

TREE FARM LICENCE 49

**STATEMENT OF MANAGEMENT OBJECTIVES
OPTIONS AND PROCEDURES
AND
STATEMENT OF OBJECTIVES FOR
EMPLOYMENT AND ECONOMIC OPPORTUNITY**

MANAGEMENT PLAN #3

February 26, 1997 – Proposed

May 31, 1997 - Revised

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February 26, 1996

File: TFL 49 MP3; SMOOP

Fred A. Baxter
Regional Manager
Ministry of Forests
Kamloops Forest Region
515 Columbia Street
Kamloops, B.C.
V2C 2T7

Re: *SMOOP - TFL 49*

Dear Sirs,

Enclosed is our proposed Statement of Management Objectives, Options and Procedures (SMOOP) for Management Plan #3 including our Statement of Objectives for Employment and Economic Opportunity. The completed public review process is included within Appendix II.

Please contact me directly if you require any additional information relating to this matter.

Sincerely,

Douglas S. Misutka, RPF
Administrative Forester

- c. District Manager, Vernon Forest District
District Manager, Penticton Forest District
Brian Harris, Ministry of Environment, Penticton
Brian Robertson, Ministry of Environment, Vernon

Key Map being done by Timberline.

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PART I - THE SMOOP

1.0 INTRODUCTION

Tree Farm Licence number 49 (TFL 49) referred to as the “Okanagan Tree Farm Licence” and located west of Okanagan Lake, is held in the name of Riverside Forest Products Limited. The primary importance of TFL 49 to Riverside is its capability to produce timber values within an integrated resource management (IRM) framework. Wildlife, cattle grazing, water values and recreational activities are ranked high in importance in certain parts of the TFL. Identifying, ranking and incorporating these resources into harvesting plans is the challenge of integrated resource management.

Current State of Management Planning of TFL 49

Riverside Forest Products is preparing Management Plan #3 for TFL 49. This plan, for submission to the Chief Forester of British Columbia, will provide the general goals, objectives and operating procedures to be followed on TFL 49. After approval by the Chief Forester the Management Plan will take effect on January 1, 1999 and be in force for five years.

The planning process for management of a Tree Farm Licence involves several steps designed to ensure that all resource uses are given appropriate consideration. The process culminates in the Management Plan which describes the strategic objectives for the TFL and provides the data and analysis necessary to identify appropriate harvest levels.

As a preliminary step in management planning, Riverside is currently preparing a Statement of Management Objectives, Options and Procedures (SMOOP) and the accompanying document the Statement of Objectives for Employment And Economic Opportunity. The SMOOP is designed to initiate the planning process by clearly stating management objectives and clarifying issues to be considered. The SMOOP is an outline of Riverside’s intentions in preparation of Management Plan #3.

History of TFL 49

Tree Farm Licence 49 was designated as a result of an amalgamation of Tree Farm Licences 9, 16, and 32 in 1984. The amalgamated Licence, referred to as the Okanagan Tree Farm Licence, has a twenty-five year term, and operating under the current licence agreement of July 1, 1995. The licence is normally replaced every 5 years. Management on this area based licence has been conducted for over 45 years.

The licence to manage the former Okanagan (West) Forest Management Licence (No. 9) was granted to S.M. Simpson Ltd. under a contract with the Province of British Columbia on August 16, 1951. The Licence was subsequently designated the Okanagan (West) Tree Farm Licence (No. 9) following amendments to the Forest Act. On December 1, 1970, S.M. Simpson Ltd. was acquired by Crown Zellerbach Canada Ltd.

Tree Farm Licence No. 16 (the Monte Lake Tree Farm Licence) was first granted to Pondsosa Pine Lumber Company Ltd. on April 22, 1954. On December 1, 1970, Pondsosa Pine Lumber Company Ltd. was acquired by Crown Zellerbach Canada Ltd.

Tree Farm Licence No. 32 (the Bolean Tree Farm Licence) was granted to Vernon Box and Pine Lumber Company Ltd. on June 29, 1959. Vernon Box and Pine Lumber company Ltd. was purchased by Armstrong Sawmills Ltd. in 1964, but no formal merger took place. In 1969, Crown Zellerbach Canada Ltd. purchased Armstrong Sawmills Ltd. and in December, 1970, Tree farm Licence No. 32 was registered in Crown Zellerbach Canada's name.

On March 30, 1983, Crown Zellerbach Corporation sold its interest in Crown Zellerbach Canada Ltd. to Fletcher Challenge Limited of New Zealand. As a result of the ownership change, Crown Zellerbach Canada Ltd. was renamed "Crown Forest Industries Limited" (CFIL), effective October 1, 1983.

Fletcher Challenge Limited subsequently acquired a majority interest in British Columbia Forest Products Limited, and on September 2, 1988, its shareholders approved a name change from British Columbia Forest Products to "Fletcher Challenge Canada Limited" (FCCL).

Coincident with the change of name was the implementation of a management agreement between FCCL and CFIL, whereby FCCL agreed to manage the assets and business of CFIL. The collective corporate entity was known as FCCL, and included the operation and management of TFL 49.

On November 14, 1992, certain assets of Fletcher Challenge Canada Limited, including the rights associated with Tree Farm Licence 49, were acquired by Riverside forest Products Ltd. Riverside Forest Products Ltd. subsequently was organized as a public company and licence holder of TFL 49 is "Riverside Forest Products Limited" (Riverside).

