

**ECONOMIC IMPLICATIONS
OF
MANITOBA'S FOREST ACT, REGULATIONS,
POLICIES AND PROCEDURES**

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April 1989
Winnipeg, Manitoba

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PREFACE

The report benefited from the input of ideas from senior officials and others in The Forestry Branch and Manitoba Natural Resources I met during the study. The discussions helped me in understanding problems and issues and in thinking through alternatives, changes and improvements. I greatly appreciated their thoughtful comments and their responses.

Following completion of the report, a draft was circulated for review

and comments. The thoughtful comments were taken into account in final revisions.

The report was written prior to the sale of Manfor Ltd. to Repap Enterprises Corp. Inc. and the signing of a new Forest Management Licence agreement with Repap. It therefore reflects arrangements prevailing as of April 1989, before the new Repap FML.

1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

This executive summary is written as a "guide map" to provide an overview of territory covered by the report and to highlight the prominent features. However, it does not identify every feature nor provide a full reasoning of the analysis and recommendations. For this it will be necessary to turn to the full report.

1.2 TERMS OF REFERENCE (sec. 2.2, 2.3)

The study was undertaken for the Manitoba Department of Natural Resources and the Forestry Branch under the Canada-Manitoba Forest Renewal Agreement as a component of the Forest Economics Research programme.

The terms of reference were to:

1. Review the economic implications and impacts on forestry management of the Forest Act and Regulations, the draft of the proposed new forest act and regulations, and the Forestry Branch's policies and procedures.
2. Identify economic incentives to strengthen the Forestry Branch's forest management, utilization and revenue objectives.

The Terms of Reference also established four objectives for the study.

1. Maximize the contribution of the forest resource and forest industries to the provincial economy.
2. Ensure efficient utilization of timber allocated to and harvested by the forest industry.
3. Ensure efficient forest management.
4. Strengthen the fiscal position of the Forestry Branch in terms of forest revenues and costs of forest management and revenue collection.

1.3 THE BUSINESS OF FORESTRY (Sec. 2.5)

The study peruses several key themes:

1. **Be more "Businesslike".** Forestry needs to pay attention to revenues and costs, economic values, and economic incentives.
2. **Utilize Economic Incentives.** Economic incentives can be used to aid and facilitate forest management as well as to generate revenue. A diverse tool box of economic incentives is available: stumpage prices (forest dues), prices for goods and services (nursery stock, etc.), deposits, refunds, rebates, performance hold-backs, incentive price reductions, quotas, transferability of timber rights, auctions, bidding and tendering systems, cost sharing arrangements, free goods or services etc. Throughout the report and in

the recommendations, specific examples and applications are introduced and explained.

3. **Use Economic Incentives Instead of Regulations.** Economic incentives are flexible and market oriented, operate with minimal intervention, avoid complex administrative decisions, and allow the forest industry to evolve and adapt. If properly structured they encourage efficiency.

4. **Reduce Dependence on Regulations.** In contrast regulations require a heavy input of administration, and tends to freeze the evolution of the forest industry. They inhibit change. The industry will adapt to the regulation because it has to, but it may not become efficient or evolve.

1.4 FORESTRY ADMINISTRATION, MANAGEMENT AND FINANCE (Chapter 3)

Forestry investments in forest renewal, intensive forestry, forest protection and forest management are expensive. Sustainable forestry development requires financial sustainability and increased revenue recovery, financial and economic accountability.

1.4.1 Financial Accountability. It is recommended that the Forestry Branch explore and implement a system of financial accountability of revenues and expenditures by operational unit, by Forest Section.

1.4.2 Economic Accountability. Forestry provides other benefits that are not reflected in revenues. Stumpage values of industrial wood produced usually exceeds the stumpage prices (forest dues) paid. Thus the economic value of the harvest exceeds the stumpage revenue generated. Employment generated and non-market forest values for recreation, wildlife, fisheries, watershed protection are additional benefits not included in a financial analysis. The Forestry Branch should take steps to develop an economic accounting system to incorporate these values.

PART I FOREST ADMINISTRATION

1.5 THE FOREST ACT (Chapter 4)

Chapter 4 reviews the Forest Act and the proposed revisions in the draft of the new act. Specific recommendations are made on certain points. Discussion and recommendations on tenures, quotas, forest renewal, stumpage pricing, other fees and charges are covered in later chapters.

1.6 FOREST REGULATIONS (Chapter 5)

Chapter 5 reviews the Forest Regulations and the proposed revisions in the draft of the new regulations. Specific recommendations are made here, others are saved for subsequent chapters.

1.7 FOREST BRANCH CIRCULARS (Chapter 6)

Chapter 6 reviews the Forest Branch Circulars and offers a series of recommendations on specific policies and procedures: on signs and cabins, nursery

stock fees, cone prices, timber sale auctions, damage appraisal, quotas, and special allocations for example.

1.8 TIMBER ADMINISTRATION MANUAL (Chapter 7)

Chapter 7 reviews the Timber Administration Manual. Recommendations are made on timber sales, deposit and performance bonds, inspections, timber permits, assignment of quotas, licensing and record keeping for example.

PART II FOREST TENURES AND TIMBER ALLOCATION

1.9 FOREST MANAGEMENT LICENCES (Chapter 8)

Chapter 8 reviews the forest management legislation and agreements. Benefits to the licensee from the FML tenure are identified. They include, the value of a secure timber supply, and the availability of timber without competition, at appraised prices. Benefits to the province are also identified.

It is recommended that the Forestry Branch develop a standardized FML agreement.

It is recommended that the licensee accept financial responsibility for forest renewal rather than reimbursement from a renewal fund. This would give the company stronger incentives for cost efficiency in renewal. Adjustment in stumpage prices would likely be required for the additional financial responsibilities taken on.

An area charge on FML's is recommended. It is already provided for in the legislation. An area charge would discourage holding large areas of forest land beyond the company's needs within the FML, and would also be an incentive to intensive forest management.

A forest protection charge is also recommended. It too is already provided for in legislation. A forest protection charge would reflect the benefits of forest protection services, and also help in financing additional protection.

The annual adjustment of stumpage prices on FML's is recommended. The methodology would follow that applied on timber sales and permits.

1.10 TIMBER QUOTAS (Chapter 9)

Chapter 9 reviews the quota system, offers an evaluation, and recommends a few minor but important changes or extensions.

The quota system was established in 1965 to provide security of timber supply to smaller and medium size operators, to provide an incentive to invest in plant and equipment, and to encourage consolidation of quotas. Quotas were established for a 15 year period, but were renewed for 10 years in 1980.

The quota system has been successful in encouraging consolidation of quotas, and in the development of more efficient forest operations. The transfer of quota's by purchase has allowed quota holders to leave the industry, and those best able to utilize the quota to expand. Thus market forces have allocated timber to the most valuable uses, free of

administrative decision or regulation. Care should be taken to avoid restricting or inhibiting quota transfers.

Quota prices reflect two separate values: (1) the value of the security of timber supply represented by the quota and (2) the difference in value between the stumpage value of the timber and the stumpage price (forest dues) actually paid. These values are analyzed in Chapter 9.

It is recommended that the quota system be maintained. Several suggestions are offered to improve its operation. Transferability of quotas should be maintained. Division and sale of quotas in minimum size blocks should be allowed. The "use it or lose it" provisions, introduced in 1985 provide an incentive to more fully utilize the quota. The "use it or lose it" provisions should be retained. Returned quotas should be auctioned by sealed tender, as has been recently tried. Uncommitted annual allowable cut should be auctioned as quotas by sealed tender from time to time. This would both keep down quota prices and encourage the utilization of uncommitted annual allowable cut. Increases in the annual allowable cut that result from improved forest management or intensive forestry should also be auctioned as quotas by sealed tender.

Steps should be taken to legally separate the quota from existing timber sales. This would facilitate transfers of quotas. It would allow operators to complete their present timber sale while selling next years and future years quota to someone perhaps operating in another part of the management unit. Quota

prices should be recorded and monitored. An annual quota fee should be considered, to reflect quota values and generate revenues. It would also keep down quota prices and so make it easier for new firms and individuals to enter the forest industry.

1.11 OTHER TENURES (Chapter 10)

Chapter 10 reviews other tenures, specifically Special Allocations. It recommends that Special Allocations of unallocated annual allowable cut be put up for tender, rather than allocated without competition. Bidding might also include development and utilization proposals in addition to bonus bids on the timber. It is also recommended that Special Allocations be transformed into a new intermediate form of tenure between regular quotas and Forest Management Licences. This intermediate tenure might include forest renewal, forest management, and road construction obligations within designated operating areas.

PART III FOREST RENEWAL

Part III reviews the forest renewal arrangements for Forest Management Licences.

1.12 MANFOR REFORESTATION AGREEMENT (Chapter 11)

Although the Manfor reforestation agreement will be replaced by a new agreement with Repap, the new owners, the Manfor agreement contains some good arrangements as well as some difficulties. Experience can be gained from a review of the existing agreement and its operation.

available for review at the time of completion of this report.

Under the reforestation agreement, Manfor undertook to reforest logged areas at its expense. The Forestry Branch provided free seedlings.

Company financial responsibility for reforestation is one of the advantages of the agreement and is recommended for other forest renewal agreements. Company reforestation and the assumption of the financial responsibility provides strong incentives for efficiency in reforestation. Alberta applies this renewal arrangement to their Forest Management Agreements. Stumpage prices can be adjusted to reflect the financial commitment involved.

The provision of free Forestry Branch nursery stock in the Manfor agreement can create problems and distort reforestation decisions. The company may choose to reforest by planting rather than by other methods because of the free nursery stock, even when other methods might have lower overall costs. In addition, the Company does not have an incentive to use free nursery stock wisely if they do not have to pay for it. It is recommended that in all reforestation agreements the company pay for nursery stock.

The Company benefits from reforestation of burnt areas, and so cost-sharing of renewal costs on burnt areas is recommended.

1.13 ABITIBI FOREST RENEWAL ARRANGEMENTS (Chapter 12)

By all reports Abitibi is doing a good job of forest renewal. Nevertheless, some changes are recommended to facilitate renewal, strengthen the agreement and simplify procedures.

The Abitibi forest renewal arrangements differ from Manfor's in several respects. Abitibi is not responsible financially for forest renewal. Instead, it is reimbursed for forest management and renewal expenditures. Abitibi pays a higher initial stumpage price, but contributes part of that high stumpage payment to a Forest Renewal Trust Fund, out of which it is later reimbursed. Consequently, Abitibi's stumpage price, net of the renewal contribution, is not much different from Manfor's.

Abitibi is reimbursed from the Renewal Fund for both forest management and forest renewal expenditures.

Reimbursement for forest management and renewal expenditures does not generate the "market type" incentives for efficiency and cost minimization. Reimbursement operates rather like a "cost-plus contract". Making the company responsible for reforestation costs would provide a stronger and more efficient "market type" incentive for renewal. This is the way it is done in Alberta, and in the Manfor agreement.

The Forestry Branch provides Abitibi with free nursery stock. Instead, it is recommended that Abitibi pay for nursery stock, at prices that reflect the

cost of seedling production for the same reasons that this was recommended in the evaluation of the Manfor agreement. It is also recommended that the Forestry Branch, in turn, pay Abitibi for cones collected, and at the going prices.

PART IV FOREST PRICING AND FINANCE

1.14 STUMPAGE PRICES -- FOREST DUES (Chapter 13)

Stumpage prices (forest dues) represent the price of standing timber sold by the Crown. The stumpage value of timber may differ from the stumpage price charged, especially in non-competitive markets, or with administratively set prices.

Stumpage values represent a derived demand. The value of standing timber is derived from the products produced. The important distinction between values and prices, and the concepts involved in stumpage pricing are explained in Chapter 13.

Bonus bids on non-quota timber sales sold by sealed tender provide an indication of the value by which stumpage values exceed the stumpage prices charged. It is recommended that a number of non-quota timber sales be made annually in each region to measure stumpage values and track regional differences. Quota prices also provide an indicator of stumpage values, but they also include a "security value of timber" component, reflecting the value of a guaranteed timber supply. Quota prices should be recorded and tracked as recommended above.

The adjustment of stumpage prices annually and through periodic review is necessary to maintain a relationship of prices to values. The present annual adjustment using price indices of forest products is appropriate, and generally accepted.

Periodic review of stumpage prices is also necessary, since annual indexation is not sufficient to keep stumpage prices in line with stumpage values. Review at 5-year intervals seems appropriate. Periodic review should examine the relationship of stumpage prices and values, and the structure of stumpage prices by species, region, etc. Timber sale bonus bids and quota prices are helpful indicators of stumpage values, as suggested above.

Stumpage prices should be based on measured roundwood log volumes, not be based on the products produced, converted to "roundwood equivalent". They should be based on sawlog inputs rather than lumber output, for example. Stumpage prices should not distinguish among end uses. Stumpage prices should be the same for pulpwood and sawlogs.

1.15 FOREST RENEWAL CHARGE (Chapter 14)

The proposed forest renewal charge is an important step towards financially sustainable forestry. A renewal charge based on forest renewal costs and adjusted for changes in renewal costs, as proposed, is appropriate. Annual indexation is also appropriate to ensure the charge is roughly in line with inflation.

The proposed renewal charge is to be based on the volume of wood harvested. An area based component is suggested, based on the area logged, or on the timber sale area (or a proportion of the area on multi-year timber sales). This has several advantages.

A renewal fund is recommended, into which the renewal charges would be paid and from which renewal expenditures financed.

A "pay or plant" industry renewal option is recommended, much like Alberta's. Operational details are outlined in Chapter 14.

1.16 OTHER FEES AND CHARGES (Chapter 15)

The final chapter reviews the variety of other fees and charges, a small but diverse revenue source. They cover a wide range of charges for goods and services (grazing fees to nursery stock), permits, and penalties.

These fees and charges should reflect either the value of the goods and services sold, or the administrative costs involved in sale of goods and services, or issuance of permits and licences. Fees and charges should be adjusted from time to time, a 5-year interval is recommended, to reflect cost charges and inflation.

Alternative fees are explored. Area based ground rentals on forest management licences (discussed above) and on timber sales are suggested. Forest protection charges on forest management licences (also discussed above), and on timber sales are recommended. An annual quota fee is also suggested.

2. INTRODUCTION

2.1 BACKGROUND

The study was carried out under the auspices of the Canada-Manitoba Forest Renewal Agreement, as a component of the Forest Economics Research Programme.

The study was designed to assist Manitoba Natural Resources and the Forestry Branch in meeting the Province's objectives in forest renewal, forest management, and in strengthening the contribution of the forests to the economy of the Province.

The study began in late October 1988 following approval of the project. It was carried out over the winter months with a completion date of March 31, 1989.

2.2 TERMS OF REFERENCE

The Terms of Reference established for the study are as follows:

1. Review the economic implications and impacts of the forest management policies and procedures as contained in:
 - a) the draft of the proposed new forest act;
 - b) the current Forest Act;
 - c) the Regulations under the current Forest Act; and
 - d) the Forestry Branch's Policy and Procedures Manual.
2. Identify economic incentives to strengthen the Forestry Branch's industrial forest management, utilization and revenue objectives. The consultant shall also identify policies and procedures contained in the documents identified above which inhibit forest management, utilization and revenue objectives of the Forestry Branch.
3. Conduct the evaluation within the framework of the forest management objectives of the Department of Natural Resources and shall consider both industrial and non-industrial forest uses and users.
4. Submit a report containing the evaluation, findings and conclusions of the review. The report shall also contain the consultant's recommendations regarding improvements to the policies and procedures which meet the following objectives:
 - (i) maximizing the contribution of the forest resource and wood-products industries to the provincial economy;
 - (ii) ensuring efficient utilization of timber allocated to and harvested by the forest industry;
 - (iii) ensuring efficient forest management of the forest resource for industrial forest users; and

(iv) strengthening the fiscal position of the Manitoba Forestry Branch in terms of forest revenues and of revenues in relation to the costs of management and collection.

2.3 STUDY OBJECTIVES

The "Terms of Reference" (item 4) also established four objectives for the study, which are worth reiterating. These objectives are:

1. "maximizing the contribution of the forest resource and wood-products industries to the provincial economy;"
2. "ensuring efficient utilization of timber allocated to and harvested by the forest industry;"
3. "ensuring efficient forest management of the forest resource for industrial forest users;"
4. "strengthening the fiscal position of the Manitoba Forestry Branch in terms of forest revenues in relation to the costs of management and collection."

These four objectives guided the study, its approach, analysis and conclusions.

The study is therefore written as advice to the Province of Manitoba, advice on the "business" of managing provincial forest lands, the "business" of forestry, on financial and on broader economic aspects.

2.4 WORK PLAN

Phase 1 of the study consisted of a review of the forest legislation -- The Forest Act, The Forest Regulations, forest policies and procedures of the Forest Branch, and the draft of the proposed new Forest Act and new Forest Regulations as outlined in item 1 of The Terms of Reference. During this phase, and following my review of the basic documents, I met with Forestry Branch staff: a) to help my understanding of and interpretation of the documents, policies and procedures, b) to benefit from their ideas and advice, c) to exchange ideas, obtain their reaction to and input on alternatives to be considered, and d) to obtain additional information, data and statistics.

