments received (as outlined in the above table) there were also some additional changes made in order to account for changes in legislation and other external factors that had occurred

since the draft Management Plan was advertised. Significant additional changes are listed in the table below:

<b>Section</b>	<b>Description of change</b>
1.2-History and Commitments	Updated for extension date of current MP, change in status of "Liabilities Management Agreement" with Weyerhaeuser, and salvage status.
1.3-License Holder and Administration	Harvest history updated.
1.6-Long Beach Model Forest	Update on the current status of the LBMF and the monitoring program.
1.7-Forest Management Certification	Updated to include the November, 2002 assessment.
2.2-Forest Development Plans	Updated to remove reference to joint approval areas, refer to Iisaak's latest FDP, and to refer to Forest Stewardship Plans.
2.3-Site Plans	Section heading changed from "Silviculture Prescriptions" to "Site Plans".
2.8-Watershed Plans	Updated in include reference to recently completed interim watershed plans and status of watershed plans. Deleted sentence referring to all primary harvesting proposed for the next 5 years being in the four watershed planning units with watershed plans nearly complete.
2.9-Present Management Emphasis:Active Management and Eehmiis Areas	This has been updated to describe location of proposed harvesting on the 20 year plan.
3.1-Resource inventories – forest cover	This section was updated to reflect use of the VRI forest cover instead of the MB forest cover.
3.9-Hydoriparian Inventory	The hydoriparian table added to the appendix was referenced.
4.2.3-Proposed Allowable Annual Cut	This was updated with the results of the timber supply analysis and 20 year plan.
4.2.7-Second Growth Harvest Strategy	Updated to include results from the timber supply analysis, the 20-year plan, and the latest FDP.
4.3.1-Visual Quality	Updated for FPC changes and in response to comments.
4.3.3-Soils and Terrain	Updated to reflect FPC changes.
4.3.4-Water	Deleted one sentence about proposed activities and community watersheds.
4.3.7-Fish and Wildlife Habitat	The "Red and Blue Listed Species" table was updated to include Amphibians and Reptiles".
4.5-Forest Fire	The bullet referring to burning of slash piles was revised to indicate that not all piles would be burned.
4.6-Forest Health	Updated to reflect both FPC changes and comments, Hemlock Dwarf Mistletoe section changed significantly.
4.8-Site Plans	Updated to reflect FPC changes from Silviculture

	Prescriptions to Site Plans.
4.8.7-Incremental Silviculture	The reference to "FRBC" was changed to "government".
4.9-Infrastructure and Roads	Updated for FPC changes and elimination of FRBC.
6.0-Impact Summary	Completed.
6.1-Harvest levels	Updated to include proposed AAC.
6.2.1-Number of employees and contractors	Updated to correspond to proposed AAC.
7.0-Similarities and Differences Between MP's	Areas updated to correspond to Information Package.
9.0-Public review	This section has now been completed.

## 10.0 APPENDICES

### Appendix 1 - List of Maps:

Map #1 – Tenure map  
 Map #2 – Biogeoclimatic subzones and variants  
 Map #3 – Watershed planning units  
 Map #4 – Preliminary watershed plans reserve network  
 Map #5 – Forest cover overview  
 Map #6 – Recreation features  
 Map #7 – Recreation opportunity spectrum  
 Map #8 – Scenic resources inventory  
 Map #9 – Terrain stability  
 Map #10 - Operability  
 Map #11 – Community watersheds  
 Map #12 – Operational overview  
 Map #13 – Hydroriparian features

(11" x 17" included with document, 1:100,000 as separate folio)

### Appendix II – CSSP Hydroriparian reserves

#### 1-Streams

Channel material	Channel gradient	Channel type	Channel width (m)	Continuity of flow	CSSP stream class	Reserve width
Alluvial	<=8%	NA	<3		A1i	50
		NA	3-30		A1ii	50
		NA	>30		A1iii	50
	>8%	NA	<3		A2i	30
		NA	3-30		A2ii	50
		NA	>30		A2iii	50
Non alluvial	<=8%	Not entrenched	<3		B1ai	50
			3-30		B1aii	50
			>30		B1aiii	50
		Entrenched	<3		B1bi	30
			3-30		B1bii	50
			>30		B1biii	50
	8-20%	Not entrenched	<3		B2ai	30
			3-30		B2aii	50
			>30		B2aiii	50

