



WEST COAST FOREST INDUSTRY AND WOOD AVAILABILITY FORECAST

2008



ACKNOWLEDGEMENTS

The wood availability forecast in this report has been compiled with the assistance of Timberlands West Coast Ltd and South Pacific Forest Holdings Ltd, and with advice from consultants. The West Coast regional information was written by John Novis with input from the local forest industry. Forest resource and statistical data, and peer review of the report, were provided by Bridget Geard, Doris Chan, Judith Dennis, Ian Platt, Geoff Cameron, Mike Candy and Paul Lane. Mike Plivelich prepared the map of the West Coast forest industry. Dr Jaap Jasperse and Janine Pollock provided editorial and publishing services.

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Cover photo taken on the West Coast by Ian Platt, Senior Forestry Adviser, Ministry of Agriculture and Forestry.

ENQUIRIES

Any enquiries regarding the content of this report should be directed to John Novis (tel: +64 3 943 1708 or email john.novis@maf.govt.nz).

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Ministry of Agriculture and Forestry

Pastoral House

25 The Terrace

P O Box 2526

Wellington

New Zealand

Tel: 64 4 894 0100

Fax: 64 4 894 0741

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1

INTRODUCTION

This report provides a new wood availability forecast to 2015 for the West Coast region. It has been prepared in co-operation with the two major forest owners in the region and with advice from prominent forestry consultants.

The report also provides information on the forest and wood processing industries in the region. Comments on the wood availability forecasts and on the opportunities and constraints facing the region's forest industry are included.

The information in this report is intended to assist the forest industry, planners, and infrastructure and service providers in assessing wood processing opportunities, resource management planning, and infrastructure issues. It will also assist the public understand the nature of the forest industry on the West Coast.

References to the West Coast region include the land areas of Buller, Grey and Westland District Councils, a total of about 2 335 000 hectares.

The report is one of a series of publications on regional forest industries and wood availability forecasts.

Readers who intend using the wood availability forecast for planning or investment decisions are urged to thoroughly review the forecast or engage the services of a professional forestry consultant who is able to interpret the forecasts in the context of specific planning or investment decisions.

2

OVERVIEW

The West Coast region includes the land areas of the Buller, Grey and Westland Districts, a total of about 2 335 000 hectares. The Department of Conservation manages about 83 percent of the land area.

The region's forestry sector has some distinctive local characteristics:

- › Timberlands West Coast Ltd manages 86 percent of the 32 009 hectares of plantation forests.
- › The Department of Conservation manages 92 percent of the 1 448 000 hectares indigenous forest.
- › Roundwood removals from indigenous forests have decreased from 122 000 cubic metres for the year ended March 1990 to 3000 cubic metres for the year ended March 2007.
- › Roundwood removals from plantation forests have increased from 41 000 cubic metres for the year ended March 1990 to 217 000 cubic metres for the year ended March 2007.

- › Radiata pine produces low-density wood of light colouration and high sheen that is well suited to appearance grade uses.
- › Most of the plantation forest resource is located on low-productivity sites.
- › There are significant volumes of sawlogs both "exported" from the West Coast to Canterbury and Nelson and "imported" from those regions.

Previous wood availability forecasts have been over-optimistic. The new forecast reduces the available harvest for 2012 to 2015 from about 380 000 cubic metres per year to about 196 000 cubic metres per year, a reduction of 50 percent.

»» TABLE 2.1: KEY STATISTICS FOR THE WEST COAST FOREST INDUSTRY

STATISTIC	VALUE
Stocked plantation forest area as at 1 April 2006 (hectares)	32 009
Estimated plantation forest roundwood removals – year ending March 2007 ¹ (m ³)	217 000
Area weighted average age of plantation forest as at 1 April 2006 (years)	14.34
Sawn exotic timber production – year ending March 2007 (m ³)	88 372
Estimated exotic log input to sawmills – year ending March 2007 ² (m ³)	159 000
Estimated indigenous forest roundwood removals – year ending March 2007 (m ³)	3 000
Sawn indigenous timber production – year ending March 2007 (m ³)	1 583
Estimated regional wood processing capacity ³ – roundwood (m ³)	250 000
Direct employment (forestry and first stage processing) as at February 2006 (full-time equivalents)	506