2.0 COMMITMENTS

In management of the resources of TFL 49, Riverside Forest products is committed to:

- Following the on-going strategies of the Okanagan Shuswap Land Resource Management Plan;
- Following the *Principles of Sustainable Forestry* as outlined by the Forest Alliance of B.C.;
- Minimizing losses and damage through the rapid detection and suppression of fires and through early detection of abnormal insect and disease activity;
- Following the Forest Practices Code and utilizing appropriate guidance in its associated guidelines (or *The Okanagan TSA Integrated Resource Management Timber Harvesting Guidelines*) in forest management activities and to concur with resource agencies in the application of these practices;
- Ensuring that all areas harvested are restocked to with commercial species to a “free growing” state;
- Maintaining a policy of open access to the TFL with a minimum of restrictions to the public;
- Harvesting steep slopes in proportion to their area in each Forest District;
- Maintaining Range opportunities at current levels;
- Completing detailed watershed analyses on identified watersheds;
- Using genetically improved planting stock as it comes available from ongoing tree improvement programs;

Riverside has achieved and will continue to achieve a high level of performance on the above stated commitments.

3.0 MANAGEMENT OBJECTIVES

The primary goal of Riverside is to maintain a long term, economically viable forest products operation while practicing sound integrated resource management. In order to reach this objective, we are committed to pursue a course of continued growth within the industry and to provide stable employment for our employees and contractors and socio-economic benefits for the residents of the local communities and for the Province of British Columbia. In setting this goal Riverside recognizes its commitments to forest stewardship, and to meeting various government policies and objectives. This Section lists specific management objectives proposed for TFL 49 to provide direction for planning and management.

3.1 Land Use and Integrated Resource Management

As signatories to the *Principles of Sustainable Forestry* (Forest Practices Committee document of the Forest Alliance of B.C.), Riverside is committed to the sustainability of the environmental, economic and social values of TFL 49 while maintaining an economically competitive enterprise. This commitment requires forest management standards in compliance with the Forest Practices Code including protection of natural biological diversity at the stand and landscape levels.

TFL 49 falls within the bounds of the Okanagan-Shuswap Land and Resource Management Plan (LRMP) which is currently being prepared (1996). Operations on TFL 49 will be consistent with the on-going strategies of the Okanagan-Shuswap Land and Resource Management Plan as approved by cabinet. If the LRMP is complete by July 1997 as stated in the Terms of Reference, there will be an opportunity to address the LRMP in timber supply analysis, although this SMOOP will be finalized.

Riverside supports the concept of integrated resource management. We perceive integrated resource usage as one or more users utilizing the same unit of land concurrently or over time. Riverside co-operates with government resource agencies and the public on the identification, inventory and management of non-timber resources such as fish, wildlife, water, range, and recreation. Our harvest planning incorporates the predetermined objectives for the land unit, and where other resource values are determined to be significant, the plans are modified to accommodate these values. As concerns are identified in our 5 Year Forest Development Plan update process they will be considered for incorporation into the plan. When significant archeological sites are identified and recognized by the Province of British Columbia, measures will be taken to protect their special significance.

At the start of each Silviculture Prescription (SP), Riverside will identify the concerns of all major resource users. Users include trappers, guide outfitters, range tenure holders, and other licenced resource users. This process gathers the information from our resource maps, public input from our 5 Year Development Plan, and consultation with the resource agencies and users. The process identifies the objectives the SP will attempt to meet. This does not mean that all timber types are harvested and reforested in one particular manner. Riverside does not believe all sites should be harvested by utilizing any one harvesting system. Instead the harvesting system is chosen to meet a set of predetermined objectives, as identified on a site specific basis.

3.2 Timber Resources

Riverside will aim to maintain the currently approved annual allowable cut (AAC) of 380,000 (including Schedule 'A' land) metres per year plus unrecoverable losses. This goal is inclusive of the small business allocation of 36,905 cubic metres per year (9.7%).

Logging methods will be based on site specific requirements and may include conventional logging, roadside logging, cable yarding or other systems. In even aged management the harvest system will generally be the clearcut system with selective harvesting in uneven aged stands providing that the remaining stems are in good condition and of an adequate number to permit natural seeding. Interior Utilization standards will apply.

The Forest Practices Code will be adhered to for activities conducted on TFL 49. Where applicable, the Okanagan TSA Integrated Resource Management Timber Harvesting Guidelines and other guidebooks and any updates or amendments to those, will be used as a guide in forest management activities.

The long term objective of the company will be to produce logs of suitable species and quality for the profitable manufacture of plywood, lumber and veneer. For the purposes of timber supply analysis our objective will be to maintain the harvest at or above the long run sustainable yield level.

3.3 Silviculture

Basic silviculture will be carried out in a cost effective manner on all harvested areas. Areas denuded prior to October 1, 1987 will be funded by the Ministry of Forests. Where funds are available and appropriate incentives are in place, incremental silviculture will be practiced. An incremental silviculture plan will be included with our proposed Management Plan #3.

Riverside will continue to emphasize the use of genetically improved planting stock as it comes available from ongoing tree improvement programs for all lands within this land base.

Harvesting activities will be conducted in accordance with site specific activities approved in the Silviculture Prescription. Subject to approval of plans, including the 20 year plan

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and future Forest Development Plans, our 1997 – 2002 Forest Development Plans provide the following information on silviculture system use and the approximate proportions of each system.

<u>Silviculture System</u>	<u>Approximate %</u>
Clearcut *	88 %
Selective	12 %
Total	100 %

Note: * Clearcut blocks include blocks with reserves within the block and blocks with wildlife trees within the block. Clearcut blocks may be harvested by ground or cable systems.

3.4 Protection

Fire Prevention

Our management objective for fire is to minimize the loss of forest cover resulting from fire. Losses and damage will be minimized by rapid detection and suppression of fires.

Forest Health

Insect and disease management objectives are to keep timber losses to a minimum.

3.5 Roads

Most of the main road network is in place on TFL 49. Secondary and spur road construction will facilitate development of new cutting permits. It is Riverside's objective to construct, maintain, and deactivate roads following applicable guidelines and standards as required for timber extraction, silviculture and protection.

