Native Forests
Resources Task Force

Interim Report
(User Survey)
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Native Forest Resources Task Force

Interim Report

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## CONTENTS

1. Introduction .................................................. 1
2. Objectives of Resources Branch .......................... 1
3. Services Currently Provided ............................... 3
4. Adequacy of Present Service ............................... 3
   4.1 General Impressions .................................... 3
   4.2 Specific Shortcomings .................................. 4
5. Future Requirements ......................................... 5
   5.1 Resource Description .................................. 5
   5.2 Resource Forecasting ................................... 7
   5.3 Communication and Consulting ......................... 8
   5.4 Analysis and Reporting ................................ 8
   5.5 Industry Requirements ................................ 9
6. Conclusion .................................................... 10
1. Introduction

The Native Forest Resources Task Force was constituted in February 1986 to review the functions of the Native Forest Section of Resources Branch and to recommend procedures to improve the efficiency of Departmental yield regulation and resource inventory activities. The final report of the Task Force is to be presented in December 1986.

This interim report is presented in part fulfillment of the formal terms of reference of the Task Force (see Appendix), and in accordance with Recommendation 17 of the recent Internal Operational Audit Service (IOAS) review of Resources Branch activities viz.

The Department undertake a user survey to

a. determine the adequacy of the product currently produced by the Native Timber Section,

b. define the product required of that Section in the future.

This report is intended to promote discussion on current staff perceptions of native forest resource matters, and to provide feedback to the Task Force. It was compiled following interviews with a cross section of staff from all Districts and selected Branches in Head Office during the period March to June 1986. Transcripts of all interviews are given in the Appendix. Views of a number of hardwood, scrubwood and cypress sawmillers were also obtained.

2. Objectives of Resources Branch

It is useful to compare current staff perceptions of the role and activities of Resources Branch with stated objectives of the Branch and of the Department.

Section 33 of the Forestry Act sets out the cardinal principal of forest management as

"...the permanent reservation of such areas for the purpose of producing timber and associated products in perpetuity..."

In order to satisfy this objective, it is necessary to have information concerning the extent of the available resource, its net growth and the impact of management decisions.

The responsibility for providing this information lies largely with Resources Branch, as clearly indicated in its
stated objectives:

- Determine the timber resource within the State available for harvesting.
- Provide an efficient, accurate and responsive service to the Department and to Industry providing resource information and yield predictions.
- Evaluate the impact of management alternatives on timber availability.
- Evaluate the capacity of all forested Crown lands to provide goods, services and values for community requirements, and to regularly update this information.
- Evaluate the productive capacity of forested private lands.
- Develop and maintain data collection, management and processing systems for resource information.

Field staff require detailed resource information for both short and long term management decisions, including:

- Sale planning and preparation;
- Development of five year logging plans;
- Marketing of minor forest and non-timber products;
- Development of silvicultural treatment programmes;
- Development of protection strategies;
- Establishment and maintenance of infrastructure;
- Coordination of public activities (eg. apiary sites, recreation).

A broader overview of the resource is required for the development of policy and coordination of activities encompassing:

- Regional allocation of the available harvest to ensure a stable and viable industry;
- Control of the processing capacity of sawmills under the Sawmills Licensing Act;
- Advice to other Government authorities on matters concerning the forest estate;
- Preparation of forest management prescriptions and guidelines.
3. Services Currently Provided

The major role of the Section is the provision of five-yearly mill log and pole allocations on a zonal basis.

Other information and services provided during the last few years have included:

- Estimates of the standing volume and yield on individual State Forests and State Forest groups for Management Plans;
- Technical assistance in processing field data for occasional District surveys;
- Resource information in response to Ministerial enquiries and for State and National planning authorities; and
- Evaluation of impact of silvicultural and management decisions on allocations.

4. Adequacy of Present Service

Departmental staff were requested to indicate whether they were satisfied with information and services provided by the Native Forest Resources Section.

A synthesis of these comments is presented below. Complete consensus was not necessarily obtained on any of these topics.

4.1 General Impressions

A great deal of uncertainty exists concerning the nature of information which Resources Branch is able to supply to Districts and other Branches, and its role is not clear to the majority of potential users.

It is generally perceived that the Section is responsible only for the determination of allocations, that the Section provides virtually no assistance with forest management decisions, and that it is a district responsibility to find the required cut in the field.

Although allocations are generally considered to be "of about the right order", many respondents were sceptical of native forest resource estimates. Some staff are of the opinion that where estimates are imprecise, allocations should be deliberately conservative.
Information provided by the Section is too broad to be useful for any purpose other than long term strategic planning. It is often not readily understood and poorly presented.

The Section usually takes what appears to be an inordinately long time to respond to requests for information or assistance, particularly when compared with the prompt service given to conversion of tenure actions.