Phase 2 identified incentives to facilitate and improve forest management, utilization, administration and forest revenues. Individual components of forest policy were reviewed and evaluated .

2.5 BASIC CONCEPTS AND PRINCIPLES

It is both the theme and conclusion of this study that economic incentives in a variety of forms can aid forest management, facilitate forest administration, improve utilization, and increase forest renewal. Economic incentives can take a variety of forms from prices, fees, stumpage charges, other charges, rebates, performance holdbacks, penalties, reduced or increased charges tied to performance, deposits, refunds, quotas, bidding and tendering arrangements, transferability arrangements, etc. Economic incentives

involve much more than mere prices and charges, and they can have both positive-stimulative and negative-deterrence effects.

The economic incentives discussed can assist, augment, or in some cases replace the use of regulation, and regulatory and administrative decision making. Thus increased use of economic incentives means a more market oriented less regulatory approach to the "business" of forest management and administration. Economic incentives are more automatic, require less policing, and leave the Forest Branch with more time for forest management, protection and reforestation.

The remaining pages provide a variety of examples of economic incentives and their application in forest management.

A final theme is that like any other forest management tool economic incentives should and can be simple, functional, and operational. The report endeavours to show that economic incentives can be used alongside and in conjunction with other tools of forest management and administration. The report endeavours to persuade forest managers that economic incentives can be useful and understandable, and that they merit an important place in forest management and administration.

3. FORESTRY ADMINISTRATION, FOREST MANAGEMENT AND FINANCE

3.1 ACCOUNTABILITY

Under current and projected budgetary pressures on expenditures the Forestry Branch will likely be forced to give increased attention to the financial and economic accountability of forestry.

Investment in forest renewal, and in intensive forestry will require additional funds and bring further need for financial and economic accountability.

Forestry in Manitoba has in the past involved modest budgetary expenditures. This has been possible largely because natural stands were cut and reforestation was minimal. But a shift to sustainable development in forestry will require a continuation of forest renewal expenditures at least at the level financed by the Canada-Manitoba Forestry Agreement. It will also require more intensive forestry to increase yield per hectare, avoid a "fall down" in the annual allowable cut, and to maintain or increase the sustainable yield of Forest Management Units. Increased forest protection (fire, disease and insects) will be required to protect investments in forest renewal and intensive forestry and protect the return from such investments.

All of these activities -- forest renewal, intensive forestry, forest protection -- are costly. If the Forestry Branch hopes to obtain the budget to carry out the mandate, or even to maintain present expenditures, it will need to be able to justify forestry

activities and expenditures in both financial and economic terms.

Financial accountability refers to expenditures and revenues in budgetary dollar terms. It deals with branch, departmental and programme expenditures, and with Government revenues from branch, departmental activities and programmes.

Economic accountability, on the other hand, deals not just with dollar revenues and dollar expenditures but also broader programme or activity benefits and resource costs. Economic accountability considers marketed and non-marketed, non-priced benefits and resource costs. Economic accountability evaluates activity and programme outputs in terms of values, not just prices; and in terms of resources used, not just "out of pocket" money costs. The horizon of economic accountability is also broader. It incorporates benefits, and costs accruing not just to the branch, department or the Government, but more broadly to the Province as a whole -- to individuals, the forest industry, and to other uses (recreation, watershed management, fisheries, wildlife etc.)

3.2 FINANCIAL ACCOUNTABILITY

There is a need to strengthen the Branch's budgetary position in justifying existing or increased expenditures, and in internal management of programmes, activities and decision making.

It is recommended that the Forestry Branch develop an accounting system to keep records of both revenues and costs on an operational unit basis, the Forest Section. This system would keep track of all revenues forest dues, other fees and charges, the proposed renewal charges, or other revenue, going into general revenues, special funds, Natural Resources, or Forestry Branch accounts. Expenditures on all activities, administration, supervision of logging, forest renewal, protection, inventory, forest management, etc. would be allocated to these same operational units.

The present regional accounting system provides a good basis, but the Forest Section would seem to be the appropriate operational management unit. The Forest Section is the operational unit for many management decisions and activities. The objective therefore should be to extend the regional accounting system to the Forest Sections.

With allocation of forest revenues (forest dues and other revenues) and expenditures (for forest renewal, protection, forest management protection and other activities) on a Forest Section basis, each Forest Section can be made financially self accounting. Some Forest Sections will obviously do better than others in cost recovery because of location, accessibility, timber quality, fire history, site conditions, ease of reforestation, etc. However, for management purposes, it is important to know which Forest Sections do better in cost recovery, in order to plan activities efficiently.

3.3 ECONOMIC ACCOUNTABILITY

Forestry may not be fully justified on a strict dollar financial revenue basis. Financial revenues from forest dues and other charges may be insufficient to cover all the Forest Branch's costs of forest management and administration.

Stumpage values of the timber harvested may be greater than the revenues produced. In addition, forestry generates other "non-market" benefits to the Province. To justify or properly evaluate forestry's contribution the full economic value of benefits should also be taken into account.

It is recommended that the Forestry Branch take steps to incorporate these broader economic values into an economic accountability of forestry activities.

To justify forestry activities the Forestry Branch will increasingly need to incorporate both market (i.e. priced) values and non-market (non-priced) values into the economic accountability.

These economic non-market and non-priced values come from two sources: (a) from timber production and (b) from other resource uses of forest lands.

The economic value of timber production includes the stumpage value of the timber produced and harvested. The stumpage value of the timber may differ from the stumpage price (forest dues) received by the Forestry Branch. In most cases the stumpage value of the timber produced will exceed the stumpage revenues generated. Thus financial accounting of stumpage

revenues would underestimate the economic value of the timber grown. The rest of the value of the timber is reflected in additional profits by the forest industry. Only in rare cases will stumpage values and prices be equal.

The economic value of forestry can also include the employment and other economic activity generated. However, care must be taken to avoid overestimating these benefits by included employment or economic benefits which would have occurred in any case.

There may be additional personal income tax, corporate income tax and other tax revenue generated as a result of timber production activities and these too can reflect the economic values of timber production. However, again caution is required to avoid exaggerating these benefits by including revenues which would have occurred in any case.

The other source of economic values of forestry comes from other uses of forestry land. These other forest land uses, activities, and values include: recreational uses and values both within and outside parks; wildlife and hunting uses and values, water management uses and values, fisheries uses and values, scenic and aesthetic values. Forestry activities often, but not always, support and enhance these other forest land uses.

These other forest land uses reflect a wide range of economic values, many non-priced, non-market outputs and values.

Although non-priced and non-market these values are in many cases, substantial. To justify forestry activities

the Forest Branch should go beyond mere financial analysis to incorporate the value of these other resource uses into an economic evaluation of forestry, not just occasionally but on a regular and ongoing basis.

Long ago water resource agencies in the U.S. and Canada discovered the virtues of multipurpose water projects. By incorporating fishing, recreation and other activities into projects they were able to include additional non-market values in project evaluations, raising project benefit-cost ratios and helping to justify water resource developments. Water resource agencies have developed methodologies for measurement of a number of non-market benefits. Many of these could be adapted to forestry.

As a long term goal, it is recommended that the Forestry Branch plan to incorporate the values of these other resource uses into a forestry economic accounting system. This would involve several steps: first the measurement of non-forestry outputs in physical terms; second, the development of valuation methods to measure the non-market values involved; third development of the evaluation framework system and methodologies. Once all this is done the Branch will be in a position to utilize their values in forestry planning and management.

PART I FOREST ADMINISTRATION

The study begins with a review of the economic implications of the Province's forest management policies and procedures, essentially Item 1 of the Terms of Reference. These policies and procedures are contained in the Forest Act and the draft of the new act, the Forest Regulations and the draft of the new regulations, and the Forestry Branch's policy and procedures manuals - the Forestry Branch Circulars and the Timber Administration Manual. Each is

reviewed in turn in the following four chapters.

The major components of forest management policy -- forest tenures, the timber allocation system, forest renewal arrangements, forest fees and finance -- are left for separate detailed evaluation in the later chapters.

4. THE FOREST ACT

4.1 THE FOREST ACT

The Forest Act and Regulations have recently been reviewed with proposed changes written by a legislative specialist in the Department of Natural Resources.

This review provided the opportunity to:

1. bring the Act and Regulations up-to-date;
2. restructure the Act and Regulations to bring sections together and reorganize them in line with the Forestry Branch's responsibilities in administration, forest tenures, forest management licences, quotas, permits, timber disposal, forest land management, forest management, protection, renewal, regulation of harvest, revenue collection, enforcement, etc.
3. modify or improve existing functions and activities, and introduce new innovations.

In general, revisions to the Act and Regulations should seek to replace regulatory, policing or enforcement clauses with incentives, both positive and negative, to encourage rather than require desired activities of forest users through a regulatory approach. This is a broadly accepted objective. It can be achieved incrementally by revising sections of the Act and Regulations, by modifications of requirements to facilitate compliance, and by introduction of

economic incentives, and pricing arrangements where appropriate.

This present valuation of the economic implications and impacts of the Forest Act is by topic and policy area and follows the sequence in the "Forest Act and Regulations Review". The page references refer to those of the "Forest Act and Regulations Review" (F.A.R.R.).

The Act and Regulations deal with three different types of functions.

1. Management of forestry and non-forestry activities on or within designated Provincial Forests.
2. Management of forestry activities on other Crown lands.
3. Management of activities related to forestry whether carried out on Crown lands or not (e.g. regulation of sawmills, transportation of roundwood or forest products etc.).

These distinctions in function are not always clear in the Act or Regulations. It would facilitate forest administration to clarify the distinction, perhaps through division of the Act and Regulations along these three functional lines.

4.2 REVIEW OF THE FOREST ACT

4.2.1. Section 12 Disposition of Cutting Rights (F.A.R.R., Pages A12-13). Section 12 establishes implied priorities in allocation of cutting rights. The proposed revision to the Act suggests the following order of priority:

1. "existing timber industry and existing quota holders"
2. "new and potential industry"
3. "special allocations to utilize surpluses"
4. "domestic use"
5. "small volumes by permit or sale".

Does this order reflect stated government priorities? Are these priorities likely to change? Should they be enshrined in the Act?

The more valuable uses of the forest resource are likely to change from time to time, to vary from one region of the province to another, and to depend on the specific circumstance. Thus it would be better to define the means by which the minister can allocate cutting rights and the criteria to be applied rather than enshrine a given priority in the Act.

Within these criteria it would be generally advantageous to use competitive forces to determine the allocation, rather than administrative decisions. Tendering or bidding are recommended wherever feasible.

Section 12 should continue to allow either sealed tenders or other bidding arrangement. The Regulations or ministerial decisions can then choose the most appropriate.

4.2.2 Section 13 "Transfer of Timber Cutting Right" (F.A.R.R., page A13). Section 13 should not be revised to restrict the transfer, but it should retain ministerial and Forest Branch control

over the transfer. The quota system was designed to facilitate the transfer of cutting rights, to allow existing operators to achieve more efficient size, to allow operators to leave the industry, and to allow new operators or new industries to enter through the purchase of quotas. These represent a reallocation of forest resources to more productive uses. Such transfers should not be inhibited.

4.2.3 Section 19 "Forest Management Licence" (F.A.R.R., pages A16-A18). Section 19 covers the issuance and tenure of FML's. Section 19(2) sets the period of the licence at 20 years, but allows renewal. The proposed revision to the Act follows established practice of review of the licence every 5 years with a renewal for a further 20 years if the terms and conditions have been met. This makes the licence, in practice, almost perpetual. The original intent of this "evergreen concept" and 5 year review was to enable long term contracts to be opened up on a regular basis, and to provide a performance incentive. It was not intended to merely ratify the performance of the previous five years. It is important that the 5 year review have substance and be taken seriously. This section should contain guidelines for the review, measurable criteria, and penalties for non-performance.

4.2.4 Section 19(4) "Rights of Licence" (F.A.R.R., page A16). The rights of the licensee should be clarified as proposed to make it clear that the rights provided by the licence are to the timber only and not to the land area involved, nor to other resources and resource services of the area.

4.2.5 Section 20 "Option Licence" (F.A.R.R., page A17). Section 20 gives the Minister the right to issue a "temporary" licence over the area in order to develop a proposal. It is not clear that this is a good idea for the Province. It might be better for the Minister to put a potential FML area out for tenders and proposals, and then to choose the best proposal from among them. The Province is then likely to do better under competition among potential forestry projects.

4.2.6 Section 21(1) "Licence Subject to Mineral Rights" (F.A.R.R., page A17). This section should be broadened to accommodate other resource uses of the FML area. Distinctions should be made among complementary uses, competing uses, and withdrawals.

4.2.7 Section 21(2) "Compensation to Licence" (F.A.R.R., page A18). It is not clear why the FML holder should be paid compensation for timber cut or damaged from mineral leases or other land use rights in the FML area. It is Crown timber that is involved, so the compensation should go to the Crown. The FML holder only has rights to harvest the timber available within the Annual Allowable Cut and is harmed only if the Annual Allowable Cut is impaired. These points are recognized in the proposed revisions.

4.2.8 Section 16 "Withdrawal of Portion of Timber Berth or Timber Sale" (F.A.R.R., page A19). The proposed amendments would apply this section to Forest Management Licences. This is an appropriate amendment to ensure that the annual allowable cut of an FML or other forest area is being fully utilized

and not hoarded. It is important for the Province to be able to reallocate unutilized or underutilized forest resources. The right of reallocation provides an incentive to encourage FML licences to more fully utilize the forest resource within the FML area.

4.2.9 Sections 31 to 42 (F.A.R.R., pages A32-41). These sections deal with seizure, warrants, disposition of seized timber and other items, penalties, suspension or cancellation of licence. These clauses are most likely necessary. However, the need to use or apply them can be minimized by greater use of and higher penalties for failure to perform, greater use of deposits or "up-front costs". Penalties should be chosen or designed to facilitate and simplify supervision.

4.3 SUMMARY OF FOREST ACT REVISIONS

The proposed changes and new sections added to the Act generally help to strengthen the Act.

Where penalties, fines or other dollar payments are stated in the Act there should be some mechanism for adjustment of these over time to reflect inflation, changing administrative costs and other factors. If enshrined in the Act they are difficult to up-date. If the level of fines and other penalties were set by the Forest Regulations they could be more easily kept current. An adjustment formula such as that applied to Forest Dues, could be established.

5. FOREST REGULATIONS

5.1 FOREST REGULATIONS

This chapter evaluates the present Forest Regulations and the proposed revisions. The evaluation identifies sections in which economic incentives might be introduced and applied. These economic incentives are considered in greater detail in subsequent sections where specific forest policy components are reviewed.

The Regulations are reviewed section by section, following the sequence in the "Forest Act and Regulations Review" (F.A.R.R.). The page references are to those of the Review.

5.2 REVIEW OF THE FOREST REGULATIONS

5.2.1 Section 1.1(1), 1.1(2) "Closed Zone", "Restricted Zone" (F.A.R.R., pages R4). The distinction between the "closed" and "restricted" zones and when each is applies is not clear in the Forest Regulations. Is this distinction from the Parks Act or Parks Regulations? If so is the distinction necessary in the Forest Regulations? If required here, the distinction should be clarified and defined in the Forest Regulations.

5.2.2 Reforestation Section (F.A.R.R., pages R6-7). The proposed section on reforestation is an appropriate addition to the Regulations. However, further reforestation incentives, rather than regulations, should be developed to expand this sector.

The reforestation regulations should be phrased to require satisfactory establishment within a given length of time before payments are completed. There are obvious problems, but "payment by results" has also strong advantages. Suggestions are offered in the sections on forest management and the proposed forest renewal charge.

5.2.3 Nursery Stock (F.A.R.R., pages R7-10). Rather than regulations prohibiting waste of free nursery stock or regulating use, consideration should be given to marketing nursery stock at prices that approximate the cost of production, or at least at some proportion of that cost. Things provided free tend to be wasted and regulations then become necessary to control resulting waste.

5.3 QUOTA SYSTEM (F.A.R.R., pages R11-14)

Quotas are currently tied to timber sales by means of the clause with a commitment to provide a replacement timber sale of equal volume upon completion of the existing timber sale.

It would be neater and tidier to separate the quota and the timber sale so that the quota becomes a separate commitment to provide the holder with an annual volume of timber. This would facilitate the transfer of quotas. It would not then be necessary to also transfer the existing timber sale. There would be obvious legal questions in revising the Timber Sale Agreement and in establishing the quota as a separate legal

entity. The separation of the quota and timber sale should be seriously considered in the upcoming five-year quota review and the advantages and disadvantages evaluated.

5.4 FOREST MANAGEMENT LICENCES (Section 13-21 F.A.R.R., pages R15-16)

Section 13(1), which requires a working plan (a 20 year management plan) within three years of issuance of the Licence, should be revised to provide an interim licence subject to approval of the forest management working plan. This makes the commitment clear. The Licence is not issued until the working plan is satisfactory. Under the present regulations the licence would have to be cancelled, involving the cancellation provision, if the working plan is not submitted or is not satisfactory.

