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New Zealand Forestry and Wood Products Report 2016

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Wood Products

Agricultural Situation

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Report Highlights:

New Zealand exotic plantation forestry area resumed a downward path in CY2015 and was estimated at 1.72 million hectares in April 2015. However this downward trend may not last much longer because carbon prices in New Zealand have risen dramatically from a low of NZ\$1/ton Carbon to NZ\$17/Ton over the last two years which is likely to stimulate new planting. The log harvest for the year ending September 2015 at 29.33 million cubic meters of roundwood was just below the previous year but is 50% greater than a decade ago and ahead of previous Government forecasts. The so called “wall of wood” is happening now but is now predicted peak at 34 million cubic meters down from previous forecasts of 36 million cubic meters.

Executive Summary

Following a mini expansion in planting from 2012 to 2014, where the net planted area peaked at 1.733 million (m) hectares (ha) in 2014, the net planted area has dropped back and by April 2015 was 1.718m ha. It appears there may be, gathering positive sentiment toward increasing forest plantings again because: the carbon price in New Zealand has risen from NZ\$1.00/t carbon to NZ\$17/ton carbon over the last 3.5 years; log prices are generally trending up; on steep land forestry can be more profitable than sheep and cattle; deforestation and land use change to dairying has all but ceased; there are other environmental benefits from growing trees which have more value now.

However there are some black clouds which could work against unbridled confidence in the sector: the largest forest owners are asset class holders who are not looking to invest in green-field planting of new forests; and ongoing significant increases in demand for wood products from China are uncertain. This is significant because already up to 49% by value of New Zealand's total wood exports go to China.

The log harvest for the year ending September 2015(MY2015) at 29.33m cubic meters of roundwood was two percent below the same period in MY2014. The reduction in demand for raw logs from China and subsequent log price reductions was the predominant reason for the lower log harvest. Subsequent increases in monthly log harvest since September 2015 should mean the annual harvest for MY2016 will be 29.5m cubic meters a marginal 0.5% increase.

It is now unlikely that the peak annual harvest of 36m cubic meters from the so-called "wall of wood" will materialize. The peak annual harvest is now forecast at 34m cubic meters by the Ministry for Primary Industries (MPI) in the 2020's.

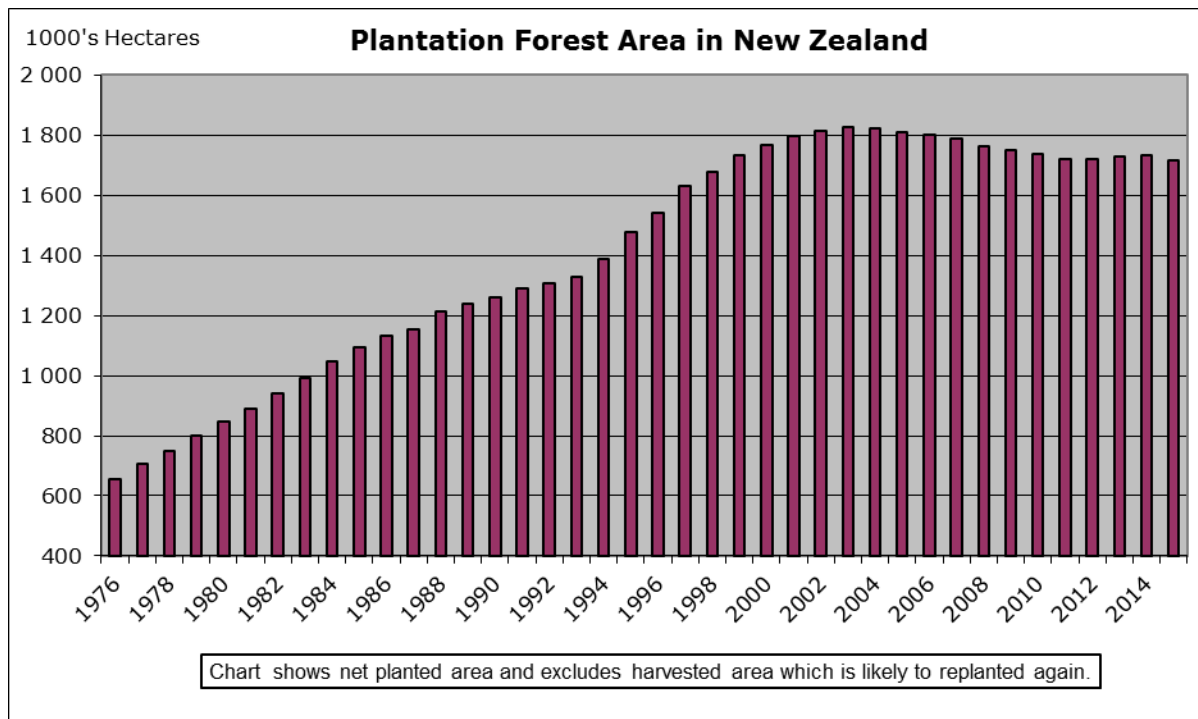
Domestic building activity has lifted strongly over the last two years. Residential building consents for CY2015 were 99% greater in number than at the low point in 2011. Demand for structural and appearance grade lumber in New Zealand is ramping up. Unless annual total wood product production can increase from the 5.5m cubic meters recorded over the last four years, export volumes may reduce to accommodate the domestic demand. It is forecast that for MY2016 the total volume of wood products produced will again be 5.5m cubic meters. Current information to hand suggests the total export of lumber and wood products will continue at 3.17m cubic meters.