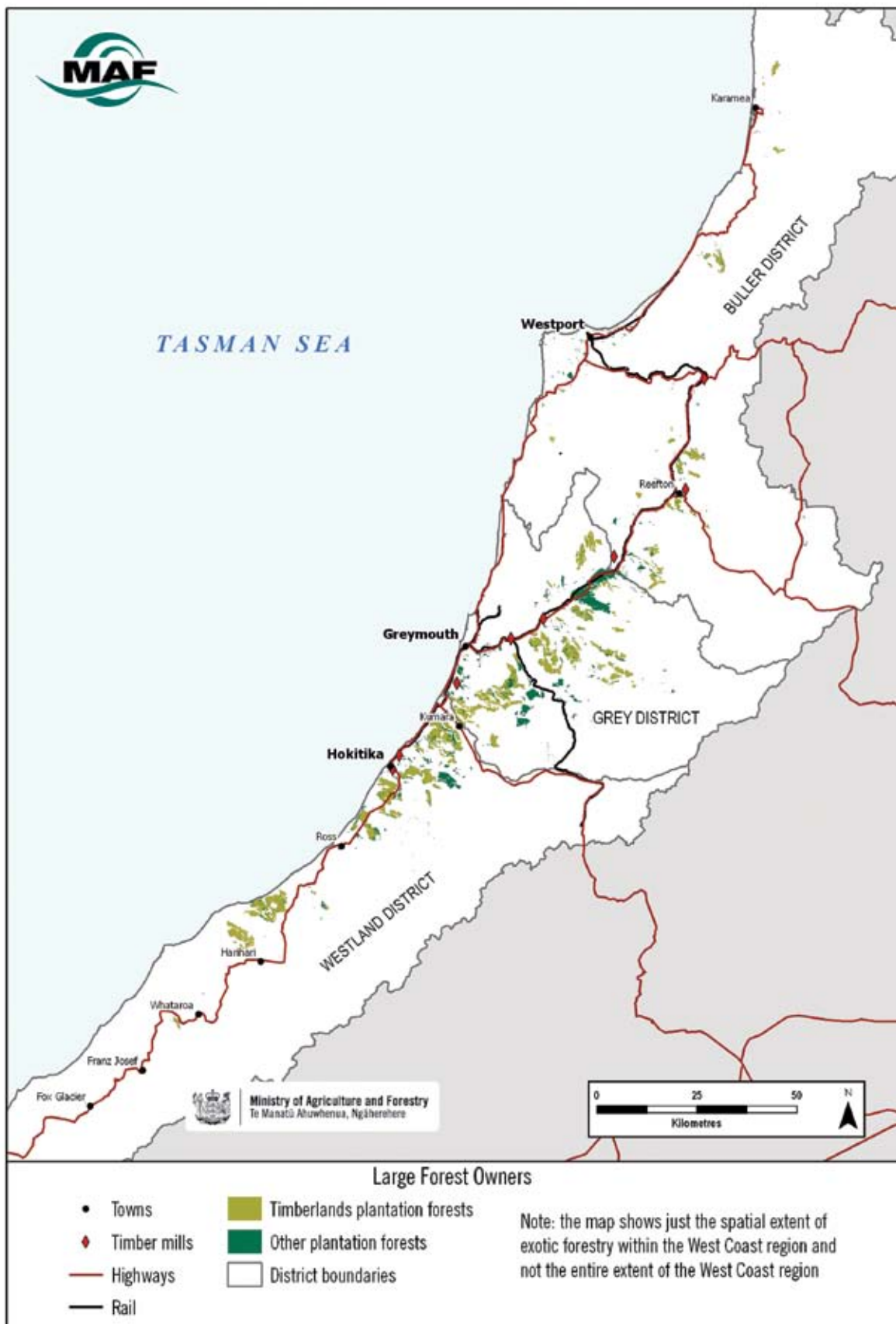
Source

Ministry of Agriculture and Forestry.

Notes:

1. Estimated roundwood removals are derived from processing outputs and log exports. They do not account for inter-regional log flows.
2. Estimated log input to sawmills includes logs sourced from other regions.
3. This is an estimate to the sum of the individual processing plants' roundwood input capacities based on "usual" hours of operation.

»» FIGURE 2.1: MAP OF THE WEST COAST FOREST INDUSTRY



Source
Ministry of Agriculture and Forestry.

THE PLANTATION FOREST INDUSTRY

3

Plantation forests were established on a small scale from the 1870s onwards, but the first major plantings were started at Mahinapua Forest (originally known as Rimu Forest) in 1922 by the New Zealand Forest Service. The State has always dominated ownership of the plantation forest resource on the West Coast.

As at 1 April 2006, there are an estimated 32 009 hectares of plantation forests on the West Coast.

»» NURSERIES

There are no commercial forestry nurseries operating on the West Coast. Planting stocks are primarily sourced from nurseries in Canterbury and Nelson.

»» FOREST OWNERS

» TIMBERLANDS WEST COAST LTD

Timberlands West Coast Ltd (Timberlands) was established in 1990 as a state-owned enterprise to take ownership of the cutting rights to the Crown's West Coast plantation forests. Timberlands has 22 dispersed plantation forests, mostly in the Grey District, with a total area of 27 500 hectares. Ngāi Tahu owns 85 percent of the land on which the forests are located. All Timberlands' forests have Forest Stewardship Council (FSC) certification.

Radiata pine accounts for 80 percent of the Timberlands' estate, with the balance comprising Douglas-fir and special-purpose species such as Tasmanian blackwood and cypress species. Timberlands is the dominant supplier of plantation grown logs on the West Coast with about 50 percent of the logs processed locally.

Timberlands has operated as a commercial forestry company based in Greymouth with the Crown as the sole shareholder through the Minister of Finance and the Minister of State Owned Enterprises. However, on 8 February 2008 the Minister for State Owned Enterprises

announced that the assets of Timberlands are to transfer to Crown Forestry, a part of the Ministry of Agriculture and Forestry. (www.timberlands.co.nz)

» SOUTH PACIFIC FOREST HOLDINGS

South Pacific Forest Holdings owns Lake Brunner Station. Within the property there are approximately 900 hectares of plantation forest, 2500 hectares of indigenous forest, 600 hectares of pastoral farm, plus the Lake Brunner Lodge at Mitchells. The company has owned the station since 1995 and has extensive development plans.

» OTHER FOREST OWNERS

The 2002 Agricultural Census results indicate that there are 140 plantation forest owners in the region with less than 40 hectares. The *NEFD as at 1 April 2006* (MAF 2007) estimates that another eight own between 40 and 99 hectares, and seven own between 100 and 499 hectares.

»» SPECIES COMPOSITION

Radiata pine accounts for 23 095 hectares or 72 percent of the plantation estate, but is not as dominant as elsewhere in New Zealand. There are 3780 hectares of cypress species, 1114 hectares of Douglas-fir, 1609 hectares of other softwoods, and 473 hectares of *Eucalyptus* species recorded in the *NEFD as at 1 April 2006* (MAF 2007) for the West Coast region.

Radiata pine growing on the West Coast generally exhibits good tree form with small branches as a result of the low to medium soil fertility in most areas. It has long internodal lengths and wood of low density and light colouration. Pruned logs are suited to long-length clear and select grades and mouldings. Unpruned logs produce high quality cuttings grade lumber suitable for window and furniture components, finger-jointed products and finished goods. Growth rates are mostly low compared to elsewhere in New Zealand.

Douglas-fir is not a favoured species for the West Coast because of the region's high rainfall, poor soils and competing weed growth: this makes establishment difficult and growth poor. It may be an alternative to radiata pine on some snow-prone sites.