Contact between Resources Branch and other Departmental staff has been limited. Better communication is needed with present and potential users of resource information.

4.2 Specific Shortcomings

Many people have little faith in Resources information. This arises for a variety of reasons:

- Area estimates are imprecise, and assessment of productivity and accessibility is often too subjective;

- Some FIS work was performed by inexperienced teams, introducing the potential for errors in species identification and defect assessment;

- Yield predictions over 3 cutting cycles (up to 100 years) places undue emphasis on the long term situation, and does not take adequate account of the short term supply.

- Current methods of yield regulation do not allow forecasts to be checked against the actual yields in the short term;

- The methodology and assumptions used to prepare yield estimates are not documented in a generally available form, and are not understood outside the Section;

- The use of a nominal fixed cutting cycle length for all stands within a forest type fails to recognise variations in site quality and stand condition;

- It is felt that growth predictions rely on insufficient and sometimes unrepresentative data (Detailed Yield Plots);

- Findings are generally provided without any supporting documentation;
There have been occasions when the sustained yield estimate has been substantially reduced following new calculations.

5. Future Requirements

The principal requirement is that any resource assessment and prediction systems must be efficient in terms of cost and manpower. Any proposed systems should not exceed the present level of expenditure, and should make efficient use of existing staff.

To alleviate the deficiencies in existing services outlined above, a number of requirements were identified, in four broad areas.

5.1 Resource Description

5.1.1 Productive Area

Area determination is a fundamental component of resource estimates and forecasts, and is considered the weakest component in present yield estimates. There is an urgent need to develop a reliable system for determining areas of productive and non-productive forest types.

A standard forest typing system (species association, productivity, etc) should be developed, and accurate forest type maps made available. This will assist identification of productive forested areas.

Remote sensing techniques (satellite and aerial; digital and photographic) should be investigated as potentially efficient methods determining areas by broad forest types and monitoring changes to the forest estate.

5.1.2 Data Collection

All resource data should be collected and recorded in a manner which ensures greatest utility. This can be achieved by combining data from small areas to provide useful information for a variety of purposes and at several scales (State Forest, allocation zone, region).

Information produced by Resources Branch should be reliable at the State Forest level and above (3000 ha or greater). The detail required is commensurate with productivity of the area in question.
An efficient costing system should be instituted to allow the Section to monitor costs of aspects of inventory and resource prediction.

Wherever possible, resource assessment should be carried out on an on-going basis by local staff familiar with the area. This should ensure that data is collected in a cost efficient manner, and is more reliable particularly with regard to merchantability (eg. duds).

Resources Branch should coordinate data collection activities and ensure uniform standards, that costs are commensurate with benefits, and that existing data is fully utilized.

5.1.3 Database

Resources Branch should implement and maintain a efficient central database of all current resource information. At present, these data are stored and accessed in an ad hoc manner.

A catalogue of available data should be maintained, and copies should be regularly provided to users.

All resource data should be included in the database, entries must be accurate and complete, and contents should be generally available.

5.1.4 Non-sawlog Information

Resource information is required on round timbers (eg. poles, girders), sleepers, woodchips, speciality products (eg. sandalwood), etc. In any inventory, all potentially useful data should be recorded (eg. potential pole forest, round timber forest, quarry products).

Sketches showing forest type, species composition, commercial properties of the stand, and management details should also be produced.

The Department also requires information on descriptive and non-commercial aspects of the total forest estate, including:

- species diversity
- topography (slope, aspect, etc)
- geology (soil type, etc)
- landscape and recreation values.
5.1.5 Data on Lands Other than State Forest

Resource information for other Crown lands and freehold (including existing resource and owner’s intention) should be collated to indicate the potential supply of the non-crown timber products.

5.2 Resource Forecasting

5.2.1 Management Information

Forecasts should provide better information for operational planning, including:

- anticipated yields per hectare,
- estimates of average stem volume,
- anticipated log quality, and
- likely species composition.

Methodology should allow cutting cycle lengths to be varied and predictions to be based on shorter time intervals.

5.2.2 Validation

The present yield regulation system fails to provide any facility for checking the validity of calculations. Forecasts should be able to be compared with actual yields over realistic periods (e.g. several years).

5.2.3 Impact of Silvicultural Practices

The impact of existing and proposed management options (silvicultural treatment, treemarking rules, etc.) on the short and long term availability of forest products should be able to be evaluated.

5.2.4 Sale Area Locations

Costs involved in locating suitable sale areas could be reduced if resource information was more fully utilized. The Section should, where possible, provide harvest planning information indicating potential sale area locations to Districts. However, the actual location and establishment of sales must remain a district responsibility.