3.6 Soil Conservation

It is the objective of Riverside Forest Products to minimize the forest land base occupied by permanent structures required to provide access to operating areas. Levels of soil disturbance will be in compliance with the appropriate guidelines. Rehabilitation measures will be included in each Silviculture Prescription.

3.7 Range Resources

The current grazing level of 10,000 animal unit months (AUMs) will be maintained for the period of MP #3 unless revised range inventory and objectives are developed by the Ministry and where adequate integration of timber management objectives and other resource values can be achieved. Increases above this level will not be supported by Riverside unless it is shown that the proposed level is sustainable and that the level of management is such that basic silvicultural obligations are not compromised.

3.8 Biological Diversity

Following the concepts included in the *Biodiversity Guidebook*, Riverside's objective is to maintain acceptable levels of landscape level biological diversity. Stand level biodiversity is also a priority for Riverside, however, as is noted in the Guidebook not all elements of biodiversity can, or should be, maintained on every hectare. In addition, it is anticipated that Biodiversity levels will be brought forward from the LRMP process.

3.9 Water Resources

Forest Management Activities are to be conducted to minimize the impact on the water resources.

Total Chance Engineering will be utilized to optimize road construction activities. Referral of Forest Development Plans will be maintained to benefit water resource management under the Ministry of Environment, Lands and Parks and in concert with water users.

Concerns about the quality, quantity and timing of water produced from watersheds in TFL 49, if they arise, will be addressed through meetings with the Ministry of Environment, Lands and Parks, and Irrigation Districts.

Watershed assessments are currently planned for most major watersheds used for irrigation and potable water containment from TFL 49. These watersheds typically contain forest cover resulting from a prominent fire history. Water containment is mostly into a series of storage dams. Included in the Management Plan will be a table of completed watershed assessments.

3.10 Recreation Use and Visual Resources

Recreation use is important within the TFL. Unless directed by the Ministry of Forests, an open access policy will be maintained with minimum restrictions to the public. Riverside will work with the MoF to maintain the availability of recreational opportunities at current levels. Where public use warrants, the establishment of additional facilities will be considered jointly with the MoF. Forest Management activities will be conducted to allow for maintaining the current level of Satisfactory User Days.

A recreation and visual resource inventory for TFL 49 has been completed. Using this information, Riverside incorporates visual landscape values into forest management planning according to approved government guidelines. Digital terrain mapping techniques will be used to simulate harvesting within visually sensitive areas or corridors to ensure visual quality objectives are met.

3.11 Fish and Wildlife Resources

Close liaison will be maintained with the Ministry of Environment, Lands and Parks (Fish and Wildlife) and the Department of Fisheries and Oceans.

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Areas having high fisheries or wildlife values will be identified and operations will be planned accordingly. Required Fish Stream Assessment works will be conducted prior to road and harvesting activities.

3.12 Public Involvement

A Public Review Strategy for TFL 49 (See Appendix I) has been accepted by the Ministry of Forests. In this document Riverside has outlined its commitment to public and governmental consultation. It is our goal to ensure that all issues of public importance are addressed and that the importance of all resources is clearly understood.

3.13 Culture

It is the goal of Riverside to respect Aboriginal interests and develop effective communication strategies in planning for resource use activities which concern their Aboriginal rights.

Archaeological overview assessments are being conducted by the Ministry of Forests on the lands included within TFL 49. This information will be used to determine the requirements for additional detailed assessments on specific sites. Planning will continue to follow District directions on overview inventory implementation.

4.0 MANAGEMENT ISSUES AND OPPORTUNITIES

The following management issues and opportunities will be considered by Riverside in preparation of Management Plan #3. The list is drawn from management experience on TFL 49, previous planning documents, and from consultation with the public and resource agencies.

Site Index Estimation

Issue/Opportunity:

Although site productivity is a key input to forest management planning, it is widely accepted that measurement of productivity is problematic for a large proportion of the forest land in B.C. Site index may not necessarily reflect true productivity because mature and overmature stands may have had height growth adversely affected at some point in their development. A negative bias to site index in older stands is likely but not currently proven on TFL 49. There is the opportunity to realize timber supply benefits if the issue can be quantified.

Action:

The MoF have ongoing a Regional project to collect data on old growth site index in order to produce site index adjustments for pine and spruce leading age class 8 and 9 stands. This data is to be available, and will be used, for the base case of the upcoming timber supply analysis. Further research must be completed to expand the use of such adjustments to the rest of the regenerating forest.

20 Year Plan Guidelines

Issue/Opportunity:

Guidelines for the 20 year plans were not sent to Riverside until February 28, 1997 – one year prior to the plan submission (February 28, 1998). The planning associated with this process requires a time line in excess of that provided.

Action:

Planning has commenced in advance of the guidelines. Accommodations to the guidelines will be made, within the timelines provided.

20 Year Plan Influences

Issue/Opportunity:

Operations conducted on TFL 49 are influenced by the total chance engineering designs that have steered operations since 1951. Prior harvesting activities have occurred on this land base dating back to the 1920s. The two pass layout system of the 1960's and 1970's provided road systems and future harvesting areas according to the standards of the time. Current planning requirements in each of the Vernon and Penticton Forest Districts are utilized in the preparation of Forest Development Plans.

20 Year Plan Influences - continued

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Action:

While reflecting the current state of development on this licence, 20 year planning will accommodate the guidance and terms of reference utilized during the 1996 - 1997 Forest Development Planning, and the guidance offered by the February 28, 1997, 20 Year Plan Guidelines.