Cypress species account for 12 percent of the region's plantation estate. Macrocarpa (*Cupressus macrocarpa*), lusitanica (*Cupressus lusitanica*), and Lawson cypress (*Chamaecyparis lawsoniana*) are regarded as having potential to produce high quality timber on suitable sites.

Eucalypt species are generally unsuited to the West Coast as most soils do not encourage vigorous, healthy growth. Insect attack by the native pinhole borer (*Platypus* species) causes extensive timber degradation. Australian blackwood (*Acacia melanoxylon*) can be grown on sheltered, warm, moderately fertile sites.

»»» AREA-AGE CLASS DISTRIBUTION

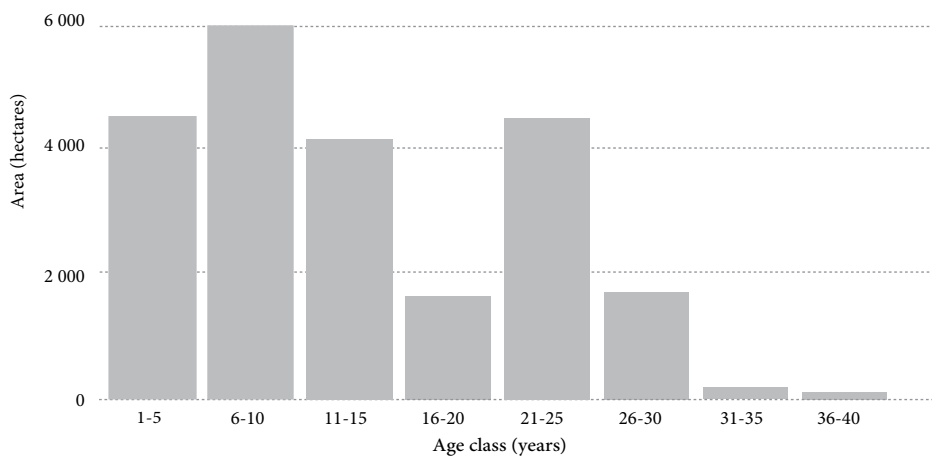
The radiata pine area-age class distribution shows a peak in planting in the early to mid 1980s and another in the mid to late 1990s that reflects a national surge in new planting at this time. There is a gap in the level of planting between the two peaks that will require careful management if a sustainable level of harvest is to be secured over this period.

»»» TABLE 3.1: PLANTATION FOREST AREAS BY SPECIES AND TERRITORIAL AUTHORITIES (HECTARES, AS AT 1 APRIL 2006)

	BULLER DISTRICT	GREY DISTRICT	WESTLAND DISTRICT	TOTAL
Radiata pine	3 952	11 885	7 258	23 095
Douglas-fir	398	673	43	1 114
Cypress species	46	295	3 439	3 780
Other softwoods	478	583	548	1 609
Eucalypt species	364	58	51	473
Other hardwoods	123	66	1 749	1 938
Total	5 361	13 560	13 088	32 009

Source
NEFD as at 1 April 2006 (MAF 2007).

»» FIGURE 3.1: AREA-AGE CLASS DISTRIBUTION FOR RADIATA PINE BY LUSTRUM AS AT 1 APRIL 2006

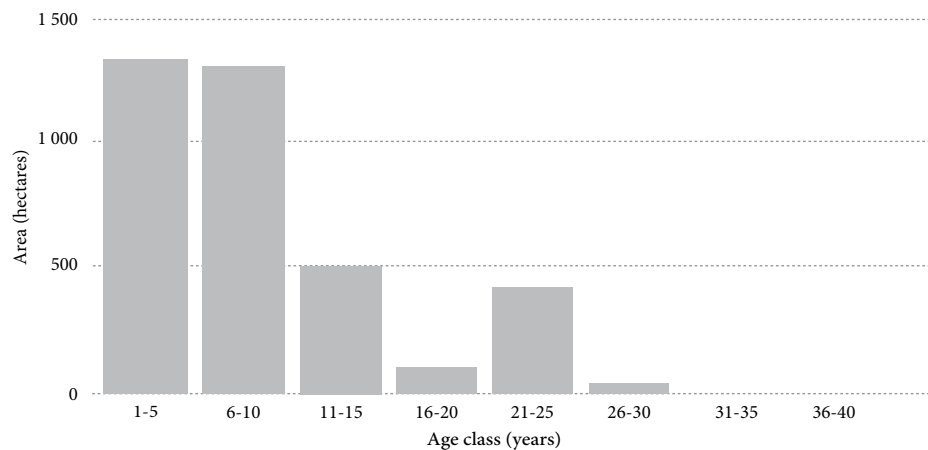


Source

Ministry of Agriculture and Forestry, 2007.

The cypress resource is young with 71 percent being of age 10 years or less, providing the opportunity for growth in the future production of this high quality timber. The West Coast forest industry already has experience in growing and processing Lawson cypress in particular, with some sites now in their second rotation.