Raw log exports in MY2015 totaled 15.9m cubic meters, 83% of the total volume of wood exports. This was four percent decrease on MY2014. The forecast small increase in log harvesting in MY2016 should mean log exports will reach 16m cubic meters.

Total export receipts in US Dollars for MY2015 at US\$2.61 billion were 17% down on MY2014 because of lower log volumes and reduced in-market prices. But because the New Zealand dollar depreciated significantly during the year, in New Zealand dollar terms export receipts were only down five percent. Value wise China and Japan led the reductions in export receipts at 24% and 25% down respectively.

(Note: the marketing year here (MY) is defined as the 12 months to the end September.)

Forest Area 2015 and Planting Intentions



Source: MPI

The net planted area as of April 2015 was 1.718 million hectares (ha). The mini expansion in planting from 2012 to 2014, where the net planted area peaked at 1.733 million hectares (ha) in 2014, is over. However the tide may be about to turn once again to more sustained increases in planting because:

- The carbon price in the New Zealand Emissions Trading Scheme has risen from a low of NZ\$1/NZ Unit (1 Unit equals 1 ton of Carbon as CO₂ sequestered in the trees) in October 2012 to NZ\$17/NZ Unit by mid-June, 2016. Industry participants say that once the NZU carbon price is around NZ\$20/NZU it will stimulate planting. By being able to sell carbon credits as the tree grows for meaningful cash flow makes a forestry investment much more viable. Reportedly there is already new interest in establishing new plantings.
- Log prices at the forest gate or at the wharf in New Zealand dollars have recovered from a dip in 2015. Pruned, clear wood is in very high demand both domestically and in the export markets. Good log prices in the present give investors' confidence to start planting even though it may be up to thirty years away before they receive any income.
- Modern pine plantations are growing at 20 cubic meters of wood per ha per year. A well-tended stand could be gaining net value at the rate of NZ\$1,000 to NZ\$1500 per ha per year. This would be better than most sheep and beef farms can achieve for annual revenue per hectare. The draw back for forestry is the cash flow disadvantages: - all the establishment costs are incurred in the first ten years but it is a 27 to 32 year wait from planting to realize the value at harvest.

- As environmental limits for Nitrates, Phosphates, and sediment discharges are tightened up around the country, some farmers may take the opportunity to plant blocks of trees to provide environmental services (i.e. reduce average phosphate run-off, nitrate leaching, and sediment run-off). This could offset having to reduce production of milk or meat to meet reduced limits.
- Deforestation especially on the central volcanic plateau of the North Island has essentially ceased as returns from land-use change to dairying have plummeted and environmental constraints look a lot closer to becoming reality in the Waikato River catchment.