Managed stand yields and local operational adjustment factors

Issue/Opportunity:

TFL 49 contains only a few permanent sample plots (PSP) and as such will not be able to localize managed stand yield predictions. Ministry of Forests' generalized Operational Adjustment Factors (OAF) may not be representative for TFL 49.

Action:

Riverside will consider establishment of more PSPs in cooperation with the Ministry of Forests and local growth and yield cooperatives. Site index is a major input to managed stand yields. Various methodologies will be used to ensure that appropriate site indices are applied. Riverside recognizes a negative bias site index in Old Growth and will address this issue. Riverside will attempt to localize OAF, for TFL 49.

Appropriate green-up ages

Issue/Opportunity:

The height of regenerated stands and the influence on harvest planning of overmature adjacent stands remains a constraint to the planning process. The hydrological recovery of these regenerated stands after 3 metres of height contribute slowly to the reduction in the Equivalent Clearcut Area (ECA) calculation. After the benchmark of 20% ECA is reached, a watershed study must be conducted within Community Watersheds. However, if management is being conducted on 100 year rotations, the watershed ECA calculations will exceed the 20% level.

Action:

For interior Community Watersheds that lead into storage dams, the methodology of determining the ECA level should be reviewed. Riverside will work with the Ministry's of Forests and Environment to review this procedure, upon the initiation of a review by the Ministry's. It is also anticipated that the LRMP process will provide suggestions on this matter. The Management Plan and the information package will further discuss this matter.

Volume estimation in complex stands

Issue/Opportunity:

The use of partial harvest systems is increasing on TFL 49. Prediction of future harvest on the resulting and existing stands is uncertain.

Action:

Riverside will consider using Prognosis B.C. when available for use in B.C. For the timber supply analysis, a mutual agreement will be reached between Riverside and the Ministry of Forests for a volume estimation technique.

Stand decline and breakup

Issue/Opportunity:

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A significant proportion of the standing mature inventory on TFL 49 is past its biological maturity. Uncertainty regarding the effect of biodiversity guidelines may further reduce the productivity of the working forest.

Action:

Riverside will within existing guidelines focus its harvesting efforts on declining overmature stands. Normally, priorities of harvesting are i) infested, ii) susceptible, iii) overmature stands, and iv) timber profile. However, harvesting constraints imposed by biodiversity, water management, green-up, wildlife management, etc. may redirect the priority. Where appropriate, selection harvesting will be proposed in older stands, required for biodiversity, to salvage impending mortality.

LRMP and protected areas such as Shorts Creek

Issue/Opportunity:

Single-use land designations, including Protected Areas, eliminate the opportunity for integrated resource management and use. Integrated resource management can accommodate a variety of uses for the land base, while incorporating forest health and renewal management.

Action:

Any protected area that affects the integrated resource management opportunities on TFL 49 should be directed towards low site productivity areas that are also able to satisfy landscape requirements (eg. biodiversity) for the landscape unit of the TFL. It is anticipated that the LRMP process will incorporate these concerns.

Forest Practices Code including the Biodiversity Guidebook

Issue/Opportunity:

The forest stand history of TFL 49 included significant natural fire disturbance which today provide large areas of contiguous even aged stands. Forest management planning to date has been constrained by block size limits. These practices have the opportunity to increase the kilometres of road required and to reduce the biodiversity that is created by these large natural disturbances.

Action:

During the 20 year planning process and the Forest Development Plan processes in future years, consideration will given to amalgamating cut blocks with the goal of reducing the kilometres of road construction required and to increase biodiversity. Should such a proposal be prepared, the proposal will be made to the District Manager and will be reviewed through the normal planning and public consultation process.

Riparian management areas

Issue/Opportunity:

Riparian Management Area impacts have not been tested to determine their impact on the available timber supply.

Action:

The impact of riparian management areas on timber supply will be assessed during the Total Resource Planning process to provide the 20 year plans as part of the Management Plan #3 process. For timber supply analysis, riparian management areas have been explicitly identified in the geographic information data sets.

Road Construction & Productive Forest Land removals

Issue/Opportunity:

Road construction removes land from the available productive land base.

Action:

Total chance engineering in conjunction with Total Resource Planning will be used during the preparation of the 20 year plans for TFL 49 to minimize the land that is required in access roads.

Okanagan Lake Viewscape, visual management

Issue/Opportunity:

The 1994 visual quality inventory for TFL 49 is a valuable planning tool to minimize the visual impact of forest management activities. However, overmature stands, combined with the management of forest health issues associated with overmature forests can result in visual impact conflicts.

Action:

The 1994 visual quality inventory will be incorporated into the planning process to minimize visual impacts. Digital terrain modeling and visual modeling will be utilized in areas that require this additional work.

Critical wildlife habitat

Issue/Opportunity:

Portions of the IDF biogeoclimatic area on TFL 49 are identified as wildlife winter range.

Action:

Harvesting plans within these areas will be developed through consultation with the Ministry of Environment.

Lambly Creek community watershed

Issue/Opportunity:

Harvesting activities in the Lambly Creek community watershed have been conducted since prior to 1951. Assessments are required to determine the current status of road and harvesting activities.

Action:

During 1996 and 1997 a Level 1 Watershed Assessment is being conducted to determine the ECA level. A sediment source survey will also be conducted to lead to any restoration work received. An Access Management Plan will also be completed to deactivate unnecessary roads. A fish habitat survey will be completed to identify potential fish habitat streams. Results from these processes will be incorporated into the resource planning leading to the 20 year planning process.

Land Resource Management Planning (LRMP)

Issue/Opportunity:

The Okanagan-Shuswap LRMP process is in progress. Results from this process will provide strategies to manage the TFL land base.

Action:

LRMP direction will be incorporated into the Management Planning for TFL 49, as they are approved in a higher level plan requirement.