»» FIGURE 3.2: AREA-AGE CLASS DISTRIBUTION FOR CYPRESS SPECIES BY LUSTRUM AS AT 1 APRIL 2006



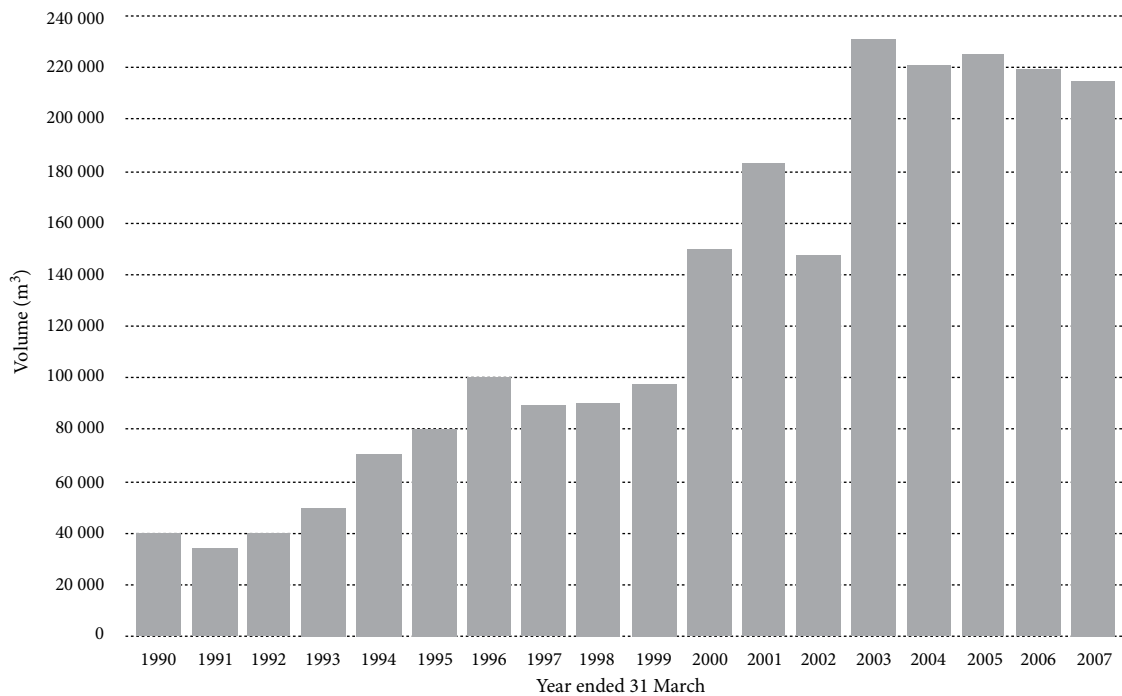
Source

Ministry of Agriculture and Forestry, 2007.

»» HARVESTING TRENDS

The last decade has seen an almost complete transition on the West Coast from the harvesting of indigenous forests to the harvesting of plantation forests.

»» FIGURE 3.3: ESTIMATED ROUNDWOOD REMOVALS FROM PLANTATION FORESTS



Source
Ministry of Agriculture and Forestry.

WOOD AVAILABILITY FORECAST

4

A forecast of radiata pine wood availability from 2007 to 2015 has been compiled by combining the harvesting intentions of the two major forest owners on the West Coast, and adding estimated annual volumes from the residual radiata pine plantation forest resource. This residual resource has an estimated area of about 3400 hectares.

Harvesting intentions reflect the forest owners' current strategies. They can change in accordance with market conditions, company objectives, and enhanced information about the forest resource.

The estimated wood availability from the residual radiata pine resource is based on advice from forestry consultants and managers actively operating in the management and harvesting of West Coast plantation forests. The annual harvestable volume is allocated to pruned sawlogs, unpruned sawlogs and chip logs at a ratio of 20:60:20.

The results from combining the volumes from the

harvesting intentions of the two major forest owners, with the estimated volumes from the residual resource, are presented in Table 4.1.

»» A VARIABLE AREA-AGE CLASS DISTRIBUTION

The radiata pine area-age class distribution (Figure 4.1) shows considerable variability over the years covered by the harvesting forecasts (and beyond). The harvesting intentions information generally assumes harvesting ages of between 28 and 30 years, but the potential for variable annual harvests should be noted.

»» OTHER SPECIES

There are also 394 hectares of "other softwoods" recorded in the *NEFD as at 1 April 2006* (MAF 2007) as age 36 years or older, 38 hectares of Douglas-fir recorded aged 41 years or older, and 44 hectares of eucalypts aged 31 years or older. Small volumes could potentially be harvested from these species at irregular intervals if markets arose during the forecast period. These would be additional to the volumes in Table 4.1.

»» TABLE 4.1: ESTIMATED ACTUAL HARVEST (2006) AND FORECAST WOOD AVAILABILITY – RADIATA PINE (CUBIC METRES)

YEAR	PRUNED SAWLOGS	UNPRUNED SAWLOGS	CHIP LOGS	TOTAL VOLUME
2006	52 000	146 000	22 000	220 000
2007	29 000	175 000	27 000	231 000
2008	40 000	161 000	32 000	233 000
2009	42 000	141 000	30 000	213 000
2010	39 000	134 000	26 000	199 000
2011	38 000	133 000	27 000	198 000
2012	37 000	132 000	27 000	196 000
2013	39 000	130 000	27 000	196 000
2014	41 000	130 000	25 000	196 000
2015	43 000	127 000	26 000	196 000

Note

The total volumes for 2006 and 2007 in the table above vary slightly from the volumes for those years in Figure 3.3. The volume information is derived from different sources.

»» BEYOND 2015

The plantation forest resource that accounts for the annual forecast harvests in Table 4.1 through to 2015 is that aged 18 years and older. Figure 4.1 indicates that there is a larger resource area age 14 years or less, but this may not lead to an expanded harvest from about 2020 as there is a four-year period between the two age groups where little planting was undertaken. This period will need to be managed carefully by the industry if a sustainable level of harvest is to be achieved.

Most of this “additional” forest area in the younger age classes is held by small-scale forest owners whose management and harvesting intentions are less well understood, and who may not be purely commercially focused.