However some black clouds are present which will work against unbridled confidence in the sector:

- The largest forest owners are asset class holders who are not looking to invest in green-field planting of new forests.
- The Chinese demand for wood products from lumber to raw logs seems uncertain. The recovery for the export log price in NZ (third quarter CY2015 and into first quarter CY2016) had a lot to do with reduced shipping costs and a depreciating New Zealand currency not significant price increases in China. However in recent weeks the NZ Dollar has appreciated by nearly 4% and shipping prices have come off their lows.

Log Harvesting 2015 and 2016

The log harvest for the year ending September 2015(MY) at 29.33 million cubic meters of roundwood was two percent below the same period in 2014. The reduction in demand for raw logs from China and subsequent log price reductions was the predominant reason for the lower log harvest. It appears as the log prices have recovered so has the harvesting volume. The three months to March 2016 delivered a small one percent increase over the previous quarter and the log harvest for April has reportedly been very good. It is now forecast that the harvest for the year to September 30th 2016 will be 29.5 million cubic meters, which would be just 0.5% greater than the previous year.

Harvest Volumes in the Longer Term

Reports by the Ministry for Primary Industries (MPI) now forecast the annual harvest volume to reach 32.4 million cubic meters by 2020. The peak harvest resulting from the bulge in planting in the early 1990's, is now forecast at 34 million cubic meters. Previous reports had the peak harvest volumes in the 2020's in excess of 36 million cubic meters.

However it is unlikely that the peak harvest volume of 36 million cubic meters will be reached for two reasons: firstly, because the industry has boosted harvest volumes significantly (50%) over the last eight years well ahead of previous MPI forecasts which will tend to flatten the peak; and secondly the present harvesting and processing infra-structure would struggle to handle a log harvest of 36 million cubic meters without significant investment. However businesses which potentially could invest are concerned that the peak harvest volumes will not be maintained and will fall away by 2030 which may leave some processing capacity not viable.

National Exotic Forest Estate Statistics

Area and standing volume at: (note 1)	1-Apr-11	1-Apr-12	1-Apr-13	1-Apr-14	1-Apr-15
Forest area					
Net stocked area (ha)	1719400	1720840	1728500	1733432	1717715
Harvested area awaiting replanting (ha) ^(note2)	54300	57534	51869	44642	53903
Total forest area	1773700	1778194	178369	1778074	1771618
Growth characteristics					
Standing volume (000 m ³)	479709	488437	512137	488603	501716
Average standing volume (m ³ /ha)	279	284	296	282	292
Area-weighted average age (years)	16.3	16.4	16.8	16.8	17.1
Area by species ^(note3)					
Radiata pine (ha)	1545000	1543600	1553700	1559055	1544480
Douglas-fir (ha)	107000	107900	106500	105133	104999
Cypress species (ha)	10000	10400	10123	9941	10123
Other softwoods (ha)	24000	24000	23581	22947	22361
Eucalyptus species (ha)	22000	23000	21985	23826	23260
Other hardwoods (ha)	13000	13000	12579	12530	12493
Radiata pine area by tending regime					
Pruned with production thinning (ha)	210000	207000	203347	183722	173538
Pruned without production thinning (ha)	700000	692000	687225	651012	637597
Unpruned with production thinning (ha)	35000	41000	40838	34572	33329
Unpruned without production thinning (ha)	599000	603000	622321	689749	700016
Planting statistics Year ended (note 4)	31-Dec-10	31-Dec-11	31-Dec-12	31-Dec-13	31-Dec-14
Total estimated new planting (ha) (note5)	6000	12000	11500	3500	2500
Replanting (ha) (note6)	35226	39253	45154	40867	41353
Harvesting statistics Year ended ^(note7)	31-Mar-11	31-Mar-12	31-Mar-13	31-Mar-14	31-Mar-15
Area clearfelled-all species (ha)	43300	44618	50342	46001	49896
Area clearfelled-radiata pine (ha)	39800	41066	47384	42986	46045
Volume clearfelled-all species (000 m ³) (note6)	21725	23567	26296	23437	26492
Volume production thinned-all species (000 m ³) (note6)	201	95	307	244	325
Total volume removed -all species (000 m ³) (note6)(note8)	21926	23662	26603	23681	26818
Average clearfell yield -all species (m ³ /ha) (note6)	506	530	522	515	537
Volume clearfelled -radiata pine (000 m ³) (note6)	20493	22215	25131	22331	25036
Average clearfell yield - radiata pine (m ³ /ha) (note6)	515	559	530	519	544
Area-weighted average clearfell age for radiata pine (years)	28.6	28.8	27.7	28.9	28.4