Smoke Management

Issue/Opportunity:

Public opposition to smoke has dramatically reduced slash burning as a forest management tool. However, slash burning is a vital and necessary tool for forest management.

Action:

Slash burning practices will be conducted in accordance with air quality and venting parameters to minimize the smoke influence into urban areas.

Herbicides and Pesticides

Issue/Opportunity:

Public opposition to the use of herbicide has dramatically reduced the use of this forest management tool, however, herbicides remain a vital and necessary tool for forest management.

Action:

The use of herbicides, as a forest management tool, will be in accordance with Provincial and Federal legislation and with the approved operational plan.

Insect Epidemics

Issue/Opportunity:

The large component of overmature forests in TFL 49 cause a large risk to insect epidemics.

Action:

Riverside will continue to maintain an aggressive insect control program, including forest health surveys, maintaining road access availability for control measures, and where appropriate, a pheromone baiting program.

Deciduous Stands

Issue/Opportunity:

The opportunity may exist to commercially utilize deciduous stands.

Action:

Ongoing product and market information will be monitored to assist in the utility of mature deciduous species.

Grazing

Issue/Opportunity:

Portions of TFL 49 are under heavy grazing pressure. This level of pressure can reduce seedling survival due to trampling and has caused successive replanting of harvested areas.

Action:

Ongoing grazing monitoring by both the grazing/ranch licensees and Riverside will continue. Research on grazing impacts on site productivity and stand development will be discussed with the District Managers as it is available.

Unmerchantable Forest Types

Issue/Opportunity:

Within TFL 49, a very small proportion of the working forest is classified as unmerchantable - mainly mixed hardwood stands and stocking Class 4.

Action:

In its reinventory, nearing completion (December, 1996), Riverside has specifically focused on stocking class 4 stands. It is anticipated that a significant portion of stocking class 4 has reached a merchantable status and as such will be available for harvest. The reinventory, will also provide recent information on the volume of unmerchantable forest types. In 1997, it is expected that this volume can be quantified.

Riverside will continue to review the utilization of unmerchantable forest types. The scheduling of these efforts will mainly be dictated by the economics of carrying out these treatments. However, with the harvesting constraints of adjacency, wildlife management and biodiversity, it is not expected that unmerchantable stands will be harvested during the next 2 years. Future actions will be considered during the 1997/1998 Intensive Management Planning process that has been initiated within our organization.

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Backlog Reforestation

Issue/Opportunity:

There remains a very small amount of backlog reforestation. Current plans are to eliminate the backlog by the end of the 1998 planting season.

Action:

Consistent monitoring of the regeneration program by using Riverside's Silviculture Information Management System, combined with less reliance on natural regeneration, will be continued to eliminate backlog reforestation by the end of 1998.

First Nations Involvement

Issue/Opportunity:

Aboriginal Land claims have been placed over land base of TFL 49.

Action:

The land claim process will determine the future impacts on the licence area.

5.0 RESOURCE PLANNING PROCEDURES

Resource planning for TFL 49 is guided by inventory and planning requirements outlined in the Ministry of Forest's Resource Planning Manual and the Tree Farm Licence document. Inventories and planning procedures are continually reviewed to ensure that they meet evolving requirements.

5.1 Resource Inventories

Resource inventories available for this Management Plan are as follows:

- Phase I Resources Inventory Branch Vegetation Inventory compiled to the FIP standard;
- Environmentally sensitive areas;
- Recreation and Landscape;
- Biogeoclimatic zones and subzones/variants;
- Canada Land Inventory of wildlife habitat capability;
- Roads Classification; and
- Stream and Wetlands Classification.

Inventories will be merged in a geographic information system environment and prepared for input to timber supply analysis.

5.1.1 Phase I Vegetation Inventory

To be completed in early 1997, the TFL Vegetation Inventory includes forest cover attributes to MoF standards in a fully digital and spatial format compatible with the provincial inventory database. Colour photography flown in 1994 was used to delineate strata to Vegetation Inventory standards. Mapping is on TRIM controlled NAD 83 1:10,000 BCGS base maps and includes a digital terrain model for slope analysis. An air and ground observation program supported classification. A data set based on Phase II sampling will not be available for timber supply analysis.

5.1.2 Environmentally Sensitive Areas

An inventory of Environmentally Sensitive Areas (ESAs) covering the entire TFL will be loaded as an overlay to the forest inventory. Areas will be classified as non-contributing to harvest based on:

- Actual or potentially sensitive or unstable soils;
- Questionable forest regeneration success; and
- Wildlife values.

5.1.3 Recreation and Landscape

Recreation and Landscape inventories are complete to MoF standards for the entire TFL area. Visual quality objectives defined in the Landscape inventory will be used to identify management zones in which visual management will be emphasized.

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5.1.4 Biogeoclimatic zones and subzones/variants

Mapping of biogeoclimatic zones and subzones/variants is based on the MoELP provincial coverage. This is augmented on TFL 49 Block "B" with 1:20,000 mapping.

5.1.5 Canada Land Inventory of wildlife habitat

Our wildlife habitat inventory is loaded as a data overlay to the forest inventory from the Canada Land Inventory of wildlife habitat capability. This inventory will be used to define ungulate winter range management zones for timber supply analysis following the lead of the *Okanagan TSA Integrated Resource Management Timber Harvesting Guidelines* and the Okanagan TSA Timber Supply Review.

5.1.6 Roads Classification

All roads and trails are classified based on MoF standard categories of main road, secondary road, and trail. In addition to this, roads are classified according to width reflecting area lost to long term production of trees. The classification is used to buffer roads using the GIS to make appropriate land base reductions.