Section 16 should allow the Director of the Forestry Branch the opportunity of approving the areas the licensee proposes harvesting that year, or of directing the licensee to harvest specific stands or other areas. This amendment would allow the Director of Forestry the option of requiring harvest of burnt, insect infected or diseased timber or of requiring preventative sanitation cutting.

Section 20 and 21 covers Option Licences. Neither the Act nor the Regulations are clear on the purposes or the circumstances under which Option Licences are to be issued. The Option Licence seems to be designed to allow a individual or company to develop a proposal for a wood processing plant. If so the Option Licence lets the company or individual tie up an area while they

come up with a proposal. An Option Licence therefore reduces competition among potential developers. It also means the company or individual issued the Option Licence need not hurry to submit a proposal. Without competition the holder of the Option Licence need not make the proposal as attractive nor as beneficial to the Province as they might be able to do.

Instead, it is recommended that the Act allow the Minister to call for competitive proposals on a Forest Management Licence area prior to awarding the area. This approach is used in other provinces, for example in Alberta.

5.5 TIMBER SALES (Sections 22-29, F.A.R.R., pages R17-21)

The proposed revisions to Section 22(1) clarify the conditions under which a timber sale is established. The proposed revisions should be reworded to require a deposit in all cases, rather than saying a deposit "may be requested" by the Director (page R17). It is more equitable to require a deposit of all, even though the Branch may be able to use other means to enforce compliance by "established operators".

The proposed revisions would levy a penalty of four times the dues rates on any overcutting in excess of 10 percent. These arrangements may discourage full utilization of all merchantable timber on the sale area. They can therefore encourage high-grading to stay within the allowed cut. They may encourage the operator to leave smaller or poorer quality trees and instead cut the allotted volume from larger, better quality more

desirable trees. To remove this incentive towards "under-utilization" and to encourage full utilization of the timber resource, it is recommended that timber sales be based on an area rather than a volume basis. This would be a significant change in procedure, with advantages but also potential difficulties. It would necessitate a timber cruise of the sale area which could involve additional manpower and administrative costs in the timber disposal. However, it would encourage more intensive harvesting, the allowable cut would be obtained from a smaller cut-over area, and reforestation costs would be reduced.

The proposed annual "operating permit" may be a useful addition to the Regulations. It brings established procedures into the Regulations. A separate permit each year might also be better than annual renewal. It would facilitate supervision and control.

Section 22(3) is to be revised to restrict bidding on timber sales to sealed tenders only. Sealed tender bidding is likely to be preferable in most cases, but the Regulations should retain the option of sealed tender or open (oral) bid auction sales. The Forestry Branch Circulars (Operations and Procedures Manual) can then specify sealed tenders as the chosen method of allocation.

Section 23 deals with notification of sale. It is recommended that notice of sale be required in a standard form for all non-quota sales. This would encourage bids on all non-quota sales, and competition. This would ensure the timber went to its most valuable use, and lead to higher bids and greater stumpage revenues.

Timber sales should be put up for competition at regular and standard dates, whether monthly, quarterly or semi-annually so that the forest industry can anticipate sales and so that competition is encouraged. Salvage sales, requiring immediate harvesting, should be an exception.

The Quota System is established by Section 27(2) of Regulation 227/99R (sec. 24(2) in F.A.R.R.). This section is a commitment by the Minister and the Forestry Branch to provide the Timber Sale holder with a new Timber Sale on termination of the existing sale. The section therefore implies that the Province has committed itself to providing the Timber Sale holder with a continuing supply of timber.

This commitment is limited by Section 27(3) (sec. 24(3) in F.A.R.R.) which allows others to bid on the Timber Sale and thereby capture this commitment to future timber supplies. Is Section 27(2) intended to represent the Quota commitment? If so Section 27(3) which allows competition bidding does not seem to fit the quota system.

Section 28(1) (Sec. 25(1) in F.A.R.R.) requires a tender deposit only of certain bidders. Those for whom the new Timber Sale is put up or others whose timber sales are expiring are not required to enclose a deposit. This gives these operators an advantage that could reduce competition. It is recommended that all bidders be treated equally. A deposit should be required of all.

Where no bids are received on a Timber Sale, Section 19 allows the Director of Forestry Branch to award the

sale without competition to any interested party within 12 months. It would be better to re-offer the Timber Sale, entertaining new bids.

5.6 TIMBER PERMITS (Sections 33-43 F.A.R.R., pages R22-24)

Timber Permits require prepayment of Forest Dues for the volume of timber specified in the Permit (Section 34 and the Proposed Revisions). The Proposed Revisions to Section 38 appear to allow permit holders to cut additional volumes, at least on certain permits, and submit a final adjusted scale and pay additional Forest Dues.

It is recommended that a deposit be required on Timber Permits and refunded upon completion of the Permit. A deposit provides an economic incentive for performance of the Permit conditions.

5.7 MISCELLANEOUS LICENCES AND PERMITS (Sections 56-57 F.A.R.R., pages R26-28)

The proposed revisions to Section 56 provide for more control of sawmills and other wood using plants. It is recommended that the proposed regulations on sawdust piles and other conditions be included as conditions of the sawmill licence or the timber sale operating licence, rather than written into the Forest Regulations. It is also recommended that the location and layout of sawmill sites be subject to approval as a condition of the licence.

Section 56(4) which requires forest officers to police the efficiency of sawmilling operations would be unnecessary if timber were sold to

sawmills as roundwood and scaled before entering the sawmill. Having paid for the logs, it would then be up to the sawmill to recover as much lumber as it could from the logs. It is therefore recommended that sawlogs be scaled as roundwood, rather than estimating the roundwood volume from the lumber output. Field operational procedures would need to be developed.

The Forestry Branch is in the business of selling standing timber so forest dues should be based on roundwood not on the lumber output. If Forest Dues are paid on the roundwood basis the sawmill then has an incentive to improve lumber recovery, and the Forestry Branch can avoid telling sawmillers how to run their business.

The Timber Dealer's Licence [Section 57 of Regulation 227/88R, Sec. 59 in F.A.R.R.], the records require of sawmills [Section 56(5) -56(8)], and load slips [Sec 48(1), 48(2), 48(3)] are required only as a cross-check to ensure that forest dues are paid on all timber sawn. The required records should be reviewed to ensure that they are adequate for that purpose. Superfluous record keeping should be eliminated, and simple alternative control methods considered.

5.8 GRAZING AND HAY PERMITS (Sections 68 - 70 F.A.R.R., pages R30-32, Section 67-69 of Regulation 227/88R)

The Regulations should make provisions for the allocation of permits by tender. Bidding on hay permits is mentioned, but there needs to be a section to establish a bidding or tendering process.

5.9 UTILIZATION (Sections 2 - 4 F.A.R.R., pages R44-45)

Section 2, 3 and 4 on utilization particularly Section 4 and the Proposed Revisions (pages R37-38, R44-45) involve the Forestry Branch in considerable policing and enforcement of cutting practices. Wherever possible fees,

stumpage pricing policies, and other economic incentives, deposits, rebates, etc. should be used to supplement, facilitate or replace a regulatory approach. Revision of the Regulations should introduce economic incentives to supplement or support regulations and support enforcement.

6. FORESTRY BRANCH CIRCULARS

6.1 FORESTRY BRANCH CIRCULARS

"The Forestry Branch Circulars" together with the "Forestry Branch Timber Administration Manual" detail the operating procedures under which The Forest Regulations are implemented. They constitute the policies and procedures manuals for The Branch. They cover many administrative and regulatory activities, but also economic incentives, prices and fees. Additional economic incentives could be introduced to encourage, facilitate or support the administrative and regulatory activities.

6.1.1. Construction of Cabins in Provincial Forests (Circular FBA 1-1). This Circular discusses trappers cabins, Boy Scout cabins and other structures for recreational uses in Provincial forests. These requests reflect the multiple usage of Provincial Forests. The forests provide benefits to these other uses which perhaps should be reflected in lease fees.

These structures would occupy little space. By themselves, they should not conflict with forestry production, growth or yield on forest lands. Yet, structures have a permanence that can reduce future flexibility in land uses. Should commercial structures be disallowed? Commercial facilities would be more willing and able to pay lease fees that reflect the recreational and other benefits provided by forestry land uses.

These questions raise broader issues of multiple land use forestry with Provincial Forests and on Crown forest

lands in general which will need to be addressed.

6.1.2. Private Signs Within Provincial Forests (Circular FBA 2-1). It is suggested that fees be levied for erection of private signs. These fees could be set to (a) cover the administrative costs of approval, or (b) reflect in some way the potential benefits provided in allowing them. A \$10 fee is apparently levied now, but it is not listed in the Forest Regulations.

The fees might be (a) an initial, once only, application fee, (b) an annual occupancy fee, or (c) both. Collecting fees annually could be administratively frustrating. A 5 or 10 year occupancy fee might be an alternative. In any case the occupancy permit should be of a limited term.

6.1.3 Site Permits -- Outfitters within Provincial Forests (Circular FB 4-1). The permit is presumably annual although the Circular does not say so. Does the \$10.00 fee cover the costs of approval, issuance and subsequent inspection? What happens if the site is not properly cleaned up at the end of the season?

It is recommended the fee be set to reflect the costs of approval, issuance and inspection. A deposit sufficient to encourage proper clean up, or cover the cost of Departmental clean up, is also recommended. Special Conditions should specify the appropriate location of garbage pits and privies.

These site permits should be required as a condition of outfitting and guide licences, otherwise outfitters and guides may not bother to apply for site licences, especially if a significant fee and deposit is required. In that case unauthorized sites might proliferate.

Occupancy permits should be handled by a single agency for all site permits for whatever reason. Any permit applications should require review and approval by the various Branches at the Regional level.

6.1.4. Nursery Stock Fees (Circular FBS 1-1). The prices charged should reflect the cost of production of seedlings, unless there are clear and specific reasons for pricing seedlings below cost. The Branch is moving in this direction.

In some cases it may be appropriate to price seedling below the full cost of production (a) at, near or above the incremental cost of producing the additional seedling (i.e. excluding capital costs and fixed costs), or (b) at subsidized prices but only where there are clearly defined benefits to the Province in encouraging planting.

If some seedlings are sold below full cost for good reason, it may be appropriate to charge prices above cost for other, more popular, species so as to break-even overall.

It is recommended that, in principle, nursery stock be sold to all users, that all users be treated equally. In the Abitibi and Manfor forest renewal agreements the Province provides free seedlings to the companies. But free seedlings generate the wrong incentives for

renewal, inefficient use of seedlings, and other problems. These issues are examined below in Part III, in the chapters on forest renewal and the renewal agreements. There it is recommended that the companies pay for nursery stock.

Departmental reforestation projects should also be charged for nursery stock, both to make the projects self accounting, and to provide an incentive to treat seedlings as valuable and use them efficiently. The Branch accounting system should be modified to allow this.

6.1.5. Cone Purchase Prices (Circular FB-S 2-1). The prices paid for cones should be high enough to stimulate their collection and generate an adequate supply of seed.

To establish cone prices, it is recommended that tenders be called for given volumes of cones.

Two factors should affect the tender size:

1. The tender volume size should be set large enough to allow cone contractors to achieve economies of scale and minimum costs though use of cost efficient equipment and methods.
2. Tender volumes should be small enough to encourage competition in tendering and prices.

Since the availability of cones varies widely from year to year the tenders should specify a minimum and maximum volume.

If the Branch would like to encourage and can handle additional cone volumes in good cone years the tender might allow additional cone volumes, beyond the tender maximums, but perhaps at lower prices.

Prices established by tendering could then be used for the purchase of cones from individuals.

6.1.6. Notice of Timber Auction Sales (Circular FM TS 17-1). It is recommended that timber sales auctions, whether by sealed tender or open, oral bid, be held on specific dates; monthly, quarterly or semi-annually as appropriate.

Potential bidders will then be aware of the timing of timber auction sales, and less likely to miss a sale. Competition will be keener and fairer and timber sales likely to generate higher bids. The Branch should make an effort to sell more timber by auction, sealed bid or otherwise.

6.1.7. Fees for Licences, Permits and Other Charges (Circular FB TM 26-3). The fees and charges in Schedules B, C and E should be reviewed and adjusted regularly to adjunct for inflation, changes in costs and other factors. At present changes require a revision of the Regulations, and an Order in Council. These changes use Cabinet meeting time and considerable delay is involved in implementing the new fees and charges. It is suggested that the Minister be given authority to change these.

Fees and charges for the various licence and permit are relatively modest. It is recommended that estimates of time, manpower and cost involved in

issuing each be made and compared with fee levels.

6.1.8 Damage Appraisal-Timber Removed or Destruction for Non-Forestry Purposes (Circular FBTM 33a-2, 33B-2). The Damaged Appraisal Guidelines state that timber dues are waived on timber harvested for fuelwood by Parks Branch within Provincial Parks. Other government departments and Crown Corporations pay full dues. It is recommended that all departments and agencies be treated the same, and that Parks Branch pay stumpage prices on timber cut for fuelwood use.

In general the methodology developed for damage appraisal seems appropriate and correct.

For young growth stands (class B) the damage appraisal value is calculated as the value of the annual growth from establishment to destruction. This value could be quite small if the stand is young and has produced little growth. For areas requiring establishment of a new stand, it is recommended that the appraisal value be the greater of; (a) the establishment costs of a new stand, or, (b) the value of the annual growth from establishment to destruction.

It is recommended that the same approach be applied to mature stands as, even for mature stands, establishment costs could exceed the value of the standing timber.

Forest dues (stumpage prices), in most cases, are likely to be below the value of the standing timber. Thus the use of forest dues (stumpage prices) in damage appraisal is likely to understate

the value of the timber lost. It is recommended that a more accurate estimate of stumpage value of standing timber be derived.

6.2 TIMBER SALE QUOTAS (Circular FMTS 30-1)

The Circular deals with the adjustment of 1985 to 1990 quotas which were not fully used in the period 1980 to 1985.

The arrangements seem appropriate and fair. The "use it or lose it" arrangements provides an incentive to utilize the quota and the annual allowable cut. If a quota is not fully used, then part of the allowable cut will be unavailable to others and essentially lost.

Allowing quota holders to retain their full quota when they cut 80% or more in the previous 5-year period is appropriate given the cyclical nature of the forest industries.

The cancellation of quotas that are totally unused allows this unused share of the allowable cut to be reallocated to others or auctioned.

The reduction in quota for those using less than 80% in the previous 5-year period is appropriate to bring their quota into line with their actual cut. However, the method of calculating the new quota is not defined in the Circular. If those who cut less than 80% have their new quota set at their actual cut, then someone who harvested 79% of their quota would have their quota reduced by 21% while someone who harvested 80% or 81% would have no

reduction. To avoid this so called "notch effect" and any resulting inequity, two alternatives are suggested. For those who harvest less than 80% of their quota, their new quota would be either:

1. $\text{new quota} = \frac{\text{actual harvest}}{\text{quota}} \times \frac{100\%}{80\%}$
2. $\text{new quota} = \frac{\text{actual harvest}}{\text{quota}} + (10\% \times \text{quota})$

For those who harvest a small percentage of their quota, say 10%, the first approach would give them a new quota equal to 12.5% of their previous quota. The second method would give them a new quota equal to 30% of their previous quota.

6.3 SPECIAL TIMBER ALLOCATIONS (Circular FBTM 31-1)

Special Timber Allocations establish two classes of quotas. Special Timber Allocations carry less rights than "regular" quotas. Special Timber Allocations are not transferable (assignable). They expiry in 1990 and are not automatically renewable, although they can perhaps be renegotiated. They are therefore a rather uncertain tenure.

Four Special Timber Allocations are listed in The Circular (Numbers 2, 9, 15, 18). Presumably the other numbers have expired, or been cancelled?

In negotiating the replacement of Special Timber Allocations in 1990 consideration should be given to converting them into some form of tenure with forest management and forest renewal obligations.

7. TIMBER ADMINISTRATION MANUAL

The Timber Administration Manual provides operational procedures for the sale of Crown timber from Provincial Forests and other forest lands. The Manual covers the sale of timber and the supervision of harvesting operations on Timber Sales and Timber Permits. The Manual also covers the administration and assignment of timber quotas, and the issuance of permits for a variety of activities -- timber sale operations, sawmills, Christmas trees, grazing, hay cutting, timber dealers, licences, digging of trees, and the auction of roundwood and forest products from timber seizures. Reports and record keeping are also covered.

7.1 TIMBER SALES (pages 1 - 21)

7.1.1 Timber Sale Agreements (pages 1 - 3). Timber sales are for a given volume of timber within defined boundaries. It is the specified volume of timber.

This timber sale format raises some questions. What if the area contains more than the specified volume of timber? What then happens to the remaining timber? What if the remaining timber is left in small patches, difficult locations, or corners? For quota holders, the remaining timber volume is included in the quota holder's next sale. But this is awkward and does not handle the problem for non-quota sales.