		Entrenched	<3		B2bi	30
			3-30		B2bii	50
			>30		B2biii	50
	>20%	Not entrenched	NA	Seasonal / perennial	B3ai	20
			NA	Ephemeral	B3aii	0
		Entrenched	NA		B3b	20

## 2-Lakes and Wetlands

Lake or wetland	Type	Shoreline characteristics	CSSP class	Reserve width (m)
Lake	Oligotrophic	Sand or gravel beach	A1i	30
		Low, rocky shore	A1ii	30
		Cliffed or bluff shore	A1iii	30
		Wetland shore	A1iv	30
	Non-oligotrophic	Sand or gravel beach	A2i	30
		Low, rock shore	A2ii	30
		Cliffed or bluff shore	A2iii	30
		Wetland shore	A2iv	30
Wetlands	Marsh		Bi	30
	Fen		Bii	30
	Swamp		Biii	30
	Shrub-carr		Biv	30
	Meadow		Bv	30
	Bog		Bvi	30

## 3-Marine shores

Marine shore location	Shore type	Shore characteristics	CSSP class	Reserve width (m)
Adjacent to open waters	Beach	Sandy	A1i	150
		Gravelly	A1ii	150
		Bouldery	A1iii	150
	Non-beach	Low shore	A2i	150
		Shore bluffs	A2ii	100



		Rock cliffs/steep slope	A2iii	100
Adjacent to protected waters	Lagoon	Sandy	B1i	100
		Gravelly	B1ii	100
		Bouldery	B1iii	100
		Saltmarsh	B1iv	100
	Estuarine	March	B2i	100
		Mudflat	B2ii	100
		Sandflat	B2iii	100
		Gravel or boulder flat	B2iv	100
		Low, rocky shore	B2v	100
		Bluffs, cliffs, or steep slopes	B2vi	100

Note: the above tables are simplified slightly, see CSSP report pages 175-185 for more details.

### Appendix III

## RAINFALL SHUTDOWN GUIDELINES

### Shutdown Criteria -- Using the Water Balance Method

Soil Drainage Rate: 50 mm/24 hours

Rainfall Shutdown Guideline: 100 mm

Work ceases at this point or if there is 75 mm over 12 hours.

A 50 mm Soil Drainage Rate is subtracted from the total and the rainfall over the next 24 hours is added to come up with the Soil Water Balance for the next day.

If this exceeds the Shutdown Guidelines then work cannot commence. This is a bit confusing because the Shutdown criteria is in the **Add to Previous Day's Soil Water Balance** column and not the **Soil Water Balance** column

#### Example

<b>Start-up Threshold</b>	50	(mm) per day
<b>Max. Daily Rainfall</b>	100	(mm)
<b>Dry Period Start-up</b>	80	(mm)
	100	(mm)
<b>Month</b>	15	(mm) or less for two consecutive days

July						
	Day	Time of Recording	Daily Rainfall (mm)	Add to Previous Day's Soil Water Balance =	Subtract Drainage Rate	Soil Water
July	1	4:00 AM	1.0	1.0	50	0.0
July	2	4:00 AM	35.8	35.8	50	0.0
July	3	4:00 AM	142.6	142.6	50	92.6
July	4	4:00 AM	42.4	135.0	50	85.0
July	5	4:00 AM	20.6	105.6	50	55.6

Shut down operations if:

- The water balance is equal to or greater than 100 mm;
- OR 100 mm of rain or mixed rain and snow has fallen in 24 hours;
- OR 75 mm of rain has fallen since the start of shift and rain is continuing, whichever occurs first.

*Shut down road deactivation on steep slopes if 75 mm of rain has fallen in 24 hours; or less if judged necessary by the operator based on site-specific conditions.*

***Startup when:***

1. The water balance falls below 80 mm; OR
2. Two days pass with 15 mm or less of rain per day (24 hr), whichever occurs first.

If snow is present on the ground at or above the work site, add 2 mm per hour water equivalent to the rainfall data, to allow for the increased water from snowmelt. That is, add 24 mm to the 12 hour rainfall, and 48 mm to the 24 hour rainfall amounts.

**Obtaining Rainfall Data and Checking Shutdown Conditions**

Since severe storms are known to occur even in the summer months, precipitation data for tracking rainfall shutdown conditions should be recorded throughout the year. **Portable rain gauges should be monitored at work sites.**

Recent data has shown that precipitation at Ucluelet, Tofino and the outer coastal area is significantly different than precipitation farther inland and into the inlets. Obtaining information from automated fire weather stations before crews go to work in the morning will help to save unnecessary travel to check worksite rain gauges.