Notes:

1. Source: National Exotic Forest Description as at 1 April, for the year noted, compiled by the Ministry for Primary Industries.
2. In this report, the area of harvested land that was recorded as awaiting a land use decision has been reported in the area awaiting replanting.
3. Individual entries may not add to totals due to rounding.

4. The forestry statistics released in this report, and in particular, new planting estimates, may differ from those produced in the Agricultural Production Survey by Statistics New Zealand. These surveys use different survey frames and methodologies.
5. The 2015 survey only sought data from owners with 1000 hectares of forest or more. These estimates have been rated up based on the 2014 NEFD survey results for owners with less than 1000 hectares of forest.
6. All volumes are reported as recovered volumes inside bark.
7. These estimates are based on data collected in the 2015 NEFD surveys and may differ from the roundwood removals estimate as published in the Annual log and roundwood removal statistics, Ministry for Primary Industries. This is due to the estimate from that source being an indirect estimate that uses conversion factors for each forestry product to estimate the total roundwood input that would be required to produce total forest product outputs.
8. From the 2014 NEFD onwards standing volume is calculated using an updated set of yield tables.

Estimated Roundwood Removals from New Zealand Forests (units: 000 cubic meters of roundwood)										
Natural Forest		Removals from planted production forests							Total Removals	Year Ended Total Removals
Year Ended	Total Removals	Saw Logs	Peeler Logs	Small Logs	Pulp Logs	Export Chip s	Export Logs	Total Plantation Removals		
Dec-08	2	1502	263	289	774	63	1778	4 669	4 670	19 472
Mar-09	5	1449	171	284	781	22	1547	4 254	4 258	18 936
Jun-09	1	1575	157	275	858	51	2447	5 364	5 365	19 501
Sep-09	4	1762	194	315	849	68	2586	5 774	5 778	20 071
Dec-09	4	1712	204	302	896	67	2241	5 422	5 426	20 827
Mar-10	5	1710	229	289	856	90	2293	5 467	5 472	22 041
Jun-10	5	1950	284	258	906	85	2792	6 274	6 279	22 955
Sep-10	5	2026	320	271	949	74	2717	6 356	6 361	23 538
Dec-10	4	1679	285	250	978	99	3084	6 374	6 379	24 491
Mar-11	4	1597	268	248	849	60	3086	6 109	6 113	25 132
Jun-11	4	1820	317	320	897	132	3397	6 883	6 886	25 739
Sep-11	3	1822	318	326	931	111	3263	6 771	6 774	26 152
Dec-11	5	1684	294	307	901	113	3053	6 353	6 774	26 547
Mar-12	3	1694	285	302	854	94	2819	6 048	6 050	26 484
Jun-12	3	1906	315	324	877	78	3832	7 331	7 334	26 932
Sep-12	4	1921	299	330	902	78	3184	6 713	6 717	26 875
Dec-12	3	1814	236	308	901	124	3927	7 310	7 313	27 414
Mar-13	5	1619	225	317	814	84	3709	6 768	6 772	28 136
Jun-13	6	1874	269	312	844	80	4133	7 512	7 518	28 320
Sep-13	7	1944	288	322	885	63	4380	7 882	7 889	29 492
Dec-13	5	1675	268	300	892	65	4380	7 580	7 585	29 764
Mar-14	5	1610	276	301	836	48	4190	7 260	7 265	30 257

Jun-14	5	1875	339	296	848	70	4309	7 737	7 742	30 481
Sep-14	6	2009	349	318	896	37	3716	7 324	7 330	29 922
Dec-14	5	1675	284	304	915	69	4369	7 615	7 620	29 957
Mar-15	5	1681	280	295	884	60	3764	6 963	6 969	29 661
Jun-15	6	1842	325	323	845	67	4155	7 556	7 562	29 481
Sep-15	4	1973	326	322	890	64	3598	7 173	7 178	29 329
Dec-15	5	1734	300	309	899	51	3879	7 171	7 176	28 885
Mar-16	5	1728	301	310	908	59	3916	7 222	7 227	29 143

Source: MPI

Wood Disposal 2012 to 2015– Where Did All the Logs Go?

