

WEST RFA PORTLAND FMA

Timber Resource Analysis

This report summarises the Timber Resource Availability analysis (TRA) for Portland Forest Management Area (FMA), which has been undertaken as part of the West RFA.

Note that the figures presented here are based on a combination of interim SFRI data and include very general estimates of growth rates for this mixed species forest type. SFRI assessments and modelling are not complete for this area.

These results are indicative only and are not to be interpreted as a change in the sustainable yield rate. The sustainable yield rate will be determined once the RFA is finalised and full SFRI data are available, and will be based on modelling which will incorporate significantly more detail than has been possible in this process.

1. Current Commitments

The current legislated sustainable yield rate for Portland FMA is 14,000 m³/year D+ net sawlog. Current licence commitments are 13,950 m³/year D+ net sawlog.

2. Methodology

Revised resource information is available as part of the SFRI project covering the productive blocks of Portland FMA. A more detailed description of productive forest is now available and replaces the previous 1984 assessment.

Use of GIS based SFRI data provides a standard basis of comparison for this analysis. Spatial data are required to determine the impact of the draft CAR reserve design.

Three productive forest types have been identified based on species composition and stand height.

Forest type	% Messmate	Height	Notes
FMS1	> 75%	> 18m	
FMS2	50-75%	> 18m	
FMS3	25-50%	> 20m	18-20m if dominant regrowth
Unproductive		< 18m	<20m FMS3 unless dominant regrowth

This Timber Resource Availability analyses is based on area statements derived from SFRI data, net of 1996 Code of Forest Practices exclusions. Stream buffering for Code exclusions was identified from NRE Corporate Library streams data (to identify permanent watercourses), and land systems data (to identify areas of high erosion risk).

Permanent streams were buffered 20m and minor streams in areas of high erosion risk are buffered 10 m. All swamps, as identified in the GIS layer, were buffered 20 m.

The resultant available net productive area is 27,500 ha. Isolated small productive areas in Moleside, Weecurra and Cavendish blocks have not been included in this total.

This compares with a net productive area of 28,348 ha from the 1984 assessment, of which 27,188 ha was considered available.

3. Assumptions for Timber Resource Analysis

a) Average Periodic Annual Increment

An average Periodic Annual Increment (PAI) of 0.5 m³/ha/year has been assumed for this analysis. This is considered to be appropriate as

- In the absence of new growth data, this rate is consistent with previous assessments and with a diameter increment of 0.5 cm/year. An average growth rate of 0.5 cm/year is not unreasonable for this forest type and is consistent with previous studies of short term increment and with growth rates in other low productivity forests.
- The best increment from MESSIM modelling used previously was 1 m³/ha/year. This was based on the assumption that cull removal would be carried out in conjunction with all operations, with a maximum retained cull dbh of 15 cm. While cull removal is an important silvicultural operation required to restore degraded sites to full sawlog productivity, cull operations have not been undertaken at the intensity envisaged in 1984. Plots used in the MESSIM study tended to be located in better areas and were not treated in the manner of CFI plots.
- A value of 0.5 m³/ha/year is consistent with the current sustainable yield rate of 14,000 m³/year

b) Scaling of the average increment based on SFRI productive forest types

To take advantage of the productivity breakdown available from the SFRI data, the average PAI has been scaled as follows:

- FMS2 has an average growth rate (0.5 m³/ha/year)
- FMS3 has a lower growth rate (0.4 m³/ha/year)
- FMS1 has a higher growth rate (0.6 m³/ha/year).

Using SFRI data (species composition and stand height) gives a more detailed breakdown of the productive resource. It is appropriate to vary increment based on the assessment of productive forest types.

Applying the increment in this way provides a base which is consistent with the previous sustainable yield forecast.

4. Timber Resource Analysis methodology

Timber resource availability for the RFA has been determined by applying the relevant PAI for each forest type to the net available productive area.

A new base model was prepared using SFRI spatial data, with availability determined by Code of Forest Practices exclusions.

The impact of the draft CAR reserve design was determined by overlaying the draft CAR reserve design (incorporating Code exclusions) with the SFRI productive area to provide a revised estimate of net available productive area.

Timber Resource Analyses in other areas have included a minimum contingency allowance (to allow for factors not readily identified in the modelling process), plus an allowance for fire. Given the simplistic approach taken to TRA for Portland and the lack of updated growth and yield data, an allowance of at 15% is considered appropriate for this analysis.

5. Results

These results are based on an average PAI of 0.5 m³/ha/yr, adjusted for productivity strata (0.6, 0.5, 0.4 m³/ha/yr)

	FMS1	FMS2	FMS3	TOTAL
PAI (m³/ha/yr)	0.6	0.5	0.4	
Area (ha)	6,466	17,336	3,720	27,522
TRA (m³/year D+ net sawlog)	3,880	8,670	1,490	14,040

Note: Net available productive area (1984) was 27,188 ha
Current sustainable yield is 14,000 m³/yr

Applying a contingency allowance of 15% gives a base rate of 12,000 m³/year.

Application of the draft CAR reserve design will reduce the net available productive area by 19% from 27,520 ha to 22,260 ha.

	FMS1	FMS2	FMS3	TOTAL
PAI (m³/ha/yr)	0.6	0.5	0.4	
Area (ha)	5,467	13,903	2,893	22,263
TRA (m³/year D+ net sawlog)	3,280	6,950	1,160	11,390

Including the 15% contingency allowance produces the following results.

With 15% contingency	Base	12,000	m ³ /year
	Draft CAR reserve design	10,000	

These results indicate that, based on the current data, and incorporating the assumptions outlined above, the current licence commitments (13,950 m³/year) will not be able to be met. Using the current description of the forest, assuming that the growth rates apply, and incorporating Code of Forest Practices exclusions, the benchmark level for this area is 12,000 m³/year. Adoption of the draft CAR reserve system will reduce this volume by 17% (around 2,000 m³/year).

Note that these estimates assume that the lowest productivity (FMS3) stands are available for harvesting. The economic viability of these stands under prevailing market conditions should be taken into consideration when determining licence levels.

The results from these Timber Resource Analyses can only be considered indicative, although the range of key issues has been addressed in these analyses, utilising currently available data. Full growth and yield information from SFRI is not yet available.

A statewide review of sustainable yield is required in 2001 and will utilise SFRI based resource data wherever possible. This review will also incorporate regionally defined prescriptions and constraints, and will provide opportunity for community input.