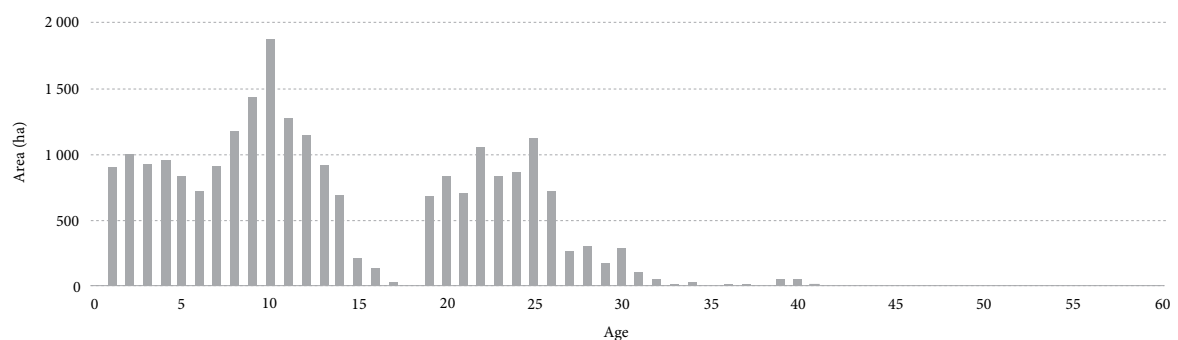
In addition to the radiata pine resource, there is a significant resource of cypress species. Most of this has been planted over the last 15 years, but several hundred

hectares are 21 to 25 years old. It is anticipated that this cypress resource will be harvested as it attains an age of between 35 and 40 years. This suggests that significant volumes may be harvested from this resource over a period of years from around 2020, but with the bulk of this resource not coming on stream until about 2030.

»» PREVIOUS WOOD AVAILABILITY FORECASTS

The new wood availability forecast is a major downwards revision on previous forecasts for the West Coast prepared in 1988, 1992, 1996 and 2000. These forecasts variously suggested that the volume of wood available for harvesting in 2007 may be between 290 000 and 390 000 cubic metres per year. They also suggested that the longer-term (post-2020) sustainable harvest would be between 360 000 and 400 000 cubic metres per year.

»» FIGURE 4.1: RADIATA PINE AREA-ANNUAL AGE CLASS DISTRIBUTION AS AT 1 APRIL 2006



Source
Ministry of Agriculture and Forestry.

»» REASONS FOR THE CHANGE

There are a number of factors that have contributed to this reduction in forecast wood availability. These are:

- › downwards revisions of yield tables;
- › harvesting at an earlier age than previously anticipated;
- › losses through wind throw;
- › a variable plantation forest age-class distribution;
- › a small decrease in the reported plantation forest area;
- › the presence of small areas of species that may not have a market and are therefore not included in the new forecast;
- › new planting scenarios associated with earlier forecasts that are now considered very high.

The principal reason for the decrease in forecast available volumes is a major downwards revision of yield tables.

Area-weighted yield tables for radiata pine grown on the West Coast that were used in the 1996 and 2000 wood availability forecasts had recoverable volumes of between 365 and 380 cubic metres per hectare for 28-year-old stands. The common range for recoverable yields for radiata pine currently being harvested on the West Coast is now estimated to be between 220 to 280 cubic metres per hectare.

»» REGIONAL SAWLOG SUPPLY

The existing processing capacity on the West Coast is estimated to be about 250 000 cubic metres of sawlogs per year (including Coastpine) that is, for sawmills and plywood production. The forecast of wood availability from the West Coast suggests that the volume of sawlogs available will decrease from the current level of about 200 000 cubic metres to around 170 000 cubic metres by 2010.

However, wood processing plants rarely operate at full capacity and West Coast sawmills and International Panel & Lumber (West Coast) Ltd process significant volumes of logs sourced from other regions. This reduces the notional deficit between local log availability and processing capacity, but the key point is that the local sawlog supply is expected to decrease by about 15 percent over the next few years.

Significant volumes of sawlogs currently move both from the West Coast to Nelson and Canterbury, and to the West Coast (mainly pruned logs) from the same regions. The backloading opportunity does assist the movement of export, chip and unpruned sawlogs out of the region through transportation cost savings.

THE INDIGENOUS FOREST INDUSTRY

5

The West Coast forest industry developed from harvesting the region's indigenous forest resource. These forests supplied most of the local wood processing industry until 1996, at which time the harvested volume decreased significantly. Harvesting from the Crown-owned indigenous forest ceased at 31 March 2002, and only very small volumes are currently harvested under Part IIIa of the Forests Act 1949 from privately owned indigenous forests.

»» INDIGENOUS FORESTS AND OWNERSHIP

Indigenous forests cover approximately 1 448 000 hectares, or 62 percent of the West Coast's land area. There are three major forest types: beech; podocarp-hardwoods; and podocarp-hardwoods – beech. Rimu is the predominant podocarp. Indigenous hardwoods other than beech also grow with podocarps throughout the region.

The forests are generally dominated by beech with varying densities of podocarp (mainly rimu). The exception to this

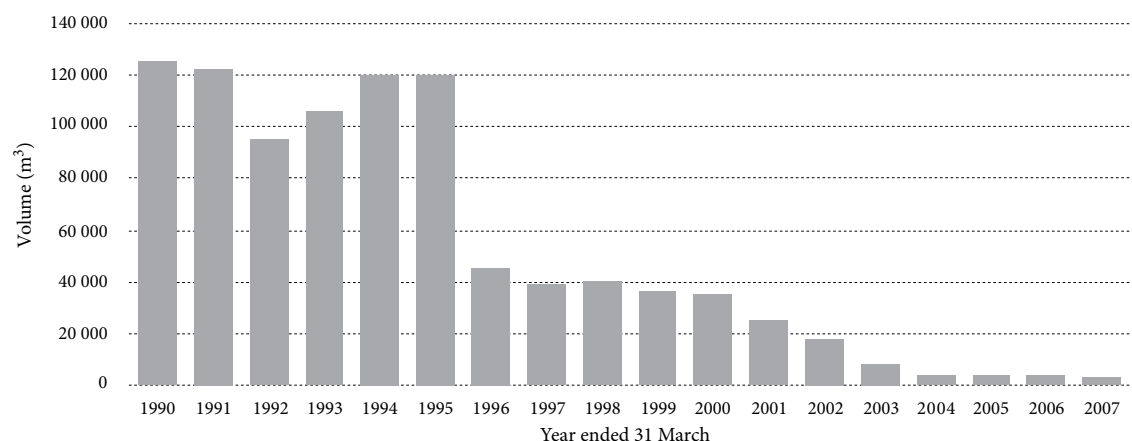
is the area between the Arnold River and Paringa River from which beech is completely absent. In Buller and North Westland, from west to east, podocarp and hard beech gradually give way to pure beech forest, with red and silver beech dominant.