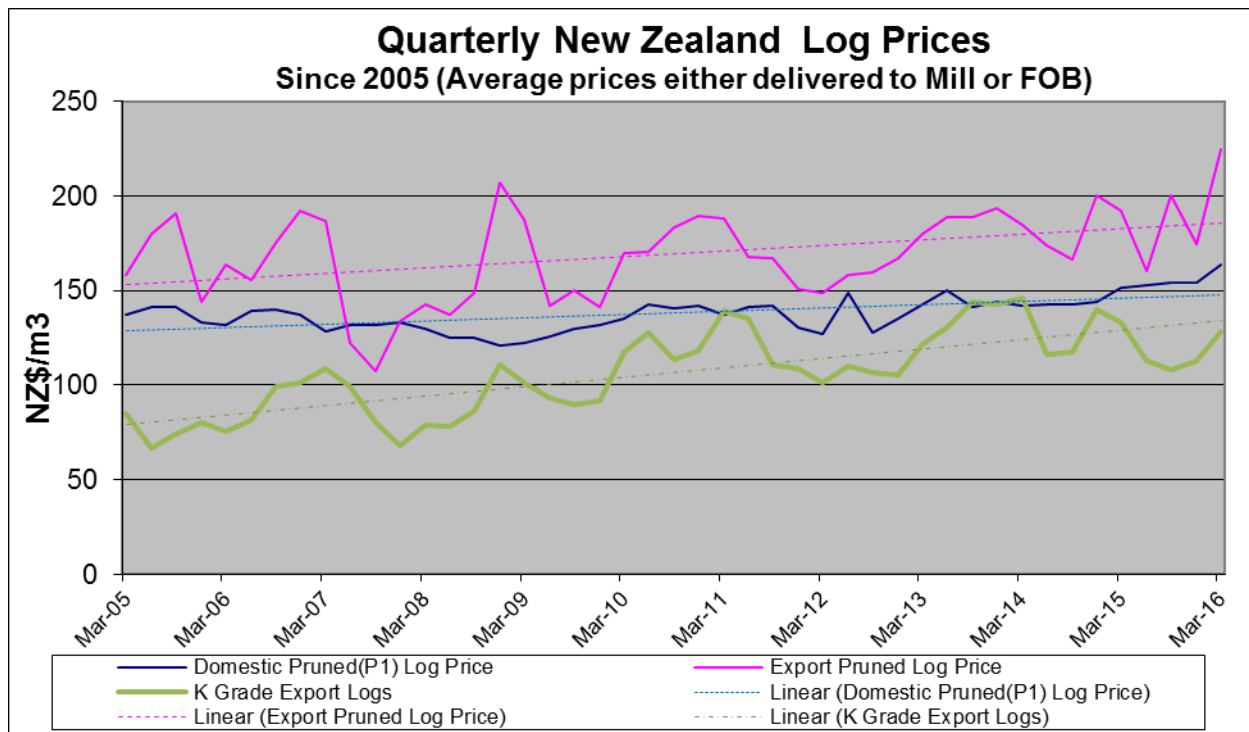
New Zealand Wood Supply & Disposal Reconciliation				
In millions cubic meters				
Years Ending September 30	2012	2013	2014	2015
Wood Production from Log Harvest	26.88	29.49	29.92	29.33
Disposed of by:				
Logs Directly Exported	12.89	16.15	16.6	15.89
Wood Chips exported	0.36	0.35	0.22	0.26
Timber & Wood Production	5.59	5.50	5.48	5.46
Pulp & Paper Production	3.53	3.44	3.47	3.53
Residual	4.51	4.05	4.15	4.19

Source: MPI, StatsNZ, GTA, Post estimates

Note: The residual row includes offcuts from the processing sector which gets used for energy co-generation; smaller niche end-uses such as sawdust for animal bedding; and that which goes to waste.