The Rainman website appears to be working properly now and can be accessed at **[www3.telus.net/rainman/](http://www3.telus.net/rainman/)**

- If there has been wet weather, all crew foremen and other persons must check the website
- If there is a problem with the website call Terry Smith at 726-7553.

**Procedure for Monitoring Manual Rain Gauge**

*Manual rain gauges should be installed at all sites where deactivation, major road maintenance, or grade construction is taking place. If it is raining during the day, crews (such as engineering or silviculture) in the vicinity should set up a call in schedule to check whether shutdown conditions have been reached.*

- Read rain gauge at start of shift, and record rainfall collected since end of last shift. Record the time that the reading is taken. Add rainfall to the previous total.
- Empty the rain gauge.

- If there is heavy rain during the shift, take additional readings during the day. Note the time that each reading is taken.
- Read rain gauge at end of shift, record rainfall, empty rain gauge.

**If a shutdown condition is reached during the shift, immediately notify:**

- Your supervisor
- Other crews in the vicinity who have set up a call-in schedule

**Use the following shutdown criteria for the manual rain gauge:**

Shut down when:

<u>Total rainfall reaches</u>	<u>in</u>
- 75 mm	12 hours or less
- 100 mm	24 hours
- 150 mm	72 hours

Start up when:

<u>Total rainfall is equal or less than</u>	<u>in</u>
- 30 mm	48 hours
- 80 mm	72 hours

If no crews are working (for reasons other than rainfall shutdown), and conditions are marginal, establish and maintain radio contact with a person designated to track your location and condition. Set up a radio contact schedule.

### **Road Inspections**

- If it is essential to carry out road inspections when shutdown conditions have been reached, do the following:
- Ensure a person is designated to maintain radio contact with you. Before setting out, provide that person with a "flight plan" of the roads you plan to inspect.
- Make call-in checks at least every half hour to report your location and direction of travel.
- Do not enter areas of known high landslide hazards (such as high slumping cutslopes, creeks that regularly torrent, etc).

- If the road section you are on is subject to flooding or to high landslide hazards, ensure there is more than one way out. Do not enter a road with only one exit.

Note that there is considered to be a high hazard of landslides occurring when the shutdown criteria described above have been reached. A very high landslide hazard exists if:

- 100 mm of rain has fallen in 12 hours or less
- 200 mm of rain has fallen in 48 hours.
- ***No one should be in the bush under these conditions. Do not carry out road inspections when these conditions have been reached.***

**Appendix IV – Advertisements for the review and comment period**

# THE GROWING SOLUTION

Greenhouse & Indoor Hydroponic

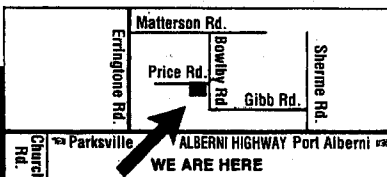
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## DRAFT MANAGEMENT PLAN FOR TREE FARM LICENSE (TFL) #57

lisaak Forest Resources Ltd. (IFR), gives notice and invites comment on the draft Management Plan for TFL #57. TFL #57 consists of forested areas in the vicinity of Clayoquot Sound near the communities of Tofino, Ahousaht, and Ucluelet.

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The draft Management Plan is available for review by the public and resource agencies from August 22 to October 22, 2001.

The plan may be modified as a result of written comments received by October 22, 2001.

The proposed lisaak Forest Resources draft Management Plan is available for review at:

1. lisaak Forest Resources Ltd. Office, 2395 Pacific Rim Highway, P.O. Box 639, Ucluelet, B.C. V0R 3A0, during office hours (8:00 to 12:00 am and 1:00 to 4:30 pm) weekdays, excluding holidays from August 22 to October 22, 2001. Please call (250) 726-2446, or fax (250) 726-2488.
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3. Vancouver Forest Region, 2100 Labieux Road, Nanaimo, B.C. V9T 6E9, during business hours.
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If any interested parties are unable to review the proposed plans during these times, arrangements can be made to view the plan at a time convenient to lisaak and the interested party.