The Crown owns approximately 1 338 000 hectares of indigenous forest, managed by the Department of Conservation. An estimated 110 000 hectares of indigenous forest are in private ownership.

»» INDIGENOUS FOREST HARVESTING

Roundwood removals from indigenous forests decreased from 122 000 cubic metres in 1990 to 45 000 cubic metres in 1996 (following the end of the transitional measures under Part IIIa of the Forests Act), and to about 3000 cubic metres for the year ended March 2007.

»» FIGURE 5.1: ESTIMATED ROUNDWOOD REMOVALS FROM INDIGENOUS FORESTS



Source
Ministry of Agriculture and Forestry.

»»» INDIGENOUS FORESTS AND SUSTAINABLE MANAGEMENT UNDER THE FORESTS ACT 1949

As at March 2007 there were eight sustainable forest management plans and 124 sustainable forest management permits on the West Coast approved under Part IIIa of the Forests Act. The plans cover 1712 hectares with a total annual approved harvest of 2380 cubic metres of standing roundwood. The permits cover 6550 hectares with a ten-year total approved harvest of 30 168 cubic metres of standing roundwood.

For the year ended June 2006, the total log volume delivered to mills from these plans and permits, plus the minor provisions of Part IIIa of the Forests Act, was 3392 cubic metres.

» FOREVER BEECH LTD

Forever Beech Ltd is a private limited liability company based in Hokitika with the major shareholder being Development West Coast. The Company manages 4500 hectares of privately owned forest under sustainable forest management plans approved in accordance with Part IIIa the Forest Act 1949. These beech forests are located around the Murchison, Maruia and Inangahua valleys.

The sustainable forest management plans provide for an annual harvest of up to 7000 cubic metres per year (the bulk being from forests outside of the West Coast region). Log extraction is almost exclusively by helicopter. (www.foreverbeech.co.nz)

»»» TABLE 5.1: INDIGENOUS TIMBER VOLUMES DELIVERED TO MILL BY SPECIES GROUPS AND SPECIES FOR THE YEAR ENDED JUNE 2006

SPECIES GROUP	SPECIES	LOG VOLUME (CUBIC METRES)
Softwoods	Rimu	1 854
	Matai	214
	Kahikatea	77
	Miro	62
	Totara	41
Total softwoods		2 248
Beech	Red beech	958
	Silver beech	136
	Hard beech	44
	Black beech	2
Total beech		1 140
Other hardwoods	Hinau	3
	Southern rata	1
Total other		4
Total volume delivered to mill		3 392

Source

Indigenous Forestry Unit, Ministry of Agriculture and Forestry, 2006.

THE WOOD PROCESSING INDUSTRY

6

»» SAWMILLING AND INTEGRATED MANUFACTURING

In the late 1960s and early 1970s, annual indigenous sawn timber production was approximately 140 000 cubic metres, but by 1990 it had declined to around 62 000 cubic metres. In March 2002, harvesting from Crown-owned indigenous forests ceased and only logs sourced from privately owned indigenous forests, managed under the provisions of Part IIIa of the Forests Act 1949, can now be processed.

For the year ended March 2007, about 1600 cubic metres of indigenous sawn timber were produced on the West Coast.

With the reduction in the availability of timber from indigenous forests during the 1990s, sawmills moved to processing plantation-grown species. Total production of sawn timber began to increase in 2000 as significant

volumes from plantation forests reached maturity. For the year ended March 2007, some 88 000 cubic metres of sawn timber were produced from plantation grown logs. Sawn timber exports were predominantly through the ports at Lyttelton and Nelson.

The West Coast sawmilling industry was dominated in 2007 by Westco Lagan Limited, Coastpine Ltd, Stillwater Lumber Limited, and Westtimber Ltd. Together they accounted for about 84 percent of the region's sawn timber output in the year to March 2007. These sawmills only cut plantation-grown timbers.

There are many other small sawmills on the West Coast. These often operate on a part-time basis, and include 51 mills registered under Part IIIa of the Forests Act to cut indigenous timber, with six being fixed mills and 45 portable.

»» TABLE 6.1: PRODUCTION OF SAWN TIMBER FROM THE WEST COAST (CUBIC METRES)

YEAR ENDED 31 MARCH	INDIGENOUS SPECIES (M ³)	PLANTATION SPECIES (M ³)	TOTAL (M ³)
1990	62 240	5 028	67 268
1991	63 066	3 665	66 731
1992	47 692	7 130	54 822
1993	53 302	9 967	63 269
1994	61 794	19 678	81 472
1995	62 577	25 600	88 177
1996	23 473	34 634	58 107
1997	20 699	26 500	47 199
1998	21 444	25 574	47 018
1999	18 674	29 780	48 454
2000	18 480	58 171	76 651
2001	13 068	70 039	83 107
2002	9 139	50 171	59 310
2003	3 870	92 184	96 054
2004	2 096	88 465	90 561
2005	2 002	88 495	90 497
2006	1 853	87 706	89 559
2007	1 583	88 372	89 955

Source
Ministry of Agriculture and Forestry.

»» TABLE 6.2: WEST COAST SAWMILLS BY PRODUCTION CATEGORIES (2007) IN CUBIC METRES
SAWN TIMBER PER ANNUM

PRODUCTION LEVEL	SAWMILL (LOCATION)
A. Production level: 25 000–49 999 m³ sawn timber per annum Westco Lagan Limited	Ruatapu
B. Production level: 10 000–24 999 m³ sawn timber per annum Coastpine Sawmill Stillwater Lumber Ltd Westimber Ltd	Reefton Dobson Ngahere
C. Production level: 5 000–9 999 m³ sawn timber per annum Inangahua Sawmilling Company Ltd W E Whiley & Company Ltd	Inangahua Junction Three Mile
D. Production level: 500–4999 m³ sawn timber per annum Hindman Smartsaw Ltd Wilson Lumber Ltd	HariHari Ikamatua

Sources

Individual sawmill owners and managers.