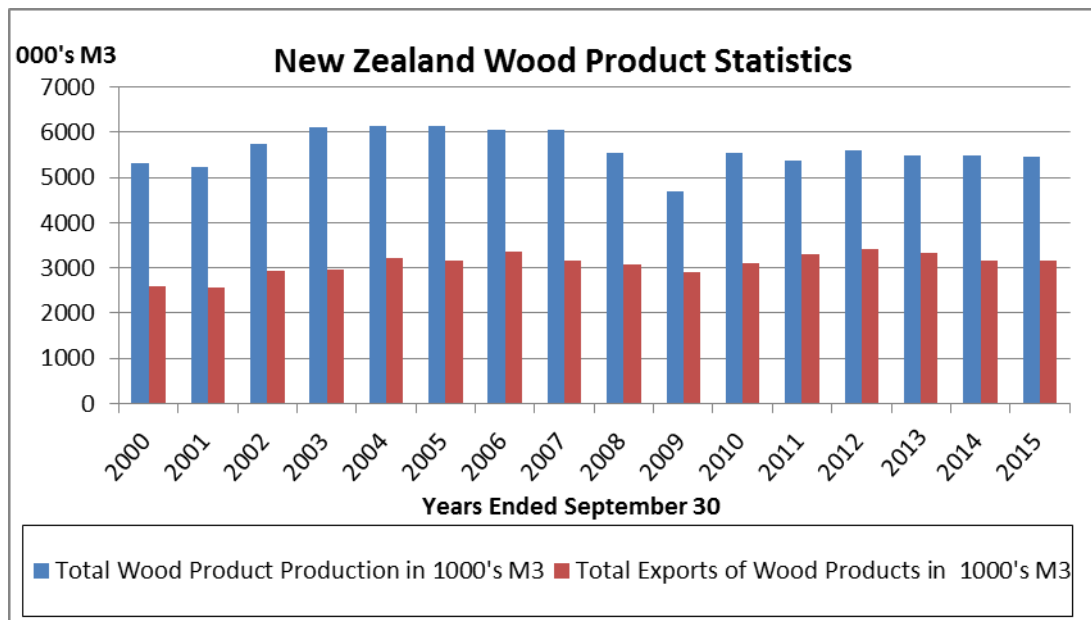
Exports versus Domestic Usage

Log prices

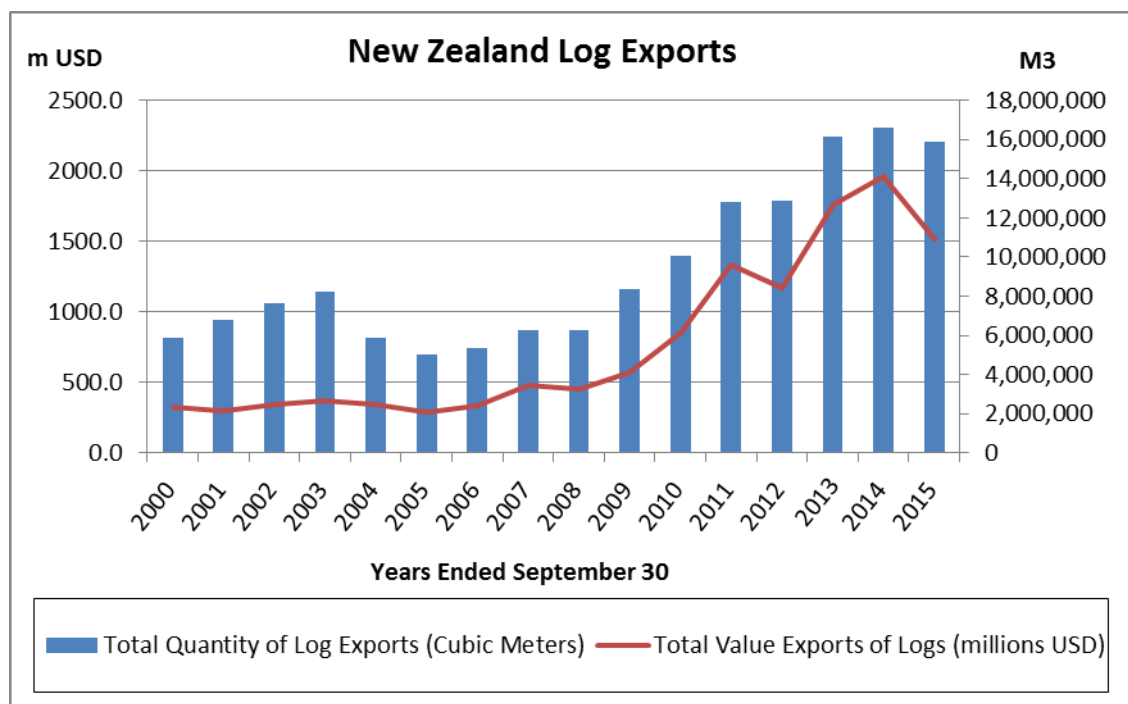


MPI

Source:



Source: GTA, StatsNZ, MPI



Source: GTA

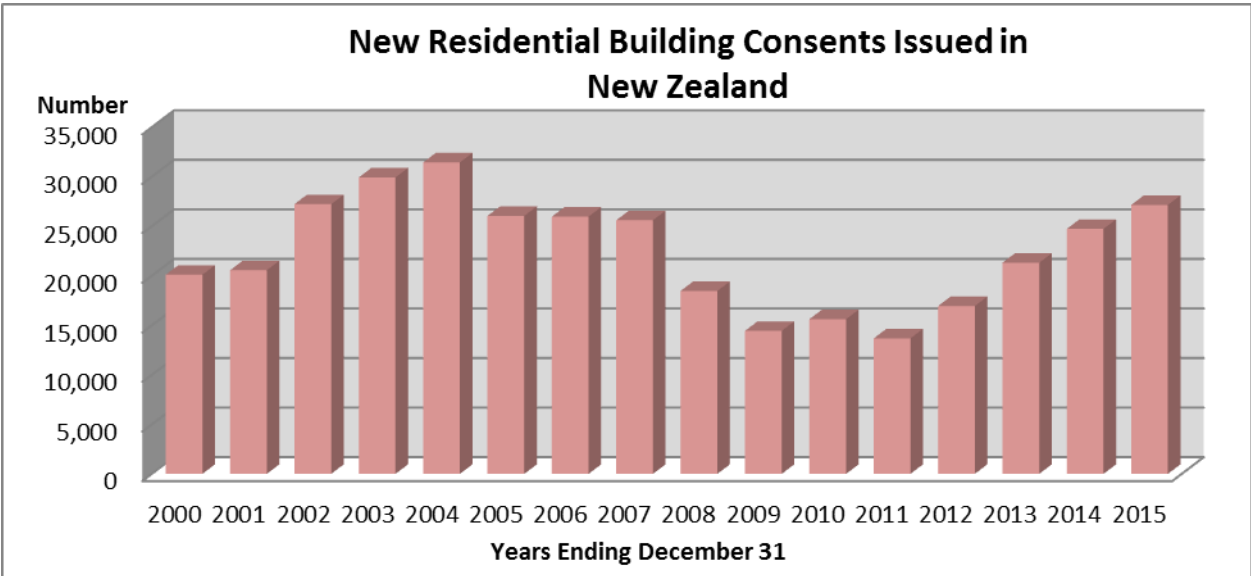
The Domestic Scene

There is now solid evidence that the domestic building scene has moved strongly off the lows in activity during 2010 and 2011. Residential building consents for CY2015 were 99% greater in number than at the low point in 2011. Non-residential building consent numbers are hovering in a range 5,700 to 6,400 p.a. which is only approximately seven percent off the lows in CY2010 and CY2011 however the total floor area at 3.35 million square meters in CY2015 is getting back to the highs recorded back in CY2004 and CY2005 of 3.75 million square meters.