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Abtl Price	12.340	12.270	12.280	346712	Labrado
Acetex	0.000	0.000	8.000	0	Laidlaw
Agnico	14.970	14.500	14.900	190097	Leitch
Air Canada	6.850	6.500	6.600	238592	Linamar
Akita Drilling	0.000	0.000	12.300	0	Liquidati
Alberta Energy	54.350	53.500	53.600	690946	Loblaws
Alcan	58.750	56.100	56.500	159357	Loewen
American Bullion	0.000	0.000	0.070	0	Loews C
Anderson Expt.	27.190	26.500	27.150	118186	Lorus
Anor Med	11.600	11.500	11.500	9350	Mainfrar
Atco Class 1	47.500	47.200	47.300	4630	Manitob
ATI Technologies	14.850	14.600	14.670	488595	Manulife
AUR Resources	2.450	2.410	2.430	15100	McCarvi
Badger	1.320	1.320	1.320	18940	Methane
Ballard Power	34.490	31.900	32.400	260805	Microfor
Band Ore	0.550	0.490	0.500	23000	Mitel CF
Bank of Montreal	42.650	40.820	41.700	1385614	Molson
Bank of Nova Scotia	50.360	49.200	49.410	2392688	Moore C
Barrick Gold	25.250	24.860	24.950	626765	Namibia
Battery Tech	0.260	0.240	0.240	17800	Napier Ii
Baytech Eenergy	8.250	7.350	7.400	307929	National
BC Gas	35.090	34.860	35.000	55826	Natl Bar
BCE Inc.	39.650	38.700	38.870	1082532	Newalta
Bema Gold	0.510	0.470	0.490	53515	Noble C
Bid.com Intl	0.450	0.430	0.450	10125	Noranda
Biomara	9.050	8.750	9.050	37850	Norske
Black Hawk	0.140	0.130	0.135	109400	Nortel
Bombadier Cl.A	20.550	20.000	20.070	11988	Nova Ct
Bombadier Cl.B	20.700	20.050	20.150	922370	Novagol
Bracknell Corp.	4.360	4.300	4.340	155902	Novicou
Brasscan	28.450	28.050	28.150	258033	Nuisco F
Buhler Industries	0.000	0.000	3.400	0	Onex
Burntsand	2.700	2.550	2.640	77150	Pacifica
CAE Industries	12.990	12.500	12.600	452524	PacRim
Cambior Inc.	0.660	0.650	0.660	18350	Pantheo
Campbell Resources	0.000	0.000	0.500	0	Petro Ce
Can Hunter	31.100	30.750	30.850	195491	Pioneer
Canada Life	46.400	45.750	46.210	236239	Placer D
Canadian 88 Energy	2.380	2.300	2.350	37900	Placer D
Canadian Hydro	2.350	2.250	2.250	11750	Pioneer
Canadian Pacific	58.490	57.200	57.320	351412	Power C
Canadian Tire	36.500	36.500	35.000	25	Precisior
Canadian Utilities	51.600	51.600	51.600	1000	Prime W
Canfor	10.100	10.020	10.100	53793	Procyon
Cangene	6.050	6.000	6.000	1450	Quadra I
CARA	0.000	0.000	7.150	0	Reko Int
Cascades Ind. Inc.	8.200	8.200	8.200	1000	
Cathedral Resources	0.000	0.000	1.200	0	
Cdn Natural Res	44.000	43.100	43.380	89128	
Cdn Western Bank	28.800	28.650	28.750	3900	
Chai Na Ta	0.000	0.000	0.405	0	
Chapters on-line	0.900	0.900	0.930	449	
CHC Heli Cl.A	18.250	18.060	18.100	8288	
ClBC	56.240	55.250	55.510	868207	
Cinram Ltd.	4.450	4.380	4.450	20448	
Clarica	48.500	48.010	48.290	108048	
Clearly Canadian	0.000	0.000	1.170	0	Abacus M
Consumer Enfield	0.000	0.000	0.110	0	Advance I
Consumers Pkge. Inc.	0.045	0.040	0.040	37000	Almaden
Corel	5.400	5.200	5.270	127854	Andean A
Dennison Mines	0.145	0.140	0.140	124320	Arizona S
Derlan Ind. Ltd.	0.000	0.000	1.600	0	Bluestar
Diamet	20.310	20.310	20.310	100	Calypro C
Dofasco Inc.	25.850	25.400	25.400	25425	Canada F
Doman Ind. Cl B.	0.420	0.420	0.420	2000	Cantex
Domtar	14.890	14.750	14.810	108982	Carmelita
Drug Royalty	2.050	2.050	2.050	6050	Circle Enr
Dupont Canada Cl A	22.750	22.250	22.310	3674	Complec
E. dispatch.com	0.990	0.960	0.990	40290	Conac
Echo bay Mines Ltd	1.510	1.460	1.460	2600	Cubix
Eldorado Corp. Ltd.	0.300	0.300	0.300	39700	Donner M
Enserco Energy	15.300	15.300	15.300	880	Ecstall
Falconbridge Gold	16.800	16.400	16.410	159245	Electric M
Farralon Res	0.420	0.400	0.400	5200	Euro Zinc
Fanning Ltd.	20.250	19.870	20.250	70320	Falcon Ve
First Australia Prime	7.800	7.720	7.780	38486	Foran Min
Fort Chicago	9.050	8.970	9.050	16325	Global As
Four Seasons Hotel	82.250	80.650	80.800	4241	Global Lin
Future Shop	16.760	16.700	16.700	2934468	Gothic Re
Geomaque Expl.	0.090	0.085	0.090	354248	Gulf Intl. F
Glamis Gold Ltd.	5.100	4.800	4.950	21300	Image Poi
Global Thermo Elec	7.850	7.420	7.680	85244	Image Poi
Golden Line	0.760	0.760	0.760	7300	Intl Bio-re
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Imperial Oil	42.650	41.650	42.470	98698	Kenrich M
Inco	26.500	25.600	25.720	142180	Lasik Visir
Inex Pharmacy	5.850	5.850	5.850	4400	
Infowave	0.700	0.630	0.670	25925	
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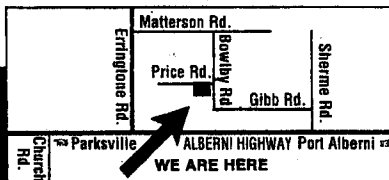
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JDU Inc	12.100	11.660	12.090	221992	