5.1.7 Forest Practices Code Stream and Wetlands Classification

In order to model riparian reserves as required by the Forest Practices Code, streams and wetlands must be classified using the FPC system. Formal classification based on rigorous field verification is not available. Instead, the wetlands of the TFL have been classified based on survey information where available and local knowledge of the Riverside engineering staff. This represents best available information.

5.2 Management Planning Processes

Management of a Tree Farm Licence involves several planning processes undertaken at various scales and levels of detail.

The Management Plan describes the strategic objectives for the TFL and provides the data and analysis necessary to identify appropriate harvest levels.

Through long term planning for timber availability, the 20 Year Operating Plan demonstrates a viable harvest given other resource considerations and an agreed upon working forest land base. The 20 year plan also confirms that the base case timber supply scenario and its assumptions are achievable.

The 5 Year Development Plan defines road development and harvest activities at an operational level. It is subject to a review and referral process and must meet all Management Plan commitments.

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Cutting Permits, approvals for harvesting at a harvest block level, include a Logging Plan and a Silviculture Prescription.

The Management Plan itself includes several documents and processes to ensure that the plan is completed in an efficient matter yet has input from all stakeholders and adequately addresses the needs of all resource users:

- The Review Strategy is a planning document used to ensure full public and resource agency participation;
- The currently approved Management Plan is submitted for public review in order to provide feedback on the plan and Riverside's performance;
- A Statement of Management Objectives, Options and Procedures (SMOOP) is prepared as a commitment of intent with regard to management planning;
- Integrated with the SMOOP is a Statement of Objectives for Employment and Economic Opportunities;
- There follows a public and resource agency review of the SMOOP including the employment and economic opportunities section;
- A detailed technical Timber Supply Information Report provides advanced disclosure of the details of the Timber Supply Analysis;
- The Timber Supply Analysis is performed in concert with the 20 Year plan;
- The 20 Year Plan provides a demonstration that the base case option is achievable;
- A Draft Management Plan is prepared based on Riverside goals and objectives and the outcome of the analysis;
- The Draft Management Plan is submitted for public and resource agency review; and
- A Proposed Management Plan is submitted after incorporating any feedback.

6.0 TIMBER SUPPLY ANALYSIS

Timber supply is the quantity of timber available for harvest over time. It is dynamic, not only because trees naturally grow and die, but also because conditions that affect tree growth, and the social and economic environment that effect the availability of trees for harvest, change with time.

Timber supply analysis is the process of assessing and predicting the current and future supply from a management unit. An analysis evaluates how management, including allowance for management of non-timber resources, affects the supply of harvestable timber over the long term. The timber supply analysis provides the technical basis for the provincial Chief Forester to determine an annual allowable cut for TFL 49.

However, due to uncertainty surrounding both the information used in analysis and future forest management objectives, these projections are not viewed as static or prescriptive. They remain relevant only as long as the supporting information is relevant. In recognition of this, TFL licensees are required to re-evaluate timber supply for each successive Management Plan (every five years).

Timber supply is influenced by many biological and management factors. Land use, timber inventories, growth and yield assumptions, management intensities, formulation of the analysis problem and the modeling process all influence the harvest levels found to be achievable.

Analysis of options will be undertaken using CASH_FM (Continuous Area Simulation of Harvesting and Forest Management), a proprietary forest estate simulation model. CASH_FM is capable of explicitly simulating integrated resource management by regulating forest cover. A degree of spatial resolution is achieved by the use of contiguous management zones within which cover constraints are applied.

6.1 Modeling Inputs

This section provides details of inputs to the forest level modeling process. Inventory and ancillary data will be prepared using a geographic information system (GIS) in order that methods will be as “spatially aware” as possible. For example, existing roads will be buffered to provide specific area reductions from the net harvesting land base.

6.1.1 Analysis Units

Aggregation of species groups is necessary to facilitate forest level modeling. Species of similar biological, management and silvicultural attributes are grouped to reduce complexity. This must be balanced with creating groups small enough to allow accurate modeling of stand yields.

Analysis units will be determined in the Timber supply information package after review of the inventory data.

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6.2 Resource Management Zones

A variety of constraints and objectives over and above timber requirements are recognized for the TFL. Modeling processes have been developed to more reliably address these integrated resource management (IRM) objectives. These processes should help to ensure that the required balance between economic, environmental, social and cultural demands on the forest can be met effectively and efficiently.

Integrated resource management translates to restrictions on the removal of forest cover and the distribution of those removals—the use of forest cover constraints. For forest level modeling purposes, areas requiring the same management regime, that is having the same constraints, are grouped into management zones. Within a zone, specific forest cover guidelines are implemented. The management zone structure to be created for the TFL will be based on Forest Management Zones described in the *Okanagan TSA Timber Harvesting Guidelines*. The guidelines defined areas within which certain measures were required to protect certain values. The zones are landscape management areas (visual quality objectives as per the current Landscape inventory), critical wildlife habitat (ungulate winter range), community watersheds, lakeshore management areas, and timber emphasis areas.

The analysis will apply "cover class constraints" to model old growth values, wildlife habitat guidelines, biodiversity, green-up and visual quality objectives. Cover class constraints place maximum and minimum limits on the amount of young second growth and/or old growth found in zones of the net operable land base. Timberline's proprietary simulation model CASH_FM uses a pseudo-geographic approach, giving considerable spatial resolution to the inventory in order to adhere as closely as possible to the intent of forest cover constraints on harvesting. Maximum depletion and minimum disturbance constraints on forest cover are explicitly implemented. Forest stands such as environmentally sensitive areas and inoperable areas which do not contribute to harvest can be included to better model forest structure and disturbance levels.