5.2.5 Long Term Logging Plans

Whilst all districts were satisfied with their short term logging strategies, several districts were unsure of their longer term programme (beyond five years). Assistance in forecasting the long term logging program would be welcomed.
5.2.6 Log Pricing

Revisions to the pricing system are compared with the previous system using historical data from the log store to ensure that revenues are comparable. An alternative, given adequately detailed information, is to use forecasts to balance new pricing systems.

5.3 Communication and Consulting

5.3.1 District Involvement

Districts were generally unsure of their requirements of the Section, as most have had little contact with the Section in the past. Their experience has been that the Section provides virtually no assistance with forest management decisions.

Most Districts are willing to contribute to any improvement of resource systems. Many were prepared to dedicate staff to conduct additional field assessment during quiet periods (eg. Christmas sawmill shutdown, wet season).

The efficiency of the Section would be improved by better communication and greater field involvement by Section staff. This would assist in anticipating and solving problems.

5.3.2 Technical Consulting

The Section is occasionally requested to advise districts on assessment techniques and resource estimation. The Section should provide more information and assistance in this regard.

5.3.3 Publications

Additional information concerning all aspects of yield estimates and predictions is required by Departmental officers and the Public. At present, yield predictions are reported on Departmental files only, with little supporting documentation.

5.4 Analysis and Reporting
5.4.1 Management Plans

Departmental management plans currently being prepared include details of existing resources and yield forecasts. Collation of this information on an ad hoc basis results in considerable inefficiency.

Resource information requirements for management plans should be resolved. A standard reporting format should be identified to enable computer software to be prepared.

5.4.2 Local Processing

There is some demand for limited local processing capacity, mainly for growth and harvesting models to be implemented on Subdistrict microcomputers to allow investigation into management options. Providing these facilities on existing Subdistrict IBM PCs requires only the development of suitable software. Reduction in the Section workload, an

5.4.3 Completion Reports

The current completion reports are inadequate. A more comprehensive report should be implemented to provide useful technical information for future operations, including a description of the residual stand and give details of logging (accessibility, quality, etc).

5.4.4 Sawmill Licensing

There is a need to monitor the capacity and spatial distribution of the State's licensed sawmills, and to relate this to the available resource.

5.5 Industry Requirements

Sawmilling representatives have indicated that their principal concern was to receive early advice of any changes in the nature of their entitlement. Sawmillers adopt a ten year planning horizon consistent with the anticipated life of sawmill equipment. Sawmillers thus seek the earliest possible advice of any significant changes in log size, species mix, log characteristics, yields per hectare or volume entitlement during the next ten years.
6. Conclusion

As a result of the survey of Head Office, District and Industry representatives the following recommendations are foreshadowed:

1. The Native Forest Resources Section should continue to perform all necessary calculations to determine the allowable cut on an allocation zone basis at five yearly intervals.

2. All existing information should be utilized as fully as possible (5.1.2).

3. All resource data collected should provide accurate and reliable information at the State Forest level (5.1.2).

4. Wherever possible data gathering should be carried out on an on-going basis by local staff familiar with the area (5.1.2).

5. The section should maintain a centralized database of resource information (5.1.3).

   All entries in the database should be catalogued, and made available to all Sub-districts and Divisions. The section should ensure an efficient and reliable service in the provision of processed and summarized data.

6. In order to maintain uniform standards, the Section should establish standards for, and supervise collection of all data to be included in the centralized database (5.1.2).

   This supervision is not to inhibit district surveys for strictly one-off short-term local purposes.

7. The Section should endeavour to supply on demand estimates of log parameters for the ensuing ten year period, including (5.2.1):

   - Yield per hectare
   - Average stem volume
   - Estimates of log quality
   - Estimates of species composition

8. A standard forest typing system should be developed and accurate forest type maps made available (5.1.1).

9. The Section should offer district staff harvest planning information for the ensuing few decades (5.2.4, 5.2.5).
Districts will continue to be responsible for sale preparation.

10. Industry should receive at least ten years notice of any major changes in the nature of the log supply (5.5).

11. Development of growth models for native forests should be given a high priority. These models should be generally available, and should allow the evaluation of the impact of current and proposed treemarking rules and other silvicultural practices on future yields (5.4.2).

12. The Section should conduct a review of the capacity and spatial distribution of the State’s licensed sawmills and relate these to the existing resource (5.4.4).

13. The Section, in conjunction with the Division of Forest Management (Operations) should develop a new completion report format to provide suitable data to augment information systems upon completion of logging operations (5.4.3).

14. The Section should undertake a broad review of timber resources on all lands (including freehold) for which no resource information is currently available (5.1.5).

15. The freeholding system, including field assessment, surveying and data processing aspects, should be reviewed and revised to provide a more efficient service.