each... there is a strike or lockout or not. for you, is my career.

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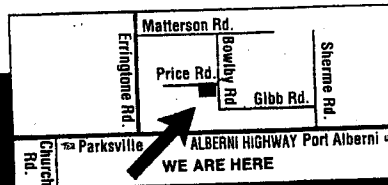
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1. Isaak Forest Resources Ltd. Office, 2395 Pacific Rim Highway, P.O. Box 639, Ucluelet, B.C. V0R 3A0, during office hours (8:00 to 12:00 am and 1:00 to 4:30 pm) weekdays, excluding holidays from August 22 to October 22, 2001. Please call (250) 726-2446, or fax (250) 726-2488.
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Tofino - Weigh West	Sept. 5, 2001	3:00-9:00PM	3:00PM & 7:00PM
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Opitsat - Band Office	Sept. 10, 2001	11:00AM-4:00PM	1:30PM

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Greg Rowe, RPF, Isaak Forest Resources Ltd., 2395 Pacific Rim Highway, Box 639, Ucluelet, B.C. V0R 3A0.

	H	L	LT	V	JDU Inc
Aber Resources	16.150	15.560	16.100	217746	Keywest Ene
Abtl Price	12.250	12.030	12.190	1933241	Krystallix
Acetex	0.000	0.000	0.080	0	Labrador Iron
Agnico	15.100	14.600	15.060	152501	Laidlaw
Air Canada	7.240	7.000	7.170	135742	Leitch
Akita Drilling	0.000	0.000	13.100	0	Linamar Ltd.
Alberta Energy	57.910	56.400	57.250	513456	Liquidation V
Alcan	57.000	55.300	56.550	424582	Loblaws
American Bullion	0.000	0.000	0.070	0	Loewen Gro
Anderson Expl.	27.350	26.560	27.250	385950	Loews Cine
Anor Med	11.700	11.500	11.700	5100	Lorus
Atco Class 1	47.450	46.950	47.330	5133	Mainframe
ATI Technologies	15.850	15.500	15.550	373879	Manitoba Te
AUR Resources	2.570	2.500	2.500	10474	Manulife Fin
Badger	1.300	1.250	1.300	14350	McCarvil
Ballard Power	35.000	30.900	31.950	328077	Methanex
Band Ore	0.540	0.500	0.500	1500	Microforu
Bank of Montreal	42.000	41.360	41.800	617771	Mitel CP
Bank of Nova Scotia	47.690	46.950	47.600	628967	Molson CI A
Barrick Gold	26.060	25.600	25.610	558211	Moore Corp
Barrington Petroleum			0.550	0	Namibian R
Battery Tech	0.270	0.240	0.250	31250	Napier Intl
Baytech Eenergy	8.750	8.250	8.400	139879	National Ch
BC Gas	34.940	34.650	34.900	133664	Natl Bank o
BCE Inc.	41.030	40.800	40.960	320705	Newalta Co
Berna Gold	0.530	0.510	0.510	115650	Noble Chin
Bid.com Intl	0.420	0.400	0.410	43400	Noranda Fc
Biomara	8.500	7.120	8.100	107899	Nortel
Black Hawk	0.135	0.130	0.130	17647	Nova Cherr
Bombadier Cl.A	20.480	19.750	20.430	43187	Novagold F
Bombadier Cl.B	20.480	19.680	20.420	4032030	Novicourt I
Bracknel Corp.	4.500	4.350	4.500	37910	Nuisco Res
Brasscan	28.900	28.660	28.800	399581	Onex
Buhler Industries	0.000	0.000	3.500	0	Pacifica Pa