What if the area contains less than the required timber? Is another timber sale then established for the remainder? A new area is added to the sale, but this also is awkward. The main point is that

there are no strong incentives for efficient utilization in these arrangements.

A timber sale by volume rather than area provides less of an incentive for full utilization of all potentially merchantable timber. If excess timber exists on the area, or if a short fall is made up by a new timber sale, the volume based timber sale will encourage harvesting the bigger, better, more valuable or more accessible timber, and leaving the rest. The only way to counter this incentive is with regulations on utilization, inspections, policing and enforcement and penalties. This is administratively costly and are not conducive to good industry-department relationships.

Volume based timber sales economise on timber cruising. Area based timber sales would require a much more accurate and complete timber survey of the sale area to ensure that the volume contained was within acceptable statistical tolerances. However, the extra effort put into more reliable timber cruising of timber sales might be repaid later through improved utilization, and less policing and enforcement. If utilization were improved by 2%, 5% or 10% under area based timber sales, quota volumes and the Annual Allowable Cut of Forest Management Units could be harvested from 2%, 5% or 10% less area. In the long run a 2%, 5% to 10% improvement in utilization would allow a corresponding increase in the annual allowable cut quota volumes, and areas harvested leading to an increased harvest and forest revenues.

The option of changing to area based timber sales should be seriously considered. The advantages, disadvantages, problems and changes in administrative procedures should be thought through. The advantages in terms of the stronger and more automatic utilization incentives could make it worthwhile.

7.1.2 Timber Sale Guarantee Deposits and Performance Bonds (pages 1 - 3). Non-allocation (non-quota) timber sales require a guarantee deposit and a performance bond. Other timber sales do not. A deposit or bond provides an incentive to complete the timber sale, meet the utilization and forest management conditions, and pay the stumpage price for timber cut.

The distinction in the Manual between the guarantee deposit and performance bond (page 2) is not clear. There may not be a need for both.

The Manual states that the deposit or bond may be waived in certain circumstances. It seems more appropriate to require them as a matter of course on all timber sales. It is recommended that the deposit and bond be required on allocation (quota) timber sales as well.

7.1.3 Timber Sale Inspections (pages 4-9) The "guidelines" in the Manual are helpful in developing consistency of inspection by Natural Resource officers, who do not always have forestry training or experience.

Timber sale contract conditions on utilization -- removal of hardwoods, removal of felled trees, stump heights,

top diameters, "long butting", sawmill utilization and lumber recovery -- involve considerable administrative time and cost.

Utilization standards of what is merchantable or not involve economic criteria. Economic utilization standards will vary from place to place throughout the Province, over time as forest product prices rise or fall, or as new markets open up, for example for hardwoods. Yet physical utilization standards are written into The Forest Regulations. Field staff are then required to enforce these physical utilization standards even in situations where they do not reflect the economic situation. This puts field staff into the role of "police officer", and into conflict with logging operators.

Consideration should be given to making utilization standards more economic, more flexible and more responsive to changing economic conditions. Consideration should be given to moving utilization standards from the Forest Regulations to the Forestry Branch Circulars, and allowing them to be varied from region to region. This suggestion is one alternative.

If timber on a Timber Sale or Timber Permit area were sold as a block with a lump sum payment; then, having paid for the timber, the logging operator could be left to harvest what he considered utilizable. The operator would have an incentive to improve utilization and recovery of wood. Site preparation and planting would be easier and cheaper. The Forestry Branch, having received its money for the timber, need not enforce utilization practices. Timber sale inspections would concentrate attention on enforcing the

other conditions (cutting location, slash disposal, landings, silvicultural conditions, etc.).

7.2 TIMBER PERMITS (pages 19 -20)

Timber Permits are issued for small volumes of timber, for small volume commercial use, or for individual's own use. Some quota holders have their quotas as permit quotas, having originally earned the quota from a Timber Permit.

Timber Permits are for one year. They are for a specified volume of timber, to be cut from a given area. Forest dues for the entire volume of Timber are paid when the Permit is issued. Payment for any overcut, beyond the specified volume, or refund for any undercut volume is made at completion of cutting or expiry of the permit. This simplifies administration.

It is recommended to ensure performance that a deposit be required in addition to pre-payment of forest dues. This deposit would be refunded upon completion of cutting and satisfactory performance. However, it could require inspection of Permits after harvesting, which is not now done, and so require additional field staff.

For forest management purposes and to ensure scattered timber is not left Permits should be grouped together geographically, or be used to complete the harvesting of small patches of timber left by earlier harvesting.

7.3 ASSIGNMENT OF QUOTAS (page 21)

The original objective in allowing assignment of quotas was to encourage a more efficient forest industry, to enable firms to grow to a more cost-efficient size, and allow others to leave the industry. To facilitate the transfer of quotas the process should be made as easy as possible.

When the quota System was introduced, most quotas were small, so it was reasonable to require the transfer of the full quota, an "all or nothing" transfer. However, considerable consolidation of Quotas has now taken place. It is now reasonable to allow transfer of part of the quota, provided it exceeds a certain minimum volume.

It is appropriate to allow transfer of hardwood and softwood quota separately, as is now done.

It is recommended that records be kept of the prices paid for quotas. The prices paid reflect two values: (1) the value of the security of timber supply guaranteed by the quota; and (2) the extent that stumpage values of standing timber exceeds the stumpage prices charged by means of forest dues. Records of quota prices provide useful information and evidence on these two values, and on trends over time.

An assignment fee should be charged, as now. It should reflect the costs involved in making the assignment but not restrict the transfer.

7.4 REGULATION OF SAWMILLS, ROUNDWOOD TRANSPORT, SAWWOOD PRODUCTION AND MARKETING

The Manual requires a great deal of paper work to document the transportation of roundwood, sawmill operations, sawmill log use, lumber production, and sales of lumber. All this is designed to ensure that forest dues (stumpage prices) are paid on all timber cut, that forest dues paid on sawnwood reflect the equivalent roundwood volume, and that forest dues are not avoided by representing Crown timber as timber from private land.

The licences and records required are extensive:

1. Sawmill Licences are required of all sawmills.
2. Daily sawing records of log input, origin of logs, and lumber outputs are required.
3. A "Licence to Deal in Forest Products" is required of all buyers and sellers of forest products.
4. Monthly purchase records are required of all forest products dealers.
5. Monthly sales records are also required of all forest product dealers.
6. Monthly records of timber sales operators indicate production and sales to individual buyers or mills, load slips, etc.
7. Individual load slips are required for all roundwood or sawnwood transported with origin of timber, destination pieces and volumes.
8. Timber Cutting Inspection Reports are required of all Timber Sales and involving inspection of sawmills and sawing practices.

One wonders if all this is necessary. This required record keeping generates a vast flow of paperwork. Reconciliation of the flow of roundwood and sawnwood with the standing timber cut is challenging and difficult. In the end, it is not clear that reconciliation is fully possible, especially if a few vital pieces of paper are incorrectly filled in, are not submitted, or are lost.

All this is done to ensure that no timber escapes paying forest dues. Easier, simpler and more streamlined methods are needed.

If forest dues were based on roundwood volumes entirely rather than on the sawnwood output of sawmills (converted to an estimated roundwood equivalent) then the administrative procedures and records would be considerably simpler. If timber were sold as a standing block of timber (lump sum timber sale) rather than on the basis of the roundwood removed, then this record keeping would be all but eliminated. The efficiency, utilization, economic benefits and manpower savings should be compared with the additional timber cruising required.

PART II FOREST TENURES AND TIMBER ALLOCATION

The forest lands of Manitoba are 97% publically owned. The several forest tenures allocate timber rights only -- not the land or other land uses -- to companies or individuals.

Timber rights are allocated under five major tenures. These forest tenures are:

1. Forest Management Licences.

Forest Management Licences (FML's) grant longer term, exclusive rights to timber and to the annual allowable cut over a specified area. FML's provide rights to timber only, not to the land or other land uses. The tenure although technically 20 years, is in practice continuing, subject to a 5-year performance review.

2. Timber Sales.

Timber sales are short term tenures, usually 1- 5 years, to harvest a given volume of timber within a specified area.

3. Timber Permits.

Timber permits are short term, annual tenures to small volumes of timber for commercial or own use.

4. Timber Quotas.

The Timber Quota System provides security of timber supply to smaller and medium sized established forest operators holding timber sales or timber permits. The quota provides a guaranteed volume of timber annually defined in terms of a share of the annual allowable cut in the Forest Management Unit.

5. Special Allocations.

Special Allocations involve unallocated annual allowable cut. They are designed to provide security of timber supply to new forest industry operations and wood processing plants.

8. FOREST MANAGEMENT LICENCES

8.1 FOREST MANAGEMENT LICENCES IN MANITOBA

Manitoba has two Forest Management Licences (FML's) -- the Abitibi-Price Inc. FML which provides a timber supply to its Pine Falls newsprint mill, and the Manfor Ltd. FML which provides a timber supply to its pulp mill and sawmill at The Pas. The sale of the Manfor Ltd. pulp mill, sawmill logging operations and FML to Repap Enterprises Corp Inc. was finalized following completion of this report and a new FML agreement signed in May 1989.

Forest Management Licences can provide benefits to both the licensee and to the Province. The licence agreement should be designed to: (1) achieve maximum combined benefits to both the licensee and the province, (2) allocate these benefits equitably between the two parties, (3) allocate the obligations and responsibilities appropriately between the two parties.

Forest Management Licence legislation should first seek efficient licence arrangements that creates the maximum potential pool of benefits. After that, the sharing of the benefits between the Province and the licensee is, by nature, a negotiating situation. The licensee, a corporation trying to strike the best deal for itself, will seek terms and conditions to maximize its profit. The Government, for its part, should act in a similar "businesslike" manner, seeking to maximize benefits to the Province and revenues to the Government.

Thus the Government, as forest land owner should establish terms and conditions which provide the licensee with fair but modest benefits from the FML, and seek to capture the rest of the benefits for the Province in kind or as revenues. Were I instead advising FML licensees, I would advise them to seek terms and conditions which would capture for them the majority of the benefits of the licence as present and potential future profits.

8.1.1 Benefits to the Licensee. The major benefit to the licensee is the security of timber supply of the FML agreement. This assured timber supply can be a significant asset. It is of major value in the sale or takeover of a company and in the stock market value of forest industry companies.

As Canada reaches the limits of its available forest lands and as we shift from extensive to intensive forestry the value of this security of timber supply and thus the value of FML's will increase dramatically. This was recognized by George Petty, Chairperson and Chief Executive Officer of Repap in their purchase of Manfor. Of Manfor's FML he said, "...It's a strategic move on our part to secure an additional important wood resource...It's probably the largest single remaining underutilized softwood resource in Canada, and probably in the world for that matter, if you exclude the Soviet Union. And that's the pizzazz of it." (Globe and Mail, March 13, 1989, p B1).

A second benefit of the FML is that it provides the licensee with timber at non-competitive stumpage prices. The licensee does not have to compete with other companies or bid for timber. In tight timber supply situations and increasing scarcity of timber supplies this too can be a valuable benefit and an increasingly valuable benefit.

A third benefit of the FML to the licensee is also the result of the security of timber supply. The security of timber supply available at non-competitive prices puts the licensee in a strong bargaining position in the purchase of wood from outside the FML. With a secure timber supply from the FML, the licensee will usually be able to obtain timber from outside the FML at lower prices than otherwise.

But even if the licensee has to pay higher prices to get the additional timber, for example to expand its operations, it can do so without raising its average wood cost greatly. Any higher cost of the additional purchased wood is offset by lower cost wood from the FML.

A fourth advantage of the FML to the licensee is that with exclusive rights to the FML area, the licensee can plan the wood supply and transport network efficiently, can maintain a compact wood supply area, and so minimize wood costs.

A fifth benefit is that with exclusive rights to timber from the FML area the licensee can capture the benefits of intensive forestry. Investments in intensive forestry will allow the licensee to obtain the wood supply from a smaller more compact area and likely

with a higher yield per hectare. The benefits of investment in intensive forestry are therefore captured by the licensee as lower logging costs (from higher yields per hectare) and as lower wood transportation costs (from a more compact log supply area).

8.1.2 Benefits to the Province. If it is an appropriate forest land tenure, Forest Management Licences should provide benefits to Province as well as to the industry.

Benefits to the Province includes benefits to the Government itself -- forest reserves, savings in forest management activities and costs -- and to the Province as a whole --- community stability, employment.

Under the FML agreement, the licensee takes over responsibilities for forest management and forest renewal. This can relieve the Forestry Branch of these activities with a saving in manpower.

If the licensee also takes on responsibilities for forest management and renewal costs, the FML tenure can result in a cost saving to the Government. But if the licensee is compensated for forest management and renewal costs, by reimbursement, or is compensated through lower stumpage prices, the benefits to the Province shrink or disappear. Government cost savings are neutralized by offsetting reimbursements, or by revenue reductions.

The security of timber supply provided by the FML tenure provides an incentive to attract large scale forestry

operations and processing plants. These large scale operations may be better able to utilize the timber, to utilize more of it, to utilize a wider range of species, to develop integrated forestry operations, to take advantage of economies of scale, and to operate more efficiently and at lower costs.

However, there is no guarantee that "bigger is better". Large scale operations may not be suited to the timber supply. For example, old style newsprint mills have a very narrow species tolerance, can only use a small percentage of jackpine, and cannot utilize hardwoods.

An FML agreement may preclude existing small scale operations, or may preclude future expansion by smaller operations. Small scale operations may be more suited to harvesting a range of species and producing a diversity of products.

The FML agreement provides security of timber supply to the licensee and thus the benefit of community stability to the town in which the licensee's operations are centred. However, the FML agreement may not benefit all communities. Other communities within or adjacent to the FML may lose employment.

The FML agreement can also provide forest benefits of access to other resource uses or users. The exclusive timber rights to the FML gives the licensee the incentive to develop a road network for extraction which can provide benefits of access to other resource users (recreationists, hunters, fishermen, etc.). Yet the FML agreement transfers management of the area to one resource

user, the licensee, and focuses resource use on one resource use -- forestry. It may not be the best land use framework within which to manage the area for these other resource uses.

At present land and resource use conflicts on FML areas are resolved through the Resource Planning Committee of the Department of Natural Resources by obtaining concurrence from other branches (Wildlife, Fisheries, Parks, etc.) to the FML holder's forest management and working plans. Yet this is a costly and time consuming process. All the time and costs are borne by the Department and the Government rather than the beneficiaries -- the FML owner and other resource users.

8.2 A RECOMMENDED FOREST MANAGEMENT AGREEMENT

The two existing FML agreements represent agreements each arrived at separately and independently through negotiation with the licensees. They contain quite different clauses and conditions, some of which benefit the Company, others which benefit the Province.

It is recommended that the Forestry Branch develop a standardized FML agreement, as is being done. This agreement would be used for all new FML's. Once it is finalized, the two existing FML agreements should be brought into line with the standardized agreement through negotiation at the time of their renewal.

The standardized FML agreement should be drafted from the viewpoint of the Province, to maximize the benefits of

the agreement to the Province. This would strengthen the Province's initial position in negotiation. Negotiation with a simple licensee, or bidding on a proposed FML by interested parties should be on a limited set of clauses and preferably only on the financial terms in the form of bonus bids.

The Forestry Branch has developed a draft of such a "generic agreement" based on the two existing FML agreements. The recommendations below are extensions or modifications of this "generic agreement".

8.2.1 Forest Renewal. It is recommended that the licensee be responsible for forest renewal of all logged areas on the FML. This is in line with the two existing agreements and the draft "generic agreement".

The "generic agreement" and the Abitibi FML agreement both provide for payments of a renewal charge into a trust fund from which renewal costs are reimbursed. As explained in later chapters on Forest Renewal and the Forest Renewal Charge, this arrangement, although workable, is not ideal. It does not provide the correct incentives for efficiency in reforestation and at minimum cost.

Instead, it is recommended that the licensee be responsible for all costs of forest renewal, rather than being reimbursed for costs incurred. Stumpage prices would be adjusted to reflect this obligation. Making FML's licensees responsible for forest renewal and renewal costs gives licences the incentive to achieve renewal efficiently and at minimum cost, the same cost minimizing

objectives they apply in the logging and production side of their operations.

It is recommended that reforestation of burnt areas or areas previous not satisfactorily stocked be cost shared between the Province and the licensee, as both the Province and the licensee benefit from renewal of unproductive areas. The company benefits by reforestation of burnt over or not-satisfactorily-restocked (NSR) areas because they can be brought back into the annual allowable cut (AAC) calculation of the FML and the AAC is thereby raised. The Province benefits from getting areas back into production and from the extra stumpage revenue from the additional AAC.

Cost sharing of reforestation of burnt-over and NSR areas on FML's would provide an incentive for licensee participation in fire protection, detection and suppression. Lesser forest fire loss mean lower expenditures for reforestation of burnt areas for both licensee and the Forestry Branch.

8.2.2 Area Charge. It is recommended that FML agreements include an area based charge on FML's, i.e. an annual ground rental. There is provision in the Act and Regulations for such a charge (Manitoba Regulation 227/88 R, Schedule E "Annual Ground Rental"). This ground rental can be set and revised by the Minister.