There are three forest cover constraint classes available for modeling:

- **Disturbance** - the maximum area that can be younger than a specified age or shorter than a specified height. This is intended to model cutblock adjacency and green-up requirements.
- **Retention** - the minimum area that must be older than, or as old as, a specified age. This is intended to model both retention of cover and retention of old growth.
- **Thermal Cover** - the maximum and minimum proportion of area that must be retained over a lower retention age. This is intended to model thermal cover for wildlife. Thermal cover and retention forest cover constraints overlap and area that qualifies for both is counted in both.

The use of forest cover constraints as described above improves forest management modeling by ensuring the that non-timber resources are given appropriate consideration.

In addition to the constraint system described above, CASH_FM allows a second level of constraints to be applied. These will be used to monitor seral stage distribution guidelines for the maintenance of landscape level biodiversity. Following direction in the MoF document “Higher Level Plans, Policy and Procedures” and the “Forest Practices Code Timber Supply Analysis” we will assume that the TFL blocks represents the landscape units, that the biodiversity emphasis will be low, and that the required seral stage distributions be achieved within three rotations. Sensitivity runs will explore other interpretations of these policies.

6.3 Proposed Analysis Options

Each analysis Option is discussed below.

6.3.1 Current Management Option

The current management or “base case” option will include:

- Management activity as defined by operations over the last 5 years;
- Implementation of the Forest Practices Code (FPC) as it is being interpreted February 1997, including riparian management and low emphasis landscape biodiversity guidelines;
- Up-to-date Vegetation Inventory;
- VDYP natural stand yields, TIPSY managed stand yields and FVS for complex stands;
- Current utilization standards;
- Visual quality objectives;
- Wildlife management;
- Community Watershed Management;
- Genetic gains from tree improvement;
- Basic silviculture; and
- Consideration of problem forest types and forest health (consistent with current management).

Sensitivity runs for this option will address any issues which have significant uncertainty associated with them. For example, FPC riparian and landscape biodiversity.

6.3.2 Okanagan TSA Integrated Resource Management Timber Harvesting Guidelines Option

This Option is based on the Okanagan Timber harvesting guidelines and differs from the Current Management Option in that guidelines developed specifically as part of the Forest Practices Code (FPC) are not addressed. This option will be most closely comparable to the previous timber supply analysis. It is intended to illustrate any “timber supply cost” associated with the FPC (and the LRMP process, if completed).

6.3.3 Incremental Silviculture Option

Benefits to incremental silviculture will be explored.

6.3.4 Intensive Fir Leading Site Management

This option addresses the rehabilitation, harvest, species conversion, stocking control and root rot management of Douglas Fir leading stands found in the IDF and Montane Spruce Biogeoclimatic Zones.

6.3.5 Alternate Modeling Methods - Stand and Forest Level Yields

There are limitations to conventional stand and forest level modeling of complex stands and partial harvesting. This option will use newly developed models and techniques in an attempt to improve modeling accuracy.

7.0 PUBLIC INVOLVEMENT PROCEDURES

The Review Strategy for TFL 49 (accepted by the MoF and reproduced in Appendix I) is a blueprint for public involvement and resource agency review of all phases of strategic management planning. This includes preparation of the Statement of Management Objectives, Options and Procedures (SMOOP) including a Statement of Objectives for Employment and Economic Opportunities, and preparation of Draft Management Plan #3.

Our commitment to integrated resource management requires that we actively encourage input from the public. Our goal is to ensure that all issues of public importance are addressed and that the importance of all resources is clearly understood.

8.0 MANAGEMENT PLAN SCHEDULE

Preparation of planning documents culminating in approval of the Management Plan late in 1998 is on schedule with the MoF 28 month planning cycle as detailed in the TFL 49 Licence document. Important milestones to ensure the process does not fall behind schedule are listed below.

Activity	Agency	Date of Deadline
SMOOP ¹ and EEO ² Submission	Riverside	February 28, 1997
SMOOP and EEO Acceptance	Kamloops Region	May 31, 1997
Information Package Submission	Riverside	August 31, 1997
Information Package Acceptance	Timber Supply Branch	November 30, 1997
Timber Supply Analysis Submission	Riverside	February 28, 1998
20 Year Plan Submission	Riverside	February 28, 1998
Timber Supply Analysis Acceptance	Timber Supply Branch	May 31, 1998
20 Year Plan Acceptance	District Managers, Penticton and Vernon	May 31, 1998
Draft Management Plan Submission	Riverside	June 30, 1998
Comments on Draft Plan	Kamloops Region	August 31, 1998
Proposed Management Plan Submission	Riverside	September 30, 1998
Management Plan Acceptance	Chief Forester of B.C.	December 31, 1998

¹Statement of Management Objectives, Options and Procedures

²Statement of Objectives For Employment And Economic Opportunity

**PART II - STATEMENT OF OBJECTIVES FOR EMPLOYMENT AND
ECONOMIC OPPORTUNITY**

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PART II

STATEMENT OF OBJECTIVES FOR EMPLOYMENT AND ECONOMIC OPPORTUNITY

1.0 INTRODUCTION

This is a statement of Riverside's objectives with regard to employment and economic opportunities for the population, including aboriginal people, in the vicinity of TFL 49.

Riverside is an integrated, publicly traded forest products company. Operations include eight manufacturing facilities at five separate locations: a studmill and plywood plant at Armstrong, a studmill and plywood plant at Kelowna, a remanufacturing facility at Winfield, a studmill and veneer plant at Lumby, and a dimension lumber sawmill at Williams Lake.

Riverside's annual operations produce a payroll exceeding \$101.5 million, property taxes exceeding \$1.7 million, stumpage and royalty payments to the Province of British Columbia exceeding \$45.2 million, payments to independent contractors in excess of \$78.6 million, and log purchase payments in excess of \$73.9 million.

Riverside's mill and woodlands employment base is relatively stable with only slight variations due to seasonal demands. The following table sets out the number of all active hourly and salaried employees as of September 30, 1996.