Burntsand	3.100	2.950	3.000	45650	PacRim
CAE industries	12.800	11.610	12.220	686037	Pantheon I
Cambior Inc.	0.700	0.660	0.680	34547	Pentland F
Campbell Resources	0.630	0.580	0.630	3003	Petro Cana
Can Hunter	32.050	31.100	31.850	138602	Pioneer M
Canada Life	44.940	44.510	44.810	150771	Placer Dor
Canadian 88 Energy	2.430	2.380	2.380	36000	Pioneer N1
Canadian Hydro	2.200	2.100	2.150	14520	Power Cor
Canadian Pacific	57.750	56.230	57.300	1932410	Precision I
Canadian Tire	37.000	37.000	37.000	200	Prime Wes
Canadian Utilities	0.000	0.000	50.750	0	Procyon B
Canfor	10.000	9.850	9.900	10772	Quadra Lc
Cangene	6.250	6.000	6.250	3250	Reko Intl.
CARA	7.000	7.000	7.000	3600	
Cascades Ind. Inc.	8.150	8.100	8.100	6302	
Cathedral Resources	0.000	0.000	1.110	0	
Cdn Natural Res	46.250	45.500	46.250	144546	
Cdn Western Bank	28.750	28.500	28.540	4049	
Chai Na Ta	0.000	0.000	0.420	0	
Chapters on-line	0.830	0.830	0.830	500	
CHC Heli Cl.A	17.510	17.150	17.510	14500	
CIBC	53.650	52.550	53.510	576036	
Cinram Ltd.	4.100	3.850	3.950	9403	
Clarica	46.900	46.250	46.300	68482	
Clearly Canadian	0.000	0.000	1.350	0	
Consumer Enfield	0.000	0.000	0.090	0	
Consumers Pkge. Inc.	0.035	0.035	0.035	144000	
Corel	5.230	5.050	5.150	63987	
Dennison Mines	0.135	0.135	0.145	436	
Derlan Ind.Ltd.	1.600	1.400	1.400	6096	
Diamet	0.000	0.000	21.000	0	
Dofasco Inc.	26.070	26.000	26.050	93785	
Doman Ind. Cl B.	0.500	0.500	0.500	13000	
Domtar	15.360	14.850	15.150	420142	
Drug Royalty	2.070	2.050	2.050	1900	
Dupont Canada Cl A	22.800	21.950	22.500	17545	
E.dispatch.com	0.970	0.960	0.960	44275	
Echo bay Mines Ltd	1.480	1.460	1.460	17100	
Eldorado Corp. Ltd.	0.315	0.315	0.315	16500	
Enserco Energy	16.200	16.000	16.100	3864	
Falconbridge Gold	16.650	16.500	16.600	26960	
Farrallon Res	0.500	0.500	0.500	2000	
Finning Ltd.	19.950	19.750	19.900	21327	
First Australia Prime	7.800	7.660	7.670	52318	
Fort Chicago	9.000	8.850	8.850	19465	
Four Seasons Hotel	80.500	79.270	79.270	9801	
Future Shop	16.860	16.850	16.850	27485	
Geomaque Expl.	0.195	0.115	0.145	1037500	
Glamis Gold Ltd.	5.190	5.000	5.190	191363	
Global Thermo Elec	8.500	8.010	8.400	55803	
Golden Line	0.780	0.780	0.800	56	
Great West Life	34.050	33.500	33.750	69327	
HC Comm	0.000	0.000	1.820	0	
Hudson Bay Canada	19.490	19.100	19.490	203896	
Hummingbird Comm.	27.550	27.000	27.100	3482	
Ican Minerals	3.900	3.900	3.900	2000	
Imperial Oil	43.070	42.100	43.070	277947	
Inco	26.280	26.000	26.230	383111	
Inex Pharmacy	6.000	5.900	6.000	279	
Infowave	0.850	0.780	0.820	56445	
Intl. Forest Prod. Cl.A	4.150	4.100	4.100	1300	
Itemus	0.000	0.000	0.025	0	