An annual ground rental would serve to reflect the value of the security of timber supply provided by the FML agreement. A charge based on the AAC might better reflect the value of the security of timber supply, but an annual

ground rental is easier and simpler to administer.

An annual ground rental has other benefits. It would discourage FML licensees from applying for or hanging onto an area in excess of their immediate and foreseeable needs. With excess area and AAC the licensee has little incentive to practice intensive forestry. An annual ground rentals therefore provides an immediate up-front incentive to intensive forestry.

8.2.3 Protection Charge. An annual forest protection charge is recommended on FML's. It too is provided for in the Forest Act and Regulations (Manitoba Regulation 22/88R, Schedule E "Fire Guarding Assessment"). It too can be set and revised by the Minister but at present is not levied.

Provincial forest fire protection provides obvious benefits to FML licensees, protecting both the mature timber ready for harvest and the annual allowable cut. Regular fire losses whittle away at the AAC. With improved fire protection more of the annual growth is saved for harvesting and an increased AAC is justified.

It is recommended that an annual forest protection charge be levied on FML's. It is both administratively simpler and appropriate that it be based on the area of the FML. Also fire protection costs are more closely related to the area protected than to other measures. The level of the protection charge should be related to the costs of providing the protection.

8.2.3 Level of Forest fees and charges: Introduction of area based annual ground rental and forest protection charges,

although they reflect benefits provided, will raise the level of fees and charges paid to FML's. It may therefore be necessary to reassess the combined level of stumpage prices on FML's and these other charges, to compare the level of fees and charges on FML's with those on other forest tenures, and perhaps readjust the level of stumpage prices. However, it should be kept in mind that the benefits of FML tenures, in security of timber supply and freedom from competitive bidding are greater than on non-quota timber sales so that higher fees on FML's are justified.

8.2.4 Adjustment of Stumpage Prices: It is recommended that stumpage prices on FML's be adjusted annually in the same way as is now done on timber sales.

Adjustment of stumpage prices on the two FML's is done differently. Adjustment of stumpage prices in the Abitibi agreement is done every five years based on the Statistics Canada Industry Selling Price Index for newsprint. Adjustment of stumpage prices in the Manfor agreement is done annually and is based on the U.S. Bureau of Labour statistics wholesale price of newsprint.

Adjustment of stumpage prices on timber sales is done annually based on the "Manitoba Forest Products Price Index", as weighted average of Statistics Canada "Industry Selling Price Indices" for lumber and pulp, weighted by the harvest of pulpwood and sawlogs. This annual adjustment seems to work. For consistency it is recommended that it be applied uniformly to all timber sales and all FML's.

9. TIMBER QUOTAS

9.1 HISTORY OF THE QUOTA SYSTEM

The Manitoba Timber Quota System was introduced in 1965 and has now operated for 24 years.

The Timber Quota is a guarantee by the Forestry Branch and the Minister of Natural resources to provide the quota holder with a continued annual supply of timber for the duration of the quota. The quota volume is a percentage share of the annual allowable cut of the Forest Management Unit specified in cubic meters of hardwoods or softwoods, or both.

The quota system was established to encourage a restructuring of the forest industry. It was established:

1. to encourage the transfer and consolidation of quotas and achieve economies of scale and cost efficiency in the forest industry.
2. to provide the security of tenure and long term timber supply to allow the forest industry to invest, modernize and become more efficient,
3. to allocate the allowable cut of each Forest Management Unit among the existing operators in each FMU,
4. to put a brake on potential over cutting,
5. to eliminate competitive bidding on timber sales.

In 1965, when the quota system was established, timber quotas were given to existing operators based on their average annual volume of timber harvested in the previous three years. Quotas were made transferable, so that quota holders who wished to expand could purchase quotas from quota holders wanting to leave the industry. In 1965 apart from the Pine Falls newsprint mill of Abitibi and a few medium sized sawmill companies, the forest industry consisted of literally hundreds of small scale part-time or intermittent operations.

Originally quotas were for a 15 year period, expiring in 1980. In 1980 the quota system was extended, following departmental review and meetings with the forest industry. It was modified slightly and renamed the Manitoba Timber Allocation System.

Beginning in 1980, individual timber allocations (i.e. quotas) were extended for 10 years, to 1990, based on existing quota volumes. Timber allocations (i.e. quotas) are reviewed every 5 years and the quota allocation extended a further 5 years, thus providing a rolling 10 year guaranteed timber supply.

At each 5 year review individual timber allocations (i.e. quotas) are reduced if the quota is not used. Where 80 percent or more of the quota is utilized, the quota holder's quota is renewed for a further 5 years, so that there is a full 10 years cut remaining. Where the quota holder has cut less than 80 percent of his quota in the 5-year

period, their quota is reduced by the difference between the 80 percent threshold and the amount cut. For example, if only 65 percent of the quota is harvested the new quota is reduced by 15 percent and renewed for 10 years. Quotas are reviewed again in 5 years time and again adjusted for any undercutting. The first 5-year review took place in 1985. The second is due in 1990.

At the first review, in 1985, quota volume reductions, unutilized quota "returned through non-use", totalled 18,700 m³ of softwoods, most of it in the Pineland, Lake Winnipeg East and Interlake Forest Sections; and 55,200 m³ of hardwoods, almost all of it in the Mountain Forest Section.

Quotas are defined Timber Sale Quotas, if originally earned on Timber Sales; or as Timber Permit Quotas, if originally earned on Timber Permits. Quotas are defined as and recorded in terms of the quota holders share of the annual allowable cut of the Forest Management Unit in which it was earned and as softwood or hardwood quota.

Timber Sale Quotas are legally established by a clause in the quota Timber Sale Agreement. The clause (Clause 38) states:

"The Vendor hereby agrees that upon termination of this agreement, if the Purchaser has carried out this agreement to the satisfaction of the Vendor, he will make available to the Purchaser, his heirs, successors or assigns, another timber sale agreement for cutting a pro rate percentage of the annual allowable cut of timber

or a pro rate percentage of the equivalent volume of timber as was initially allowed under this agreement within _____ Forest Section."

Thus the quota is legally tied to the timber sale. To sell his quota the quota holder must transfer the existing timber sale to the new quota owner. However, this could inhibit the transfer of quotas. The quota purchaser might be more interested in purchasing the quota than in purchasing a partially cut timber sale. The seller might prefer to complete the harvesting of the existing timber sale. Separation of the quotas from the timber sales would then facilitate quota transfers. This would require revision of the legal arrangements and establishment of the quotas as a separate entity from the timber sale agreement.

9.2 THE QUOTA SYSTEM -- REVIEW, EVALUATION, ALTERNATIVES

The quota system has been successful in encouraging the consolidation of fragmented timber operations into more economically efficient units. Timber sale quotas have been reduced from 631 in 1965 to 202 today. Timber permits quotas have been reduced from 1,895 in 1965 to 37 today.

This reduction and consolidation of quotas has been achieved through market forces. Those operators better able to utilize the timber, wishing to expand to take advantage of economies of scale in logging or wood processing, or to utilize the timber more efficiently have been willing and able to purchase quota and

reallocate the timber to more efficient uses or more valuable products.

The quota system is an good example of the use of economic incentives in forestry for timber allocation. Such incentives if properly designed can operate more efficiently than administrative approaches, and with a great deal less administrative costs.

Care should therefore be taken to avoid imposing restrictions on the operation of the quota system which would inhibit its operation or impede the reallocation of quotas.

9.2.1 Investment Incentives. The quota system also provides the security of timber supply to encourage investment in more capital intensive logging systems and wood processing plants. The security of a continued timber supply makes such investments cost efficient.

9.2.2 Quota Prices and Quota Values. The prices paid for quotas are negotiated and agreed between the quota holder and the purchaser. Neither Manitoba Natural Resources nor the Forestry Branch are involved, nor is their intervention advised.

The prices paid for quotas obviously vary widely reflecting the individual situations of buyer and seller, the regional location of the quota, the species involved, the availability or scarcity of quotas, timber and product prices, market conditions.

Recent prices paid for quotas in southeastern Manitoba, the area of greatest demand, are reported to range from \$8-\$20/m³ for hardwood quota and

\$16-\$40/m³ for softwood quota. These are approximate prices based on general knowledge rather than careful analysis of recorded prices. The prices paid for quotas are reported on the "Assignment of Timber Sale Agreement" an "Assignment of Timber Permit" forms submitted to the Forestry Branch (Forestry Branch, Timber Administration Manual). However, these prices are not recorded nor analyzed.

The Forestry Branch recently (January 1989) auctioned four quotas in southeastern Manitoba, one softwood quota and three hardwood quotas. These quotas were acquired by the Forestry Branch as a result of the 1985 quota review. They were part of un-utilized quotas "returned through non-use".

These quotas were sold attached to timber sales sold by sealed tender. The one softwood quota sold for a bonus bid of \$40.13/m³ on the timber sales. Three hardwood quotas attracted bonus bids of \$6.00/m³, \$13.20/m³, and \$18.20/m³, an average of \$13.46/m³.

Quota prices reflect the present value, at date of purchases, of the future stream of two separate values:

1. A "security of supply value", the annual value of the security of timber supply provided by the guaranteed annual timber supply for at least the ten year period or longer if renewal is relatively assured.
2. A "underpricing value", the difference between the future stumpage values of the timber cut and the actual stumpage prices (forest due) paid at the time of harvest, in other words

the extent to which stumpage prices under-represent stumpage values.

Quota prices reflect the present value of these two future value streams, evaluated at the quota purchaser's interest rate (discount rate). For example, at a 10 percent interest rate and a 10 year quota guarantee, a quota price of \$20/m³ of quota is equivalent to a combined "security of supply, value" and "underpricing value" of \$2.85/m³/year value for the annual harvest.

Bonus bids on timber sold without any quota commitment attached averaged \$1.15/m³. Since no quota is involved this bonus approximates the "underpricing value", the difference between the stumpage value of the timber cut and the actual stumpage price (forest dues) paid.

Using this \$1.15/m³ figure to represent the "underpricing value" in the representative quota value of \$2.85/m³/year shown above would allow us to separate the \$2.85/m³/year annual quota value (derived from a representative quota price of \$20.00/m³) into an "underpricing value" of \$1.15/m³/year and a "security of supply value" of \$1.60/m³/year.

9.3 RECOMMENDATIONS -- QUOTA SYSTEM

Recommended changes in the quota system are minor. They are designed to improve the efficiency of its operation and performance. The quota system has worked successfully and is broadly accepted by the forest industry.

9.3.1 Maintain Transferability. It is strongly recommended that the transferability of quotas be continued. Transferability allows the allocation of timber supplies to their most valuable use. It allows consolidation of quotas where economies of scale in logging or processing would require larger units. Where small scale operations are able to function efficiently consolidation will only go so far. Transferability allows quota sizes to match economic conditions automatically with minimal administrative involvement, utilizing market forces to achieve efficiency in timber allocation.

9.3.2 Allow Division of Quotas. Softwood and hardwood quotas can be sold separately, but apart from that the quota can only be sold in its entirety. Quotas purchased are consolidated with the buyer's own quota, and if sold the entire consolidated quota must be sold. This made sense in the early years when quotas were generally small. But today quota sizes have grown through consolidation to the point where many operators hold quotas in excess of 5,000 m³/year.

Today the requirement that only the entire quota be sold can inhibit the transfer of quotas to their most valuable, most efficient use. A small or medium size operator might wish to purchase a 1,000 m³ quota to expand but find only larger quotas available, too large for the operator to afford or to operate. The operator might be happy to purchase a portion of the quota.

In addition, the sale of a portion of a quota would make it easier for new individuals or firms to enter the forest industry. If sale of the entire quota is

required, the average size of quotas available can only get larger, making them less and less accessible to new entrants.

The requirement of sale of the entire quota would mean that as quota consolidation progresses only the very largest operators will be able to buy the larger remaining quotas. Small and medium sized operators will be cut out and the industry will become overly concentrated.

Consequently, it is recommended that in future, the sale of part of quotas be allowed in blocks of some minimum size, of perhaps 500 m³ or 1000 m³. This modification would improve the functioning of the quota system and the efficiency in allocation of timber supplies.

It is also recommended that the present arrangements for separate transfer of hardwood and softwood quotas be continued.

9.3.3 Return of Unused Quota. The "use it or lose it" provisions introduced with the 1985 should be continued. Previously there was no cost to the quota holder in holding unused quota, other than the lost "opportunity cost" of the money that could be made from selling it. But unused quota resulted in a loss to the Province in terms of unutilized annual allowable cut, lost forest products output, lost employment and lost stumpage revenue to the Government.

The present arrangements where quotas are reduced if the harvest is less than 80 percent of the quota seems appropriate and fair.

9.3.4 Auction of Returned Quota. It is recommended the quotas "returned through non-use" following a five-year quota review be sold by the Forestry Branch by sealed tender auction. The recent sealed tender auction of quotas, the first ever, were successful in generating revenues and in meeting the demand for additional quota supplies.

Sale of returned quotas will make additional timber available, encourage expansion of the industry or new entrants, generate revenue for the Government from the auction, raise the harvest toward the annual allowable cut, increase the cut and stumpage revenues to the Government, and stimulate employment.

The auction of returned quotas would increase the supply of available quota, make quotas less scarce, and thus keep quota prices down. This would then make it easier for new operators to enter or small operators to expand.

9.3.5 Auction of Uncommitted Annual allowable cut. In Forest Sections with excess annual allowable cut this excess and uncommitted AAC could be divided among existing quota holders, given to a new forest industry investment, or given to local communities in the area. Alternatively, uncommitted AAC could also be sold by sealed bid auction in the same way as returned quota.

It is recommended that in most cases uncommitted AAC be sold by sealed tender. Timber supply commitments by the Forestry Branch, whether in the form of quotas or Special Allocations, are valuable assets. They should not be handed out without reasons. Sealed

tender auctions can help ensure allocation of the timber to its most valuable, most efficient use, and generate revenue.

Where uncommitted AAC is used to attract a new forest based industry, sealed tender competitive proposals should also be used.

9.3.6 Auction of Increased Annual Allowable Cut. When increased AAC results from intensive forestry management by the Forestry Branch it is recommended that these increases in the AAC be auctioned by sealed tender either as timber sales without quota or as additional quotas.

9.3.7 Separation of Quotas from Timber Sales. The transfer of quotas would be facilitated if quotas were separated from the timber sales. Quota purchasers may or may not wish to take over the existing, partially completed timber sale. The timber sale may be in the wrong location to supply their operation, or may be too small to operate efficiently as an independent timber sale.

If the quota and timber sale were separated, the quota purchaser can then choose to purchase the quota alone, or both.

Separation of the quota from the timber sale is desirable if it is legally possible. Quotas are legally separate entities in other resource fields. Separation would require revision of the legal arrangements governing quotas in the Forest Regulations, in the timber sale documents, and in the administrative procedures.

9.3.8 Quota Prices. It is recommended that data on quota prices be collected at the time of assignment. The payment involved is already required on the "Assignment of Timber Sale Agreement" and "Assignment of Timber Permit" forms (Forestry Branch, Timber Administration Manual). However, this payment may be not only for the quota but also for logging, sawmill equipment or other assets, cut timber, or for the value of the Timber Sale. Care should be taken to ensure that the price paid for the quota be separated from payment for other things.

Quota prices should be recorded and summarized. Quota prices provide a good measure of the stumpage value of timber and of the value of security of timber supply to the forest industry. Quota prices would provide useful information for annual and periodic review and adjustment of stumpage prices, or for setting other charges such as the proposed forest renewal charge. As suggested in the chapter on stumpage pricing below, quota prices are useful indicators of stumpage values, useful in evaluating and adjusting the level of stumpage prices.

9.3.9 An Annual Quota Fee. It is recommended that an annual quota fee be introduced, but initially at a modest level. Such a fee would have several advantages:

1. An annual quota fee per m³ of quota held would encourage quota holders to either use their quota or sell it to someone who would. It would reduce the incentive to hold unused quota.

2. An annual quota fee would be able to reflect, at least in part, the security value of timber supply embodied in the quota. An annual quota fee would enable the Government to collect revenue for the value generated by its guarantee for future timber supplies.
3. An annual quota fee would reflect part of the value of the quota. It would also help to keep down the market price of quotas and thus facilitate their transfer, making them less costly to buy. It would therefore make it easier for new or younger operators to enter the forest industry by reducing the "up-front" costs of purchasing a quota.

An annual quota fee might be difficult to implement at the same time as the forest renewal charge, proposed below. Consequently, it is recommended that the annual quota fee be introduced at a very modest level, until the effect of the renewal charge on quota prices is observed.

10. OTHER TENURES

10.1 TYPES OF TENURES

Forest Tenures range from Forest Management Licences, the largest, through Timber Sale Quotas to own-use Timber Permits for perhaps only a few cubic meters.