» WESTCO LAGAN LIMITED

Westco Lagan is the largest timber processing operation on the West Coast, with a focus on the furniture, joinery and appearance grade segments of the timber products market. It was formed in 1994 through the merger of two privately owned companies, although its sawmilling history goes back to the early 1900s.

Westco Lagan's main operation is an integrated sawmill, kiln-drying and manufacturing facility at Ruatapu, 10 kilometres south of Hokitika. The operation focuses on milling pruned radiata pine butt logs to produce clear timber for the New Zealand, Australian, United States and other international markets. The manufacturing facility includes a bandsaw and three moulding machines. Wood waste from the sawmill and manufacturing plant provides all the energy required for the kiln-drying process.

The Ruatapu operation is complemented by a smaller Christchurch operation designed to service speciality product requirements. Marketing and administrative functions are also provided from this centre.

(www.westco.co.nz)

» COASTPINE LTD

Coastpine Ltd's sawmill is situated just out of Reefton and is 250 kilometres from Christchurch and 212 kilometres from Nelson. The mill was originally established in the 1960s, and was purchased by the current owners from Nelson Pine Forests Ltd in 1991.

Coastpine Ltd's primary business is milling and processing radiata pine, with between 20 000 and 25 000 cubic metres of sawn timber produced annually on a single-shift basis.

The operation processes mainly long internodal logs and complements this with kiln-drying and planing facilities. The mill is FSC certified with products exported mainly to the United States and Asian markets, as well as selling domestically.

On 25 January 2008 it was announced that the sawmill would close within the next few weeks. The mill's future is unclear.

› STILLWATER LUMBER LIMITED

Stillwater Lumber Ltd is a sawmilling and processing plant that has both domestic and export markets for its radiata pine lumber. The processing plant has kiln-drying capacity with optimising machinery leading to finger-jointing machines. The operation's main focus is on producing clear blank products, with some 50 staff employed in the processing divisions.

Finished goods are sold throughout New Zealand and Australia. The company is a major user of transport and other service providers on the West Coast.

› WESTIMBER LTD AND NGAHERE PROCESSING

With the change-over from indigenous timber to radiata pine, the Gibson and Donaldson families purchased the Kopara Sawmilling Company's mill at Ngahere in 1997 and renamed the business Westimber Ltd. Production started in June 1997. It is now a fourth-generation family sawmilling business.

The mill produces kiln-dried timber for the domestic and export markets, and has a timber preservation facility onsite.

Ngahere Processing was built in 1975 to process the indigenous timber milled by the Gibson's and Donaldson's previous mills at Red Jack and Deadman Valleys. It now machines timber supplied by its onsite co-business, Westimber Ltd.

The company has timber yards in Greymouth and Christchurch, producing pre-cut frames and house trusses.

› INANGAHUA SAWMILLING COMPANY LTD

The Inangahua Sawmilling Company started operations in the 1960s and is located a short distance from Inangahua

Junction. The mill produces kiln dried sawn timber for the domestic and Australian markets. The company also operates planing and finger-jointing machinery.

› W E WHILEY LTD

W E Whiley Ltd's sawmill is situated at Three Mile, five kilometres north of Hokitika. It primarily mills pruned logs to produce kiln-dried sawn timber and finished products for the United States, Asian, Australian and domestic markets. The company also produces treated timber products for fencing and farm yards.

› WILSON LUMBER LTD

The sawmill originally started operations in the 1920s processing indigenous species from the Rough River valley near Ikamatua. Purchased by the current owner about 20 years ago, the mill now cuts radiata pine and some other exotic species to produce air-dried sawn timber for the domestic market.

››› MANUFACTURING PLANTS

› INTERNATIONAL PANEL & LUMBER (WEST COAST) LTD

International Panel & Lumber (West Coast) Ltd (IPL) is located at Gladstone, south of Greymouth, producing products that are sold throughout New Zealand.

The plywood mill peels logs sourced from plantation forests on the West Coast, Nelson and Marlborough regions, manufacturing high quality plywood, treated and untreated under the brand name "Tuffply". A full range of grades are manufactured, with a thickness range from 4 to 32 millimetres.

A large range of decorative plywood cladding, branded "Alpine Cladding" and internal lining (tongue and groove appearance) brand "Elite Line" are also manufactured.

INFRASTRUCTURE

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»»» ROAD TRANSPORT

State highway and local authority roads are generally adequate for use by loaded logging trucks.

Road routes to Canterbury are State Highway 73 through Arthur's Pass or State Highway 7 through the Lewis Pass. It is 247 kilometres from Greymouth to Christchurch via Arthur's Pass, and 334 kilometres via the Lewis Pass.

The road route from Greymouth to Nelson on State Highway 6 is 290 kilometres.

»»» RAIL TRANSPORT

Rail is an important method of freighting produce to other regions. The West Coast connects to the national rail network operated by Toll NZ via the Midland line through the Otira tunnel at Arthur's Pass. The line goes to Ngakawau (beyond Westport) in the north and to Hokitika in the south. There is no rail link to Nelson.

The rail siding at Stillwater has a log yard that is used to distribute logs for export via Lyttelton.

»»» SEA TRANSPORT

The region has no deepwater ports, but has river mouth ports at Greymouth and Westport. Historically both have handled coal and timber and, for Westport, cement.

» PORT OF WESTPORT

The Port of Westport is owned by the Buller District Council and managed under contract by Holcim (New Zealand) Ltd., the principal port user, through their subsidiary company Buller Port Services Ltd. Vessels up to 131 metres long and 5 metres average draft can be handled, with large vessels considered as each case is presented.

The port has a tug/pilot vessel and a dredge. There is one electric travelling crane with a 12.2 tonne lift and a 17-metre radius, and mobile cranes are available. A merchandise shed has a storage area of approximately 3500 cubic metres and there is a flat storage area of two hectares. The port is served by road and rail transport.