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Advance Ir  
Almaden F  
Andean Ar  
Arizona St  
Bluestar  
Calypso D  
Canada P.  
Canlex  
Carmelita  
Circle Ene  
Complec  
Conac  
Cubix  
Donner M  
Ecstall  
Electric M  
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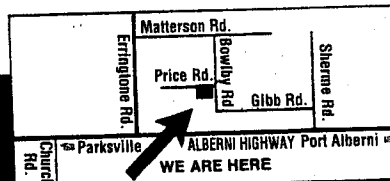
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## DRAFT MANAGEMENT PLAN FOR TREE FARM LICENSE (TFL) #57

lisaak Forest Resources Ltd. (IFR), gives notice and invites comment on the draft Management Plan for TFL #57. TFL #57 consists of forested areas in the vicinity of Clayoquot Sound near the communities of Tofino, Ahousaht, and Ucluelet.

The first Management Plan for TFL 357 is in the process of being prepared. As part of this process the draft Management Plan is available for public review.

TFL holders are required to submit a proposed Management Plan for approval to the Ministry of Forests once every five years. The Management Plan is a strategic plan that focuses broadly on resource management objectives and on the appropriate strategies for reaching those objectives.

The draft Management Plan is available for review by the public and resource agencies from August 22 to October 22, 2001.

The plan may be modified as a result of written comments received by October 22, 2001.

The proposed lisaak Forest Resources draft Management Plan is available for review at:

1. lisaak Forest Resources Ltd. Office, 2395 Pacific Rim Highway, P.O. Box 639, Ucluelet, B.C. V0R 3A0, during office hours (8:00 to 12:00 am and 1:00 to 4:30 pm, weekdays, excluding holidays from August 22 to October 22, 2001. Please call (250) 726-2446, or fax (250) 726-2488.
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If any interested parties are unable to review the proposed plans during these times, arrangements can be made to view the plan at a time convenient to lisaak and the interested party.

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Itemus					

Abacus Mi  
Advance Ir  
Almaden F  
Andean Ar  
Arizona St  
Bluestar  
Calypso D  
Canada P  
Cantex  
Carmelita  
Circle Ene  
Comptec  
Conac  
Cubix  
Donner M  
Ecstall  
Electric M  
Euro Zinc  
Falcon Ve  
Foran Mir  
Global As  
Global Lir  
Gothic Re  
Gulf Intl.  
Image Pc  
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Intl Bio-re  
Intl. Heal  
Intl. Hi-Te  
ITL Capit  
Jaguar Ir  
Kalahari  
Kenrich I  
Lasik Vis

# LOCAL

## Iisaak invites TFL input

AV Times

Iisaak Forest Resources is inviting public comment on its draft management plan for tree farm licence 57. TFL 57 consists of forested areas near Clayoquot Sound near Tofino, Ahousaht and Ucluelet. Iisaak is preparing its first management plan for the area, which it is required to submit to the Ministry of Forest every five years.

The plan is a broadly focused plan for resource management objectives, and strategies for meeting those objectives.

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## Smelter needs power

Continued from Page 1

treasury board of the economic benefits the smelter would have for the province, the smelter committee still hasn't been successful in getting another meeting with

Minister of Energy and Mines Richard Neufeld, or with the premier.

Swann said Alberni-Qualicum MLA Gillian Trumper is lobbying on behalf of the project.

## ON-SITE MEETING

Members of the Citizens' Stewardship Coalition gathered for their Tuesday meeting this week at the proposed location of the Port Alberni Station Project on Tebo Avenue. A steering committee of the group discussed strategies for stopping the project. Bernadette Wyton, of the CSC, discussed comments made by BC Hydro consultant, Dr. David Bates, at last week's environmental assessment hearing at city hall. Bates discussed the availability of information on ultra-fine particulate emissions. He also urged people to keep voicing their concerns about the project. The next meeting of CSC will be held Sept. 4 at 7 p.m.