There does seem to be a gap in forest tenures between Forest Management Licences and Timber Sale Quotas. Forest Management Licences, provide exclusive timber rights to large forest areas and involve forest management and forest renewal obligations. Quotas provide a guarantee of timber supply but with no defined area and no forest management or reforestation obligations. There are some quite large quotas, a dozen exceed 10,000 m³/year.

10.2 SPECIAL ALLOCATIONS

Special Allocations represent special quota allocations which have been used to help bridge the gap between quotas and Forest Management Licences but these, like the regular quotas, are a volume guarantee not tied to any forest area and involve no reforestation responsibilities.

Special Allocations are allocation of quota volumes made to provide a wood supply guarantee for a proposed new large forest products plant. They have been used as an incentive to encourage economic development, employment and utilization of underutilized allowable cut or species.

There are five Special Allocations in effect at present, totalling 55,000 m³/year of softwoods and 95,000 m³/year of hardwoods.

The Special Allocations have been made for unallocated annual allowable cut, often of hardwoods. They are a fixed term, usually 10 year, guarantee. Unlike the regular quota, there is no guarantee of renewal.

Special Allocation are a response to a gap in the forest tenure system. They have been used to support or encourage forest industrial development proposals by making available unused quota for free. Developers would otherwise have to purchase quotas from existing operators. In addition, they might not be able to purchase sufficient volume of quotas for the proposed plant. It is recommended that new Special Allocations be put up to tender rather than awarded to applicants without competition. The security of the timber supply needs to be better designed. Special Allocations should perhaps carry the same guarantee as regular quotas. That is, they should be renewable subject to the same "use it or lose it" provisions of regular quotas. If the unused annual allowable cut volume were put up to tender and other quota holders given the option of bidding on it, renewal privileges equivalent to regular quotas would be more acceptable.

10.3 A NEW INTERMEDIATE TENURE

There may be a need for an intermediate form of tenure between timber sale quotas and Forest Management Licences. This should be designed for the larger quota holders and Special Allocations. It could involve forest renewal obligations, road construction obligations and designation of operating areas.

PART III FOREST RENEWAL

Part III reviews forest renewal arrangements on the two Forest Management Licences. Forest renewal of logged areas is a condition of the current FML agreements. Each is discussed below, evaluated and improvements or modifications recommended.

The proposed Manitoba Forest Renewal Charge is discussed in Part IV. The proposed renewal charge is evaluated and alternatives, improvements or modifications discussed in chapter 14.

It is recommended that companies with quotas or other cutting rights which are volume based rather than area based should be required to either undertake reforestation or pay a reforestation fee designed to cover the costs.

11. MANFOR REFORESTATION AGREEMENT

11.1 BACKGROUND

Although the Manfor Reforestation Agreement was soon to be replaced by a new agreement, the Manfor Agreement both contained some good arrangements and some difficulties from which lessons can be learned in designing alternative reforestation arrangements.

The Manfor Reforestation Agreement was replaced by a new agreement with Repap Enterprises Cor. Inc., the new owners. The new agreement was not completed or available at the time of this report.

The Manfor Reforestation Agreement of February 23, 1984 extended the original Churchill Forest Industries Agreement of February 24, 1966, to include reforestation by the Company. The earlier, 1966, agreement left reforestation to the Province.

11.2 THE MANFOR REFORESTATION AGREEMENT

Under the 1984 Reforestation Agreement, Manfor assumed responsibility for reforestation of areas harvested at its expense.

The Manitoba Government agreed to provide free seedlings (planting stock) from Forestry Branch forest nurseries. Nursery stock usually accounts for roughly one-third the cost of reforestation. Free nursery stock therefore represents a subsidy from the

Government of about one-third of renewal costs.

Manfor agreed to reforest 80 percent of the areas cut-over annually from 1984 to 1987, and 100 percent thereafter. The Company was to undertake a regeneration survey in the seventh calendar year, after logging. Areas not adequately reforested were to be brought to an adequate stocking standard within the next three years at Company expense, but again with free nursery stock.

The Company was only responsible for reforestation of all cut-over areas after 1984. The Forestry Branch was responsible for areas not satisfactorily restocked from earlier logging or fires, and for all areas burnt from 1984 onwards. (The Company is allowed to substitute these areas for currently cut-over areas at its discretion.)

11.3 EVALUATION -- MANFOR REFORESTATION AGREEMENT

The requirement that Manfor is responsible for reforestation of areas logged is a good feature of the Agreement. It encourages efficiency in reforestation. With Company responsibility for reforestation costs:

1. The Company has the incentive to achieve satisfactory reforestation by the seventh year at minimum cost.
2. The company can choose the most economical method that will achieve

the reforestation objective whether natural regeneration, planting, seeding or a change in harvesting methods.

3. The company has the incentive to introduce innovations or technical improvements to lower costs.

In short, the Company will respond to the same cost-efficiency incentives that apply elsewhere in its operations in logging and manufacturing activities.

4. Finally, being responsible for reforestation of logged areas encourages the Company to think in terms of reforestation as a component of the logging operation. It is encouraged to plan logging so as to facilitate reforestation and thus minimize the joint cost of both operations.

For example, if natural regeneration can be obtained at minimal regeneration cost by smaller or different shaped clear-cut areas, then logging planning will consider this option. Or, if removal of small size trees, defective material, smaller top diameters would facilitate scarification and lower regeneration costs, then this too will be considered.

Where reforestation is financed separately, for example, by direct Government expenditures or through a reforestation charge on timber cut, as in the Abitibi Agreement, there is no such incentive to integration of logging and reforestation activities, and the potential efficiency gains from a joint logging-reforestation operation are lost.

There are nevertheless, problems with the Manfor Reforestation Agreement. The provision of free planting stock from the Forest Branch forest nurseries creates several inefficiencies.

1. Free planting stock reduces the cost of planting to the Company relative to other reforestation techniques. As planting stock represents roughly one-third of planting costs the Company is encouraged to choose planting over other reforestation techniques, even where the other methods might be more cost-effective.
2. Free planting stock may be treated as such by the Company. It can generate a casual attitude towards the operation of the Forestry Branch nursery, to the problems and costs of producing quality nursery stock on time, on schedule for planting, and in the required numbers for efficient planting. Coordination problems between the Forestry Branch nursery and Company planting operations have developed. If the Company were paying for the stock under contract there would be a stronger incentive for and a basis for coordination.
3. Free planting stock could be, on occasion, wasted. If the Company obtains it free, there may be little concern about surplus planting stock in the field. If it can not easily be planted on time, it can be abandoned at no cost to the Company. The Company may also be encouraged to order extra, "free" stock, "just to be sure" that they have enough. But, if the Company purchased planting stock, there would be a strong

planning incentive to ensure all the stock was put in the ground.

11.4 RECOMMENDATIONS -- MANFOR REFORESTATION AGREEMENT

Several recommendations are proposed which are relevant to any reforestation agreement, now or in the future.

In any reforestation agreement it is recommended that:

1. The Company should assume responsibility for reforestation and for reforestation costs as in the Manfor Agreement and as is done in Alberta.
2. The Company should pay for planting stock at a price which reflects and approximates the cost of seedling production.
3. The Company should contract for planting stock from the Forest Branch nursery sufficiently far ahead to allow the planning of nursery production. The contract should be on a take-or-pay basis.
4. The Company should have the option of: (1) developing its own nursery and producing its own planting stock, (2) of purchasing from Forestry Branch nurseries, or (3) of purchasing from private nurseries provided seedling quality standards are met. Competition can then operate to encourage efficiency in seedling production and keep costs down.
5. The reforestation agreement should address the reforestation of areas not

satisfactorily restocked from earlier logging or of burns from earlier forest fires under some form of cost sharing arrangement between the Province and the Company.

It is suggested that as a major beneficiary of such reforestation, the Company should share in the cost of reforestation of burnt areas. The Company benefits from reforestation in terms of the additional annual allowable cut resulting from putting cut-over areas back into productive forests. However, with surplus AAC, beyond its needs, the Company has little incentive to undertake reforestation. If the Company were short of timber it would likely be more interested in renewal of burnt areas.

Company participation in reforestation of burnt areas would also give it an incentive for increased participation in Forest Branch fire protection. If the Company paid a share of renewal costs on burnt areas, it would have a stake in improved fire protection.

12. ABITIBI FOREST RENEWAL ARRANGEMENTS

12.1 BACKGROUND

Forest renewal arrangements were an integral part of the Abitibi-Manitoba agreement of 1979, covering both the Forest Management Licence (FML) north east of Pine Falls. Forest renewal arrangements were further detailed in a "Memorandum of Commitment", May 19, 1979 and a "Memorandum of Understanding", July 18, 1979. These two memoranda were replaced by a new "Memorandum of Understanding Respecting Forest Renewal", June 30, 1988 which clarified a number of provisions, particularly by establishment of a "Forest Renewal Trust Fund", and revised the two relevant clauses in the Agreement itself. The 1988 Agreement simplified the operation of the Renewal Fund.

Prior to 1988 payments into the fund were made by the Province and stumpage payments (forest dues) paid by the Company to the Province were correspondingly higher. Payments into the Fund by the Province were in the form of a "Forest Management and Renewal Grant". These were very awkward arrangements. The new arrangements involve payments by the Company directly into the newly named "Forest Renewal Trust Fund". The Renewal Fund is now held by and managed by a third party, a Trust Company. Stumpage payments (forest dues) paid to the Province were reduced by the amount of the Company's per cubic metre payments into the Renewal Fund.

12.2 THE ABITIBI FOREST RENEWAL AGREEMENT

Under the Agreement, Abitibi is responsible for forest management and forest renewal on the Forest Management Licence (FML) area. The Province is responsible for both forest management and renewal on the Integrated Wood Supply Area (IWSA).

On the FML area the Company contributes \$4.66/m³ of wood harvested to the "Forest Renewal Trust Fund". The stumpage price (Forest Dues) paid to the Government is \$2.21/m³. Thus total payments per cubic metre of wood harvested (stumpage price plus renewal payments) total \$7.08/m³. These stumpage prices and renewal payments apply from 1989 through 1993. Both stumpage prices and renewal payments are adjusted every 5 years, indexed to the Statistics Canada "Industry Selling Price Index" for the Pulp and Paper Industry and more specifically to the price index for "newsprint-white, in rolls". New stumpage prices and forest renewal payments were established in 1989, based on this index.

Abitibi is reimbursed for both forest management and forest renewal expenditures from the Renewal Fund. The Manfor Reforestation agreement on the other hand involved forest renewal activities only. Under the Abitibi Agreement, the Province provides Abitibi with free nursery stock for planting. Abitibi provides the Forestry Branch with free seed cones sufficient for seedling

production for the FML. However, the Company is reimbursed the cost of buying or collecting cones out of the Renewal Fund.

If Abitibi's forest management and renewal expenditure in any year are in excess of the money available in the Renewal Fund, Abitibi is entitled to future reimbursement of the accumulated excess expenditures plus interest from the Fund once future contributions to the Fund have built up. If contributions exceed forest management and renewal expenditures by the Company, the balance plus interest accumulates inside the Fund.

12.3 EVALUATION -- ABITIBI FOREST RENEWAL ARRANGEMENTS

Provincial forestry officials consider Abitibi to be doing an efficient and conscientious job of forest renewal. Abitibi has apparently undertaken forest management and renewal expenditures beyond those financed from the Renewal Fund. So it seems the renewal arrangements are working.

Nevertheless there are some aspects where changes could introduce improved economic incentives:

1. As in the Manfor Reforestation Agreement, provision of free nursery stock by the Province reduces planting costs by roughly one-third and therefore can encourage Abitibi to choose planting over other methods of regeneration even though the alternative method might be more cost-effective over all.

2. As in the Manfor Reforestation Agreement, provision of free planting stock may be treated as free (zero cost) and wasted or not efficiently used in planting operations. This can happen in several ways. For example, as Abitibi does not pay for planting stock there may be an incentive to over-order seedlings. Seedlings may therefore be treated as a "free good" in spite of conscientious efforts to use them properly.

12.4 RECOMMENDATIONS -- ABITIBI FOREST RENEWAL ARRANGEMENTS

Several recommendations on forest renewal arrangements are proposed for consideration and discussion in negotiation of any new or extended Agreement with Abitibi.

The Province should seek to unify the Abitibi and Manfor agreements and establish a basic standard FML Agreement, as is being planned with the "generic agreement". The special circumstances of each area would then be handled by additional clauses.

1. It is recommended that Abitibi pay for planting stock from Forest Branch nurseries at a price which reflects and approximates the cost of seedling production. The Company can then make intelligent choices among alternative reforestation methods. Paying for nursery stock at a price which reflects its value will also encourage the careful handling and effective use of seedlings.
2. Similarly, the Forestry Branch should pay Abitibi for cones provided,

treating them like any other cone supplier.

3. Contracts for planting stock sold to Abitibi should be entered into sufficiently far ahead of time to allow planning of nursery production. The contracts should be of a take-or-pay nature.
4. Abitibi should have the option of developing its own nursery and producing its own planting, of purchasing seedlings from Forest Branch nurseries, or of purchasing from private nurseries, provided seedling quality standards are met. The Company may well continue using Forestry Branch seedlings because of their superior quality, cost efficiencies and economics of scale in seedling production.
5. In the future the Abitibi Agreement should be renegotiated to give Abitibi full responsibility for forest management and renewal rather than reimbursement for forest management and renewal expenditures. Required payments into the Renewal Fund would then be replaced by the reforestation requirement.

These changes would result in a neater, tidier, more efficient renewal arrangement. It would do away with the complexity of accounting for renewal expenditures, administration and auditing of the Renewal Fund.

It would also give Abitibi cost-efficiency incentives to achieve renewal at minimal cost, the same efficiency incentives that logging and other production units operate under. The Forestry Branch would then concentrate on monitoring reforestation to ensure that areas are satisfactorily restocked at completion of reforestation.

PART IV FOREST PRICING AND FINANCE

Part IV covers the pricing and financing of forest management. Pricing policies are important if forestry is to be financially sustainable. Pricing policies are also important tools of forest management.

Chapter 13 discusses stumpage prices, the major forest revenue source. Chapter 14 reviews the proposed Forest Renewal Charge. Chapter 15 reviews the other administrative fees and charges.

13. STUMPAGE PRICES -- FOREST DUES

13.1 THE BASICS OF STUMPAGE PRICING -- VALUE AND PRICE

Stumpage prices, the forest dues per cubic metre of roundwood, represent the prices of standing timber sold by the Crown to individuals and companies on Timber Permits, Timber Sales and Forest Management Licences. Stumpage prices or forest dues are the selling price of the products produced by the Forest Branch from managing provincial forest lands.

Stumpage prices or forest dues should represent a fair and reasonable price to the buyer, individuals and companies within the forest industry, and to the seller, the Crown. Stumpage prices should therefore reflect the value of timber. Yet value and price are not the same thing. The price that a person pays for a piece of land may not be the same as the value to him or her. In a competitive market with many buyers and sellers prices and values will approach each other; but not necessarily if markets do not operate perfectly.

In a few cases competitive markets for timber exist. Where: (a) timber is sold by open-bid auction or sealed tender, (b) there are sufficient number of bidders to achieve independence between them and competition among them and (c) there is no cooperation or collusion among bidders; then the prices bid are likely to approach the value of the timber to the buyers.

Competitive auctions or sealed tender bidding can provide information on the value of standing timber that is useful in

establishing stumpage prices for non-competitive sales.

In most cases, however, the market for standing timber is not a competitive market. Usually there is a single seller, the Crown, and only one buyer, as for example on non-competitive quota timber sales or on Forest Management licences. Under such circumstances it is easy for values and prices to differ, or to diverge over time. It is therefore necessary to administratively establish stumpage prices that try to reflect the value of the timber.

13.2 STUMPAGE VALUE -- A DERIVED DEMAND

For the industrial user of timber, the value of standing timber is a derived value, derived from the market prices of the products produced; lumber, pulp, paper, newsprint, posts, poles, etc. The value of the standing timber is derived by deducting from the market price of the forest product manufacturing costs, the cost of roundwood transportation from landing to mill (hauling costs), and logging costs from stump to landing (log production costs -- felling, yarding, topping and bucking costs). Included in costs are capital costs, in terms of depreciation, and normal profit on the capital invested, defined by the rate of return available on alternative investments elsewhere.

The concept of a derived demand stumpage value is simple enough. The determination of derived demand values

in particular circumstances is another matter. This is the area of stumpage appraisal.

13.3 STUMPAGE VALUES -- ADJUSTMENT FOR PRICE AND COST CHANGES

The point is that derived demand stumpage values are residually determined from prices and costs, as a residual, "a bottom line" value. As a result, any change in prices or costs will carry through to affect stumpage values by the same dollar, not percentage, amount. For example, a \$10/MFbm increase in lumber prices (a 5% increase for lumber sold at \$200/Mfbm) will carry through to an equivalent dollar increase in stumpage values (translated into \$/m³ based on timber recovery per m³), a much larger percentage increase in stumpage values.