Coastal services from Port of Westport transporting wood products for transshipment from major export ports such as Port Nelson, Shakespeare Bay and Port Taranaki have potential to be developed. (www.westportharbour.co.nz)

» PORT OF GREYMOUTH

The Port of Greymouth is owned by the Grey District Council and currently managed by Port of Greymouth Management Ltd. The port is able to handle vessels of up to 109 metres length overall, and drafts of up to 4.8 metres (neap tides) or 5.5 metres (spring tides). This equates to ships or barges up to 8000 tonnes capacity. The port is served by road transport, with the railway one kilometre away.

Current storage facilities provide for about 1000 cubic metres in cargo sheds and 5000 cubic metres alongside the wharf. Cargo can be loaded by two wharf cranes of 12-tonne lift capacity each, by additional hired mobile cranes, or by ships' cranes.

Sawn indigenous timber was a traditional export to Australia until the 1950s and to the North Island until the 1970s. Shipments of processed plantation grown timber products were made directly to Australia in 2000. The Government's "SeaChange Policy" to encourage coastal shipping could lead to the establishment of coastal shipping services. (www.greymouthport.co.nz/)

»» ENERGY

Plans are in place to ensure electricity capacity is sufficient to meet the growing needs of the West Coast. Transpower is reinforcing its supply, Westpower and Buller Electricity are extending their networks, and TrustPower is planning new generation.

Transpower supplies electricity to Westpower and Buller Electricity. TrustPower operates small generation stations at the Arnold River, Kumara, Kaniere and Wahapo, which are embedded in Westpower's network.

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OPPORTUNITIES AND CONSTRAINTS

»»» OPPORTUNITIES

» FAVOURABLE CHARACTERISTICS OF WEST COAST RADIATA PINE

Although radiata pine grown on the West Coast produces wood of low density, it also has long internodal lengths, light colouration and high sheen. As a result, pruned logs are suited to long-length clear and select grades and mouldings. Unpruned logs can produce high quality cuttings grade lumber suitable for window and furniture components, finger-jointed products and finished goods. The light colouration and high sheen are favoured characteristics for furniture manufacturing.

» THE CYPRESS RESOURCE

There will be an opportunity to develop a modest special-purpose timber-based industry as the cypress resource matures, starting in about ten years, but more particularly from the late 2020s as the bulk of the resource reaches harvesting age. Well grown cypresses produce high quality timber with even texture and lustre which is often compared to kauri (Miller JT; Knowles FB (1990) *Introduced Forest Trees in New Zealand: Recognition, Role, and Seed Source* – 9. *The Cypresses*, Ministry of Forestry, Forest Research Institute, Rotorua.)

»»» CONSTRAINTS

» GENERAL CONSTRAINTS

There are a number of factors that are and have been constraining the development of the forest industries across New Zealand. The most prominent include: provisions of district and regional plans prepared under the Resource Management Act 1991 (these are not generally a constraint on the West Coast); uncertainty associated with climate change policy development; compliance costs; skills shortages; distances from markets; shipping costs; the strength of the New Zealand dollar; the fragmentation of the industries; increased competition from low cost producers; non-tariff barriers; and the pressure from wood substitutes.

Particular constraints for the West Coast are described below.

» DECREASE IN LOCAL LOG SUPPLY OVER THE NEXT TEN YEARS

The radiata pine wood availability forecast for the next ten years suggests there will be about a 15 percent decrease in local sawlog supply by 2010. This will put additional pressure on the existing wood processing industry on the West Coast, assuming they wish to at least retain their current levels of production. There is no potential for any investment in additional wood processing capacity unless logs are sourced from other regions, or existing processors constantly operate well below capacity or exit the industry.

» RESOURCE GAP

There is a four-year period when little radiata pine was established on the West Coast (see Figure 4.1). This will potentially affect wood availability around the period 2016 and 2019 unless the industry carefully manages this, to ensure a sustainable level of harvest.

» DISTANCE TO MAJOR MARKETS AND EXPORT PORTS

With a regional population of only 30 500 there is not a large market for wood-based products on the West Coast. This means products must be transported to, and sold on, other home markets or exported. Christchurch and Nelson, the closest cities and locations of export ports, are considerable distances from most West Coast wood processing businesses resulting in significant transport costs.

» LACK OF LOCAL MARKET FOR CHIP LOGS

Between 10 and 20 percent of the harvested volume from a radiata pine forest will usually be chip logs, but there is no significant market on the West Coast for this log type. Some chip logs are trucked to MDF plants in Nelson or Canterbury, but the distances are considerable and this is sometimes dependent on sawlogs being back-loaded to the West Coast.

› LOW GROWTH RATES

Most of the older plantation forest resource is located on low productivity sites where the recoverable volumes at harvesting are often between 220 and 280 cubic metres per hectare. The average total recoverable volume for clearfell radiata pine in New Zealand in 2005/06 was 486 cubic metres per hectare (*NEFD as at 1 April 2006, MAF 2007*). The low growth rates on these sites constrain the economics of forest management.

››› CONCLUDING COMMENT

The outlook for the development of the West Coast forest industry has changed dramatically over the last couple of years. The previously forecast significant expansion in available wood from the region's plantation forests has been re-assessed to indicate a 15 percent decrease until 2015 compared with the estimated harvest for 2007. The region also faces a number of other constraints that require considered management to sustain the industry.

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WEBSITE ADDRESSES

FOR MORE INFORMATION³

Department of Conservation

www.doc.govt.nz

Forever Beech Ltd

www.foreverbeech.co.nz

Ministry of Agriculture and Forestry

www.maf.govt.nz

Ministry of Agriculture and Forestry – Forestry Statistics

<http://www.maf.govt.nz/statistics/forestry/index.htm>

Port of Greymouth

www.greymouthport.co.nz/

Port of Westport

www.westportharbour.co.nz

Statistics New Zealand

www.stats.govt.nz

Timberlands West Coast Ltd

www.timberlands.co.nz

Westco Lagan Limited

www.westco.co.nz

³ All accessed June 2008.