Submitted photo

## Nurses show willingness to make settlement work

By MIA VARE  
AV Times

Nurses at West Coast General Hospital are complying with the language of their proposed settlement, although many nurses won't come into effect until Sept.

Changes to casual nurse call-ins and 30 days off won't come into effect 30 days after the legislation was passed. Nurses being called in on their designated days off will continue to earn overtime until then.

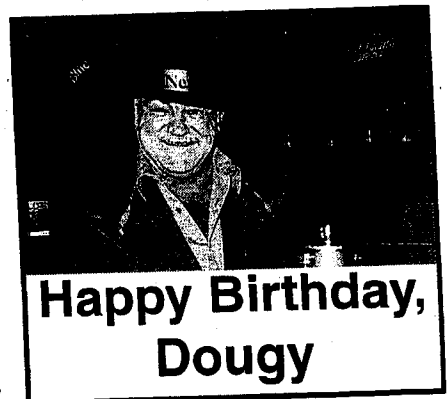
"They're not going to impose that until summer's over and all the holidays are over," said Colleen Murphy, a nurse at

Murphy, who had earlier said the employer might regret insisting on the changes to designated day off and call-in language, now says WCGH administration likely won't face any problems.

"It's not a problem here in Port Alberni because most of the (B.C. Nurses' Union) members are quite compliant," Murphy said. "They're bailing the employer out."

BCNU president Debra McPherson declared war on the government after the legislation was imposed, saying nurses would not sit by quietly and accept the settlement.

While a threatened mass resignation did not go ahead, McPherson said many nurses could choose to resign on their own, or continue refusing overtime work.



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AV Times

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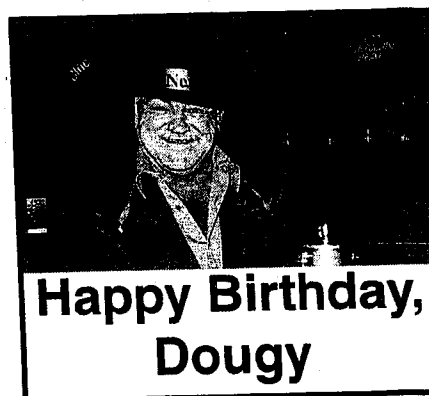
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## Appendix V – Public Consultation Summary

Interest Group	Contact	Phone	Contacted	Plan Viewed
Ahousaht First Nation	Chief Anne Atleo	670-9531	August 28, 2001	Yes
BC Salmon Farmer's Association		725-3139	August 28, 2001	No
Blue Tornado Salmon Farm		642-6600	August 28, 2001	No
Catface Copper Mines Ltd.	Allan Savage	(604) 922-7377	August 28, 2001	No
Central Region Board	Larry Baird & Ann Hillyer	725-2009	August 28, 2001	Yes
Central West Coast Forest Society	Len Dziama	726-7652	August 28, 2001	No
Central Region Chiefs	Jackie Godfrey	726-1260	August 28, 2001	No
Clayoquot Biosphere Trust	Tom Esakin	726-4704	August 28, 2001	No
Creative Salmon	Bill Vernon	725-2884	August 28, 2001	No
Ecotrust Canada	Doug Hopwood	682-4141	August 28, 2001	Yes
Friends of Clayoquot Sound	Sergio Paone	725-4218	August 28, 2001	Yes
International Forest Products	Don McMillan	726-7748	August 28, 2001	Yes
Long Beach Model Forest	Bodo VonSchilling	726-7263	August 28, 2001	Yes
Natural Resources Defense Council	Matt Price	381-3966	August 30, 2001	Yes
Pacific National Group	Kevin Onclin	725-1255	August 28, 2001	No
Samuel Family (trap line holders)	Ray and Wally	723-9147	August 28, 2001	No
Sierra Club	Lisa Matthauss	386-5255	August 28, 2001	Yes
Tofino Chamber of Commerce	Dorothy Baert		August 28, 2001	No

Tofino Mayor and Council	Barb Bryant		August 28, 2001	Yes
Ucluelet Chamber of Commerce	Susan Harvey		August 28, 2001	No
Ucluelet Mayor and Council	Dianne St. Jacques		August 28, 2001	No
Vancouver Island Forest Watch	Maryjka Mychajlowycz	725-4218	August 28, 2001	Yes
West Coast Contractors Association	Erik Larsen	726-7011	August 28, 2001	No