Consequently, it is not sufficient to index stumpage prices for price increases, adjusting them in proportion to product prices. Annual or quarterly indexation of forest dues based on forest product prices is adequate as an interim measure, but it can not keep up with changes in stumpage values as a result of product price increases, inflation, or cost increases. It will be also necessary to review forest dues from time to time to readjust them for changes in product prices and costs so as to catch up with changes in stumpage values.

13.4 SETTING STUMPAGE PRICES

Stumpage prices per cubic metre charged on the sale of Crown timber, should approach the derived demand

stumpage value of the standing timber. To correctly estimate stumpage values is a difficult task, requiring accurate data on prices and costs.

A full-blown stumpage appraisal system, such as carried out by British Columbia, is neither warranted nor advocated. Yet, some estimate of stumpage values is needed in order to set stumpage prices that are fair and reasonable. Otherwise the establishment of stumpage prices becomes arbitrary and the Province could end up selling timber at well below the stumpage values of the timber.

The forest industry will certainly let the Forest Branch know if stumpage prices are set above stumpage values. The industry may even complain when stumpage prices are below stumpage values. Such is the nature of the bargaining situation. Thus a knowledge of stumpage values, of prices and of costs is necessary. The Forest Branch needs to strengthen its ability to determine stumpage values in order to set stumpage prices accurately and fairly.

13.4.1 Bonus Bids on Bid Sales and Quota prices as Indicators of Stumpage Values. Both bonus bids on timber sales made by sealed tender and the prices paid for quotas can serve as indicators of the extent to which stumpage values exceed the stumpage prices charged. Both serve as indicators only, so that some discussion and one or two qualifications are required of each.

13.4.2 Bonus Bids on Timber Sales by Sealed Tender. Each year a small number of timber sales are made outside the quota system and allocated by sealed

tender. There were 10 sales in 1987, of which 9 sales, involving 32,000 m³, were taken up. In 1988 there were 8 sales, of which 6 sales, involving 15,000 m³, were taken up. The sales were in the Western, Interlake, and Eastern Regions, and all were for softwood timber. The bonus bids on these timber sales indicate the extent to which the stumpage value of the timber to the successful bidders exceed the forest dues paid.

In 1987, successful bonus bids on the 9 sales taken up ranged from \$0.04/m³ to \$1.64/m³, and averaged \$0.72/m³. These bonus bids were on top of stumpage prices of \$1.25, \$1.60 or \$1.80/m³, depending on the Region (Forest Section).

In 1988, successful bonus bids on the six sales taken up averaged \$1.15/m³. These bonus bids were on top of stumpage prices of \$1.35, \$1.75 or \$1.95/m³, depending on the Region (Forest Section).

These bonus bids imply that stumpage values to successful bidders averaged at least \$0.72/m³ above stumpage prices in 1987 and at least \$1.15/m³ above stumpage prices in 1988. In other words, stumpage values were in the order of \$2.00/m³ to \$2.50/m³ in 1987 and \$2.50/m³ to \$3.10/m³ in 1988.

However, some additional considerations are in order. One the one hand, bonus bids may underestimate stumpage values. If competition on the timber sale was not strong the successful bidders may not need to bid the full value of the timber to obtain the timber sale. If so bonus bids will underestimate stumpage values.

On the other hand, in certain circumstances, bonus bids could overestimate average stumpage values. Where bidders are short of timber to fully utilize their logging equipment, sawmill or other processing facility, they may be willing to bid higher to obtain extra timber. The stumpage value to them of the extra timber will be high because they will not consider the full processing or logging costs in determining the stumpage value of the extra timber to them.

13.4.3 Recommendation -- Use Bonus Bid Timber Sales to Measure Stumpage Values. With the above qualifications the bonus bids on timber sales can serve to measure the stumpage values of timber. Bonus bid sales can serve a valuable information purpose for periodic review of stumpage prices. Only a small number of auction sales are necessary to provide a reasonable measure of stumpage values. However, the number of bonus bid timber sales should be expanded wherever possible.

13.4.4 Timber Quota Prices as Indicators of Stumpage Values. Timber quotas represent a commitment by the Province to provide the quota holder with a continued annual supply of timber, at a stumpage price established by the forest dues. Thus the quota represents a contract to sell the holder a commodity, standing timber, at the stumpage prices prevailing at the time of sale.

The commitment is not for a fixed volume of timber, but a percentage share of the annual allowable cut of the Forest Management Unit, which might decline through fire, insects, or other hazards. But if the annual allowable cut

of the Forest Management Unit is increased, say through intensive forestry, then the quota volumes of quota holders are not automatically increased. The extra AAC is available for allocation by the Government to quota holders or others, perhaps by auction. The quota commitment is for a fixed ten year term, although the unwritten expectation is that the quota will continue into the foreseeable future. The guarantee is for softwood or hardwood timber, but the understanding is that, where possible, the guarantee will be to the same type of timber as that on which the quota was originally earned.

Quotas to future timber supplies are valuable assets and have changed hands at significant values. The Forestry Branch does not attempted to record the prices paid between the buyers and sellers upon transfer of quotas. The Branch has only recorded the ownership transfer and the new quota holder. The Branch has taken the position that the quota price is a matter between buyer and seller. Consequently information useful in reviewing the level of stumpage prices has been lost. It is recommended that the Forestry Branch take steps to record quota prices. The quota price agreed to often includes other assets such as sawmill and/or logging equipment in addition to the value of the quota. The values of these assets would need to be separated from the value of the quota itself.

Recently, the Forestry Branch, for the first time, sold four quotas. One quota sale was for softwood, three for hardwoods. All were in southeastern Manitoba, in The Pineland Forest section. The quota volumes involved

resulted from the accumulation of unused quotas of existing quota holders.

These quotas were sold as timber sales with an attached quota commitment. They all attracted significant bonus bids. The one softwood quota sale attracted a bonus bid equal to \$40.13/m³ of quota provided. The three hardwood quota sales attracted bonus bids equal to \$18.20/m³, \$13.20/m³ and \$6.00/m³, a weighted average of \$13.46/m³ for the three hardwood quota sales.

The bonus bid for these quotas are an "up-front" payment, that represents the "present value" of: (a) the security of timber supply provided by the quota and (b) the amount by which future stumpage values are expected to exceed the level of future Forest Dues.

The bonus bid of \$40.13/m³ on the one softwood quota represent a "present value" equivalent to an annual per cubic metre premium of \$6.50/m³/year for a guaranteed 10 year timber supply at an interest rate of 10% per year (\$4.70/m³/year for a guaranteed 20 year supply, and \$4.00/m³/year for an infinite guaranteed supply). At an interest rate of 15% per year the \$40.13/m³ bonus bid would be equivalent to a premium of \$8.00/m³/year for a 10 year guaranteed supply (\$6.40/m³/year for a 20 year guarantee and \$6.00/m³/year for an infinite guaranteed supply).

For the three hardwood quota sales the average bonus of \$13.46/m³ represents to an annual per cubic metre premium of \$1.10/m³/year for a 10 year guaranteed timber supply at an interest rate of 10% (\$1.60/m³/year for a 20 year

guaranteed supply, and \$1.35/m³/year for an infinite guaranteed supply). At a 15% interest rate this \$13.46/m³ premium represents an annual premium of \$2.70/m³/year for a 10 year guaranteed timber supply (\$2.15/m³/year for a 20 year guaranteed supply and \$2.00/m³/year for an infinite guaranteed supply).

13.4.5 Recommendation -- Record Prices of Quotas Transferred.

It is recommended that the Forestry Branch record and monitor quota prices reported on the quota transfer documents (Forestry Branch Timber Administration Manual, "Assignment of Timber Sale Agreement" and "Assignment of Timber Permit" forms). Where other assets such as logging and sawmill equipment are included, the sale price or book value of these should also be required, so that the value of the quota itself can be calculated. Quota prices can then be used to review stumpage prices.

13.5 ADJUSTMENT OF STUMPAGE PRICES

Stumpage prices need to be adjusted from time to time to reflect changes in the underlying stumpage values. Stumpage values will vary in response to changes in forest product prices and in response to changes in logging, hauling and processing costs. Since stumpage values are residually determined from forest product prices and costs they are very sensitive to changes in prices and costs. For example, a \$10/mfbm increase in lumber prices will lead to an equivalent dollar increase in the value of sawlogs and in stumpage values after conversion to the roundwood equivalent. This change in lumber price will be a

much larger percentage change in the derived stumpage value of the standing timber.

At a conversion factor of 5.66m³ (roundwood) to 1 Mfbm of lumber, a price increase of \$10/Mfbm would result in a \$1.77/m³ increase in stumpage values. In this example at a lumber price of, say \$200/Mfbm, the \$10/Mfbm is a 5% increase in lumber prices, but the resulting \$1.77/m³ increase in stumpage values is almost a 100% increase. The point is that stumpage values, which are residually determined, are, as a result, very sensitive to price or cost changes.

Market prices of lumber in particular change frequently --- daily, weekly and monthly -- in response to demand and supply, interest rates and construction cycles. Lumber prices fluctuate widely over construction cycles. Pulp and paper prices changes less frequently and vary less widely, but still significantly and reasonably often. Processing, hauling and logging costs change less frequently and more gradually, but they too can affect stumpage values.

In an ideal world, stumpage prices should be adjusted frequently and fully to changing prices and costs. However, in practice frequent calculation or estimation of stumpage values is impractical.

A periodic review of stumpage prices at 5-year intervals, combined with an annual adjustment based on product prices, as is now done by the Forest Branch, seems an appropriate and practical approach to setting and adjusting stumpage prices.

13.6 ANNUAL ADJUSTMENT OF STUMPAGE PRICES

Stumpage prices on timber cut on Crown forest lands outside the two Forest Management Licence agreements (Abitibi-Price and Manfor) are adjusted annually a revision to the Forest Regulations. (Schedule H in Forest Regulations 117/88R, June 16, 1988, Schedule C in the older Regulations F150-R1, October 1984, and Schedule A in the Forestry Branch Circular).

The annual revision is based on prices increase of lumber and paper using Statistics Canada Industry Selling Price Indices for each. An annual average for each index is calculated from monthly index figures covering the twelve months from August of the previous year to July of the current year. These twelve month averages for timber and paper are weighted by the volume of pulpwood and sawlogs harvested in the last year. This weighted index is then used to adjust forest dues upward or downward from those of the previous year using indices as reference points. The revised schedule of forest dues is approved, published and distributed to timber sale and quota holders. It comes into effect May 1st of the upcoming year.

The annual indexation of stumpage prices is a good idea. It is better and more acceptable to adjust stumpage prices annually for price increases and inflation than leave them unchanged for 5 years and then increase them substantially. A gradual increase is easier for the industry to accept and adjust to than to be faced with an infrequent but sizeable increase.

Annual adjustments also mean that Forest Branch revenues keep up with increases (or occasional decreases) in forest product prices. Without annual adjustment Forest Branch revenues would lag behind price increases until the next periodic review.

One problem of the annual adjustment of stumpage prices is that the adjustment will inevitably lag product price changes. For example, the latest revision to take effect from May 1, 1989 to April 30, 1990 is based on prices from August 1987 to July 1988, roughly 18 months prior to the dates at which the timber will be cut. This 18 month lag results from the time required to produce the basic price statistics by Statistics Canada, plus the time to make the calculation of stumpage price changes, review and approve changes, and to notify the industry and Department offices well before the date of implementation.

Quarterly, rather than annual adjustment would allow stumpage prices to be more current. Ontario for example indexes stumpage prices quarterly. However, even quarterly adjustment would still lag price changes, perhaps by three months or more. Quarterly adjustment would add complexity to the administration of stumpage prices, for both the Forestry Branch and the forest industry. Quarterly adjustment would result in quite small changes in stumpage prices. Quarterly adjustment is therefore not recommended.

13.7 PERIODIC REVIEW OF STUMPAGE PRICES

Annual adjustment of stumpage prices for changes in product prices will only crudely reflect the changes in stumpage values over time, so periodic review of the level and structure of Forest Dues is also required as well.

Periodic review should evaluate (a) changes in product prices; (b) changes in processing, hauling and logging costs; (c) estimate stumpage values; (d) review the structure of stumpage prices by species (softwoods and hardwoods and individual species) location (Forest Section) and other dimensions of the structure of stumpage prices.

The bonus bids paid on timber sales sold by sealed tender and the trend in successful bonus bids provides important information on stumpage values. This information should be used to review and adjust stumpage prices. It was recommended above that a proportion of timber sales should be put up for sealed tender bidding outside the quota system.

The prices paid for quotas themselves also provide useful information on stumpage values. Quota prices should also be reviewed in setting stumpage prices. It was recommended above that quota prices be recorded on transfer of quota.

13.8 STRUCTURE OF STUMPAGE PRICES

The Forestry Branch is in the business of growing and selling standing timber as one of its forest outputs. It is also producing a variety of other forest

products and services, wildlife, soil and water conservation, recreation, etc., but most of these are non-marketed outputs.

For the forest industry the Branch is producing standing timber. Stumpage prices charged should be based on the volumes of standing timber sold.

13.8.1 Recommendation -- Stumpage Prices Should not Distinguish Among End Uses. Stumpage prices should not distinguish between the end use of the wood. There should not be different prices for pulpwood and sawlogs. The industry should be left to choose the highest value use. The Forestry Branch should not influence this use by charging different stumpage prices.

13.8.2 Recommendation -- Stumpage Prices Should be Based on Wood Volumes. Stumpage prices should be based on roundwood volumes and normally on the processed wood volume. This will encourage utilization and recovery of products.

For many sawmills, the volume of timber is based on the lumber output rather than the roundwood input. This perhaps facilitates control of the small sawmill, but provides no incentive to improved lumber recovery and better utilization. It also involves the Branch and field personnel in policing and enforcing utilization standards of sawmills. This is not an efficient use of personnel or time. The Forestry Branch should shift to scaling roundwood and levying stumpage prices on roundwood wherever administratively possible.

Ideally, the Branch should levy stumpage prices on the standing timber

rather than the roundwood cut, since standing timber is what the Branch is producing and selling. This would require timber sales to be based on the cruised timber volume.

There are advantages to timber sale based on the cruised volume. It would leave industry to harvest all the utilizable timber resulting in greater utilization, cleaner clear-cuts, and free the Branch and field personnel from regulatory activities to pursue forest management, renewal, or more intensive forestry, and thus increase allowable cuts and financial returns from forestry.

14. FOREST RENEWAL CHARGE

14.1 INTRODUCTION

The proposed Manitoba Forest Renewal Charge represents a significant step in sustained yield forestry in Manitoba. The charge would finance the increased level of forest renewal required to maintain the current harvest and allowable cut of Forest Management Units.

14.2 BENEFITS OF RENEWAL

The potential benefits are in maintaining or enhancing the annual allowable cut. The primary beneficiary would be the forest industry. The forest industry is interested in a continued wood supply. Forest renewal enables the annual allowable cut to be maintained. Without renewal the AAC would have to be reduced to reflect the smaller area of productive forests, longer regeneration period and reduced growth. Quota holders have an added stake in forest renewal. Their quotas are for a share of the annual allowable cut of each Forest Management Unit. If allowable cuts are reduced, quota volumes will be correspondingly cut, and along with that the value of the quotas held.

Other forest users and uses may benefit from forest renewal but not so directly. Recreation uses, wildlife, water conservation, etc. benefit from the maintenance of forest land but it matters less for these uses whether the regeneration period is long or short, and they get no benefit from an increased annual allowable cut. So the major and primary beneficiaries of forest renewal are the forest industries and quota holders.

14.3 FINANCING RENEWAL

If the level of forest renewal achieved under the five-year Canada-Manitoba Forestry Agreement is to be maintained beyond its termination, March 31, 1989, then the beneficiaries of the renewal program will have to contribute to reforestation. Increased forest renewal and increases in other forestry expenditures are not likely to be funded out of government general revenue. The proposed Forest Renewal Charge is therefore a reasonable way to finance forest renewal and to maintain or increase forestry production in the future.

14.4 THE PROPOSED FOREST RENEWAL CHARGE

The Forest Renewal Charge is an appropriate vehicle for financing forest renewal of cut-over areas outside Forest Management Licences. The FMLs have their own renewal arrangements and renewal charges.

14.4.1 Volume Harvested as the Base for the Renewal Charge. Basing the renewal charge on the volume of wood harvested is a fair and equitable way of allocating the charge among the beneficiaries, the forest industry and quota holders. However, some other alternatives examined below, offer improvements or advantages.

14.4.2 Establishing the Base Level of the Renewal Charge. Setting the level of the renewal charge based on an average of forest renewal expenditures incurred in the previous five-year period is a reasonable and justifiable way of setting the renewal charge to reflect renewal costs. Yet this will not quite ensure full coverage of renewal costs by beneficiaries. Since the five year average of renewal costs will be 2 1/2 years behind inflation. It may take another year to establish costs for the last year of the five-year period, make the calculations, set the renewal rate and implement it. Thus the five-year average cost experience will lag about 3 1/2 years behind inflation and current cost levels. At a cost inflation rate of 5 percent per year this would put the renewal charge about 18 percent behind the level of current renewal costs. The forest industry and quota holders would bear 82 percent of renewal costs, the government 18 percent from general revenue. At higher cost inflation rates industry's share would be lower, government's higher. At lower inflation rates industry's share would be larger, government's lower.