	<u>Hourly</u>	<u>Casual</u>	<u>Salaried</u>	<u>Total</u>
Armstrong	497	92	65	654
Kelowna	362	20	99	481
Lumby	193	20	42	255
Williams Lake	220	-	54	274
Winfield	<u>40</u>	<u>-</u>	<u>2</u>	<u>42</u>
	<u>1,312</u>	<u>132</u>	<u>262</u>	<u>1,706</u>

Additional direct independent contractors that are employed in these operations - **800+**

Timber harvested from TFL 49 accounts for approximately 23% of the Armstrong and Kelowna mill demands. The employment base for TFL 49 includes the communities of Westwold, Falkland, Monte Lake, Armstrong, Vernon, Kelowna, Westbank, and the surrounding rural areas. All timber harvesting on TFL 49 is carried out by independent contractors.

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Brief descriptions of the Armstrong and Kelowna facilities, which together obtain approximately 23% of their timber supply from TFL 49, are as follows:

Armstrong

The Armstrong facility was built in 1971 and is located on a 71 hectare site 16 kilometers north of Vernon, British Columbia. The facility consists of a plywood plant and studmill. The plywood plant consists of two lathes to manufacture veneer, four veneer dryers, a flexible value added lay-up system, two presses, finishing end saws, patch line and a six head sander. This plant is the largest plywood plant in Canada and runs 95% to custom orders specializing in thick panel (up to 1 1/4") and custom sanded products.

The Armstrong sawmill has benefited greatly from the June 1996 installation of a state-of-the-art small log line. Each block is now scanned for optimal value recovery, rotated, then rescanned for canter offset. The cant is then rescanned and optimized in a thin kerf gang edger with curve sawing capability. The new equipment together with the end dogger for larger logs, positions the Armstrong Studmill with the most efficient sawmills in Canada.

An increased focus on export lumber in 1996 has resulted in development of 5 customer-specific Japanese grades with corresponding less dependency on US sales.

Kelowna

The Kelowna facility is located on an 11 hectare site in Kelowna, British, Columbia. The facility consists of a studmill, a plywood plant and a log processing facility.

The plywood plant has one lathe, three veneer dryers, a flexible value-added lay-up system, two presses, a sizing saw line complete with a new automatic strapping machine, 2 patch lines and a six head sander.

The studmill has two primary breakdown lines which were updated in the spring and summer of 1995 with state of the art optimization systems. This capital project increased recovery by 15%. All lumber is dried in one of four steam heated dry kilns and then planed through a high speed planer. Value added projects, such as J-grade, are extracted from the flow and processed over a precision end trimmed (PET) system.

The centralized log processing operation at the Kelowna facility provides eight-foot debarked logs to both the plywood plant and studmill. The two debarker systems were modified by mill maintenance staff in 1996 to become the fastest debarking system in the industry.

2.0 CURRENT ECONOMIC IMPACT

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The map provided at the start of the Statement of Objectives for Employment and Economic Opportunity identifies the local communities and timber processing facilities associated with TFL 49. The table below provides production and employment data for each facility identified on the map. Employment figures include all phases of production including woodlands and harvesting functions.

Operation	Woodlands & Harvesting	Armstrong plywood, studmill	Kelowna plywood, studmill
Direct Employees	75	654	481
Contract Employees (person years) - estimated	337	Project basis	Project basis
Volume Processed	991,314 m3*	802,084 m3	689,465 m3
<i>Volumes Obtained from Riverside tenures*</i>			
<i>TFL 49</i>	343,095	240,167	102,928
<i>FL A18667</i>	501,855	200,742	301,113
<i>FL A18689</i>	34,133	34,133	
<i>FL A18697</i>	19,340		19,340
<i>TSL A20170</i>	7,609		7,609
Total Riverside regulated tenures	906,032	475,042	430,990
<i>Volume from Riverside's OTT's estimated</i>	40,000	40,000	
<i>Volume from management agreements with 3rd parties</i>	45,282	45,282	
<i>Volume from purchases, trades, and product for log arrangements.**</i>	<i>Not handled by Woodlands</i>	241,760	258,475
Total volumes	991,314	802,084	689,465

Notes - * Allowable Annual Cut basis for woodlands and harvesting. Throughput production volumes are provided for the fiscal year ending September 1996 for the manufacturing complexes.

** This volume varies depending on throughput in mills, harvest to AAC levels, and OTT harvest levels.

The primary residence of the employees and contractors involved in the harvesting, woodlands and processing activities for timber harvested from TFL 49 are the communities of Westwold, Falkland, Monte Lake, Armstrong, Vernon, Kelowna, Westbank, and the surrounding rural areas.

Riverside's employee hiring practices are conducted in accordance with the requirements of relevant legislation, including Section 8 of the Human Rights Act (British Columbia).

3.0 EMPLOYMENT AND ECONOMIC OBJECTIVES

Riverside remains committed to providing a stable employment base for our local communities. It is in the social and economic best interest of Riverside to have available to it a stable and well trained and educated work force.

Recognizing international economic pressures, it is expected that during the next 15 years primary manufacturing employment will decrease due to:

- Increased automation within the manufacturing process;
- Increased emphasis on Integrated Resource Management in Provincial policy and regulations; and
- The continued removal of land from the working forest.

Perhaps balancing this, additional manufacturing employment opportunities in other value added and specialized wood products may increase as new joint ventures evolve throughout the industry. Additional employment opportunities may also be attributable to future increases

APPENDIX I
REVIEW STRATEGY

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APPENDIX II

**PUBLIC REVIEW OF THE DRAFT SMOOP
AND THE STATEMENT OF EMPLOYMENT AND ECONOMIC**

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