One way to overcome this would be to bring the five-year average cost base forward to current renewal cost levels, using a cost or price index. An obvious candidate is the Manitoba Forest Product Price Index which is already used to adjust stumpage prices annually, and is proposed for annual adjustment of the renewal charge.

14.4.3 Annual Adjustment of the Renewal Charge. Annual adjustment of the renewal charge between revisions is appropriate. Without annual adjustment the renewal charge will fall further

behind actual renewal costs, year by year, until the next five-year revision.

Annual adjustment should be simple. For this reason the proposed use of the Manitoba Forest Product Price Index, already used to adjust stumpage prices seems appropriate. Annual adjustment based on actual renewal costs would be more accurate, but more complex. Any deviations from actual cost inflation can be corrected by the five-year review of the charge and revision in its level.

14.4.4 Periodic Review. Review of the forest renewal charge is appropriate for several reasons:

1. Periodic review allows adjustment in the base charge to reflect actual renewal costs experienced in the latest five-year period. The annual adjustment of the charge by a price index will only approximate cost trends so periodic review and re-alignment is required.
2. With periodic review the renewal charge can reflect changes in renewal policy, activities, methods and technology. For example, with changes in utilization and a shift to more intensive forestry more volume, will likely be harvested per hectare. A lower renewal charge per cubic metre would be required to finance renewal of each hectare harvested. On the other hand, more intensive forest renewal would have the opposite effect and require a higher renewal charge per cubic meter. Periodic review of the renewal charge would recognize and incorporate such changes.
3. Periodic review of the renewal charge allows either formal or informal review of renewal activities, the

efficiency of activities and effectiveness of the results. Periodic review could also allow industry input into the renewal charge. This might be done by formal or informal hearings or by other means.

Periodic review of the annual renewal charge at five-year intervals seems appropriate. A longer interval would be less of an administrative burden, but a ten-year interval is probably too long. In spite of annual indexation of the renewal charge too much change in costs, renewal technology, etc. can take place over a decade.

14.5 RENEWAL CHARGE -- CONSIDERATIONS, ALTERNATIVES AND RECOMMENDATIONS

The proposed renewal charge represents an important step in financing and implementing more intensive forestry in Manitoba. The proposed charge is well structured and designed.

The alternatives proposed represent refinements to a basically solid proposal. Nevertheless, they offer potential improvements and warrant consideration.

14.5.1 An Area Based Component to the Renewal Charge. Renewal costs are more directly related to the area logged than to the volume harvested from the area. An obvious alternative is a renewal charge based (a) on the area of the timber sale or permit, or (b) on the area logged. Such a charge should be relatively easy to administer. To facilitate administration the charge could be based on the total area of the Timber Sale or Timber Permit. For Timber Sales longer than one-year, the annual renewal charge could be levied on a proportion of the area, for example

for a five-year timber sale, an annual area charge would be paid on one-fifth of the area.

An area based renewal charge would have the advantage of encouraging better utilization than a volume based charge. A volume based renewal charge would raise the per cubic metre price paid for timber and this would discourage harvesting of marginal timber. An area based charge has no such disincentive effect. In fact, an area based charge can encourage greater recovery from each hectare.

An alternative way of financing forest renewal might be a combined area and volume charge, "a two-part charge" on timber harvested: (a) an area based charge paid irrespective of the timber cut, and (b) a volume based charge at a lower rate per cubic metre. By combining both charges equal revenue can be raised but with a lower volume based charge per cubic meter, with less disincentive effect on utilization.

14.5.2 Recommendation: A Combined Area and Volume Based Renewal Charge. It is recommended that the proposed renewal charge be split into two components: (a) an area based component based on the area of the Timber Sale or Permit, levied annually at the start of the harvest year, and (b) a volume base charge on the timber cut.

14.6 FOREST RENEWAL FUND

The proposed Forest Renewal Charge would likely be more acceptable to the forest industry and quota holders if revenues from the renewal charge were paid into a Forest Renewal Fund and earmarked for forest renewal. Specified renewal expenditures for nursery, site preparation, planting, certain natural regeneration techniques, and certain silvicultural activities would then be financed from the fund.

However, the Province may be reluctant to see revenues from the renewal charge go into a special fund rather than into general revenue.

Public finance and taxation specialists generally do not favour "earmarking" of taxes to specific purposes. Earmarking can result in missallocation of funds. Activities funded by rich revenue sources easily become "overfunded", while activities funded by poor revenue sources languish.

On the other hand, public finance and taxation specialists favour "benefit taxes" and "user charges" where beneficiaries of taxes and charges can be easily identified, payments and benefits received can be readily connected, and redistributive objectives are not involved. These seem to be applicable to the proposed forest renewal charge.

A forest renewal fund would facilitate planning and scheduling renewal programs and expenditures on nurseries, growing nursery stock, site preparation and planting activities. Renewal activities require a two-four year planning horizon and do not easily fit the annual government budgeting and appropriation cycle.

If a forest renewal fund is not established, an alternative would be an accounting system to record revenues from the renewal charge and costs incurred in the renewal program. Forest renewal revenues and renewal costs can be compared over time. Such an accounting of revenues and costs would be required for the five-year periodic review of the renewal charge in any case, both to justify the level of the current renewal charge to the forest industry and to set the level for the next five-year period.

14.6.1 Recommendation -- A Forest Renewal Fund. Establishment of a Forest Renewal Fund is recommended. It would make implementation of the proposed renewal charge more acceptable to the forest industry and quota holders. It is appropriate if the renewal charge is viewed as a "user charge" or "benefit tax" as benefit and payments are closely linked. It would facilitate the planning and budgeting of renewal activities.

14.6.2 Recommendation - Renewal Program Accounting. A program accounting system of revenues from the renewal charge, and of renewal expenditures is recommended as well. This would facilitate program expenditure planning and control, the five-year review of the forest renewal charge and adjusting the level of the charge, as well as justification for and acceptance of the renewal charge by the forest industry.

14.7 AN INDUSTRY FOREST RENEWAL OPTION

Alberta has a renewal program in which quota holders have the option of either: (a) reforesting cut-over areas themselves, or (b) paying a reforestation fee to the Crown, in which case reforestation is carried out by the Alberta Forest Services. In Alberta, holders of Forest Management Agreements and the larger quota holders are obliged to reforest. They have no option.

The option of paying the renewal charge or reforesting themselves reportedly works well and is well accepted in Alberta. It means that if the logging operator feels the renewal charge is too high, or thinks he can reforest the area more cheaply or more efficiently than the government, he can undertake reforestation. Thus complaints about the level of the renewal charge or any so-called "inefficiency" of government can be deflected by the answer -- "If you can do it cheaper or better, then you do it!"

This alternative would encourage the forest industry and quota holders to take responsibility for and undertake reforestation. The industry would gradually gain experience and competence in reforestation. They would also appreciate and become more involved in forest management, and perhaps better appreciate the activities and problems of the Forest Branch.

Those forest industry operators who choose to undertake renewal rather than pay the renewal charge, will soon begin to think more in terms of harvesting and reforestation as an integrated operation. They will carry out logging so as to

facilitate renewal and reduce renewal costs.

A potential problem of this option is that the industry might choose to reforest the easy areas, leaving the Forestry Branch to do the more difficult, expensive areas. This problem could be minimised by requiring operators to make the decision on an annual basis or for each timber sale. This would minimize the chance of the Forest Branch being left with only the "high cost area" to reforest.

If operators have the option of doing reforestation themselves the financial arrangements to ensure successful survival need to be specified carefully. To ensure the commitment to successful regeneration it is suggested that operators initially pay the regeneration charge. After reforestation is completed the operator would be refunded a proportion of the regeneration charge - perhaps one-half or whatever is reasonable. The remainder of the renewal charge, plus interest, would be refunded once survival is assured, after five or seven years. Payment of interest on the portion of the refund retained is appropriate, otherwise the incentive for operators to undertake regeneration is diluted.

14.7.1 Recommendation -- Include a "Pay the Renewal Charge or Reforest Yourself" Option. It is recommended that the proposed Forest Renewal Charge allow forest operators and quota holders the option of reforesting their own cut-over areas. This offers advantages. It encourages operators to become involved in renewal activities, to integrate reforestation with their logging operations, and to discover for themselves the techniques and challenges

of reforestation and of achieving successful establishment. The availability of this option would also help to deflect any criticism of Forest Branch reforestation activities or of the level of the Forest Renewal Charge. The response can be: "If the Forestry Renewal Charge is too high, then reforest yourself if you can do it cheaper."

It is recommended that operators who reforest area themselves be refunded a percentage of the renewal charge upon completion of the activity, and the remainder (with accrued interest) upon successful establishment.

15. OTHER FEES AND CHARGES

15.1 ADMINISTRATIVE FEES

There are a variety of other fees and charges in addition to the Forest Dues (Stumpage Prices) on the sale of standing timber.

They are listed in Schedules D, E, F, G and H of the Forest Regulations (Manitoba Regulation 227/88R) and reproduced below. The Forestry Branch's review, revision and reorganization of the Forest Act and Forest Regulations has proposed upward revision to the fees and charges in these schedules plus a few amendments or additions. The proposed revisions to the existing fees and charges are shown on the right.

The proposed revisions in the Forest Act and Regulations Review include one or two further proposed amendments to the schedules and add one or two fees or categories that are not shown above.

In evaluating these other fees and charges there are three considerations: (1) the range of fees and charges (2) their level and (3) the mechanism of adjustment for cost increases and inflation.

15.1.1 The Range of Fees and Charges. The types of fees and charges appear generally appropriate. However, the objective should be to keep the number of fees and charges to a necessary minimum for simplicity of administration and ease of understanding by the forest industry.

15.1.2 The Level of Fees and Charges. Fees and charges which involve the sale or provision of goods and services should

in principle reflect or approximate the value of the goods or services provided.

Examples of the sale or provision of goods or services would include: Christmas Tree Dues, Grazing Dues, Hay Cutting Dues, and an Annual Fire Guarding Assessment if it were implemented.

Where, for equity or other reasons, the Department does not want to collect the full value of the goods or service, then fees and charges can be set to reflect a proportion of their value. But in setting these fees and charges the decision and the reasoning should be explicit.

Fees and charges which involve a licence or permission ideally should reflect the direct costs of administration involved in their insurance. They need not cover administrative overhead that would occur in any case. If this would mean licence fees or charges which would be too high, then the fees or charges might be set to reflect only a portion of the direct costs. To balance this, other fees and charges might be raised to cover more than the direct costs and to make some contribution to overhead costs.

15.1.3 Annual or Periodic Adjustment of Fees and Charges. Without adjustment, fees and charges will become more and more out of date in the face of general inflation and increased administrative costs. Adjustment by revision of the Forest Regulations is awkward, burdensome, and takes valuable time of senior officials cabinet and the Legislature. It is recommended that the authority to adjust fees and charges on an annual or periodic basis be delegated

to the Minister. Periodic review at five year intervals is recommended. Annual adjustment would not likely be worth the time and effort just to achieve more current fee levels. Instead five year adjustment can set fees and charges in anticipation of future inflation to the mid-point of the interval.

15.2 ALTERNATIVE FEES

The Forest Act and Forest Regulations make provision for an Annual Ground Rental of FML's and an annual Fire Guarding Assessment on FML's. Neither has been implemented. These charges are discussed in the earlier chapter on Forest Management Licences.

15.2.1 Annual Ground Rental. An area based annual ground rental on FML's has merits both for forest management and as a revenue source. It could serve to reflect the security of timber supply benefits provided by the FML agreement. It would allow some revenue trade-off with stumpage prices. If part of the stumpage value were collected by means of an annual area based ground rental, stumpage prices on timber cut could be lowered. Lower stumpage prices could then encourage improved utilization of marginal timber.

An area based charge is recommended in the chapter on Forest Management Licences. It warrants consideration.

15.2.2 Annual Rental on Timber Sales. A similar type of charge on timber sales is recommended in the chapters on timber sales and quotas.

An area base annual ground rental of timber sales would be preferable.

However, since timber sales are usually on a volume basis within a defined geographical area the fixed annual charge might instead be based on the annual allowable cut of the timber sale. Again, this has advantages of collecting part of the stumpage value as a fixed charge and allowing a lower stumpage price on timber harvested.

15.2.3 Forest Protection Charge.

Although it is provided for in The Act and Regulations, the Annual Fire Guarding assessment of FML's has not been implemented. Such a forest protection charge is discussed and recommended in the chapter on Forest Management Licences. It also should be given serious consideration.

The FML holder receives considerable benefit from fire, insect and disease protection provided by the Department. With a shift to more intensive forestry and expenditures on forest renewal, increase protection will be justified and FML holders are likely to press for increased protection. However, given budget concerns, the government is unlikely to increase forest protection expenditures without some contribution from or cost sharing by the forest industry. A forest protection charge could be an appropriate way to do so.

An annual forest protection charge could also be levied on timber sales. It could be based on either the area of the Timber Sale or on the annual allowable cut of the Sale.

15.2.4 Quota Fees. An annual Quota fee is an alternative explored in the chapter on quotas. The pros and cons and alternatives are discussed there.

	Forest Regulations		Proposed Changes Forest Act & Regulations Review, 1987
SCHEDULE E			
1. Fees & other charges:			
(a) Timber Permit Fee	\$ 5.00	(a)	\$ 5.00
(b) Timber Sale Operating Permit Fee	\$10.00	(b)	\$25.00
(c) Assignment Fee, where approved by the Minister, for:			
i) Forest Management Licences per square kilometre	\$ 0.40	(c) i)	\$ 0.50/sq km
ii) Timber Sale Agreements	\$30.00	(c) ii)	\$25.00
iii) Timber Permits:	\$10.00	(c) iii)	\$ 5.00
(d) Timber Scaler's Licence Fee	\$20.00	(d)	\$15.00
(e) Grazing Permit Fee:	\$15.00	(e)	\$20.00
(f) Hay Cutting Permit Fee:	\$15.00	(f)	\$20.00
(g) Fee for Registration of Timber Mark & Brand:	\$ 5.00	(g)	\$ 5.00
(h) Sawmill and Lumber Planer Licence Fee:	\$15.00	(h)	\$10.00/year
(i) Timber Dealer's Licence Fee	\$15.00	(i)	\$10.00/year
(j) Sub Contractor Operating Permit Fee	-	(j)	\$10.00/year
2. Annual Ground Rental: Forest Management Licences --			as may be set by the Minister from time to time.
3. Annual Fire Guarding Assessment: Forest Management Licences --			as may be set by the Minister from time to time.

SCHEDULE F

Timber Sale Application Fees

<u>Volume of Timber</u>	<u>Application Fee</u>
Up to and including 500 m ³ or equivalent	\$ 25.00
Over 500 m ³ and up to and including 5,000 m ³ or equivalent	\$ 50.00
Over 5,000 m ³ and up to and including 25,000 m ³ or equivalent	\$ 100.00
Over 25,000 m ³ and up to and including 50,000 m ³ or equivalent	\$ 500.00
Over 50,000 m ³ or equivalent	\$1,000.00
In excess of 50,000 m ³ or equivalent	at the rate of \$100.00 per 5,000 m ³ or equivalent

SCHEDULE G

Timber Sale Guarantee Deposit

Timber Dues payable on the
Annual Allowance Cut at the
Upset Price

	<u>Amount of Guarantee Deposit</u>
On the first \$ 3,000.00	20.0 percent
On the next \$10,000.00	10.0 percent
On the next \$20,000.00	5.0 percent
On the next \$40,000.00	2.5 percent
In excess of \$73,000.00	1.25 percent

SCHEDULE H

- A. Dues per cubic meter of roundwood
(Stumpage Prices discussed above)
- B. Dues for Christmas Trees, not exceeding 3 metres in height
- 1) for own use, each \$2.00
 - 2) for resale, each \$0.50

SCHEDULE D

Proposed Changes Forest
Act and Regulations
Review, 1987

- | | | |
|--|--------|---------------|
| 1. Waste of Merchantable Timber: | | |
| (a) Exceeding the maximum allowed stump height: \$1.00 per stump plus expenses; | 1. (a) | \$ 2.00/stump |
| (b) Exceeding the minimum diameter specified: \$1.00 per top plus expenses; | (b) | \$ 2.00/stump |
| (c) Exceeding the maximum allowed trim allowance: \$1.00 per log plus expenses | (c) | \$ 2.00/log |
| 2. Grazing and Hay Cutting Dues and Penalties: | | |
| (a) Grazing cattle dues: \$3.13 per month per head of cattle grazed; | 2. (a) | \$10.00/month |
| (b) Grazing cattle dues without authority or exceeding the authorized period: \$6.00 per month or part thereof per head of cattle grazed plus expenses | (b) | \$25.00/month |
| (c) Grazing livestock other than cattle: \$6.00 per month or part thereof of livestock grazed plus expenses; | (c) | \$10.00/month |
| (d) Hay cutting dues: \$5.85 per tonne | (d) | \$10.00/tonne |