Residential building activity in Christchurch (post 2011 earthquake rebuild) has probably peaked but commercial building is ramping up now. In Auckland, the main population center, there is a surplus of demand over supply for housing mainly because of the significant increase in immigration. The Auckland City authorities are only just coming to terms with the influx and together with central government are only now making actual steps towards implementing solutions. In CY2015 the total house building consents numbered 27,132 still 4,300 below the last high point in CY2004. To realistically address the supply/ demand imbalance new residential housing starts need to exceed 35,000 houses p.a. Regulatory change and the confidence in the building sector probably mean this is likely to happen over the next two to five years.

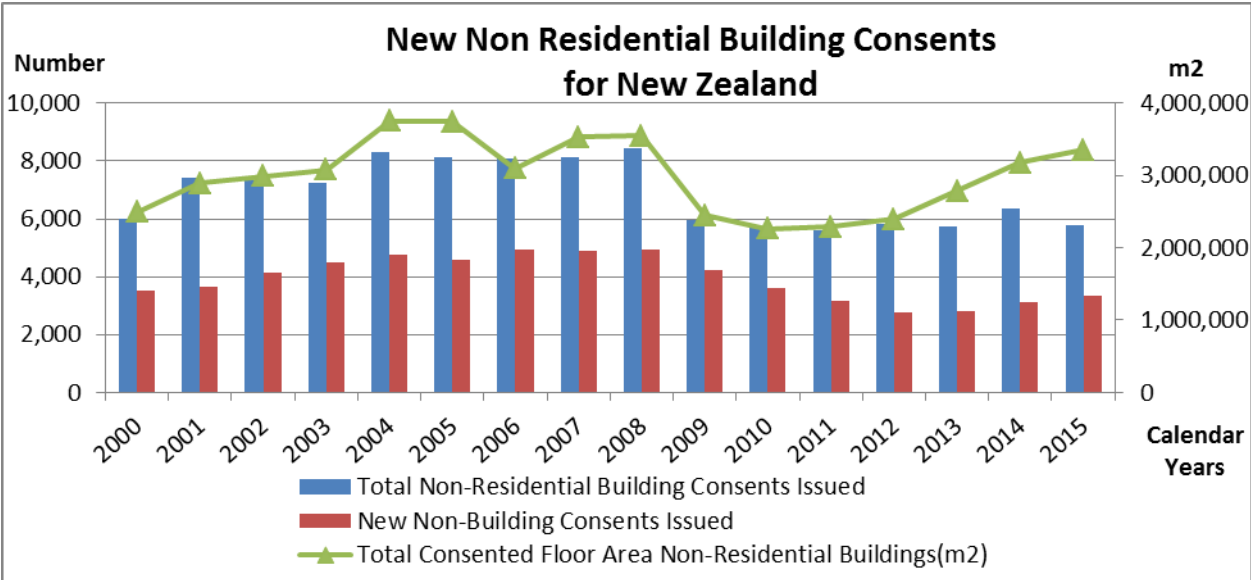
Domestic wood processing volumes have hovered around 5.5 million cubic meters for the last four years and seem to have supplied the increased housing lumber needs so far. Based on log harvest and wood processing for the year to date total lumber and wood product production for MY2016 is forecast to be 5.5 to 5.6 million cubic meters. On the face of it the increased demand for lumber in housing over the next few years should be satisfied by the increases in log harvest forecast over the next four years. However, in the early 2000s growers, based on financial forecasts at the time, to a degree moved away from pruning. Now, with the demand coming

on for pruned logs, there are incremental drops in supply of pruned logs. This may mean even though the total volume of exports may rise it will be lower value industrial lumber and raw logs but structural and appearance grade timber exports may reduce to satisfy domestic demand.



Sources:

MPI, StatsNZ



Sources:

MPI, StatsNZ

Total New Zealand Wood Processing Classified to Broad Product Type

Shown as the proportion of quantity produced in the year to September for each type is of total output of wood processed

Product Category	Lumber Production	Veneer incl. for use in Plywood & LVL Production	Particle Board Produced	Fibre Board Produced
% of each type 2003	71.7%	10.4%	3.6%	14.4%
% of each type 2013	73.1%	11.0%	2.9%	12.9%
% of each type 2014	72.5%	12.3%	2.7%	12.5%
% of each type 2015	72.7%	11.3%	2.7%	13.3%

Source: MPI, StatsNZ

New Zealand Exports and Trade

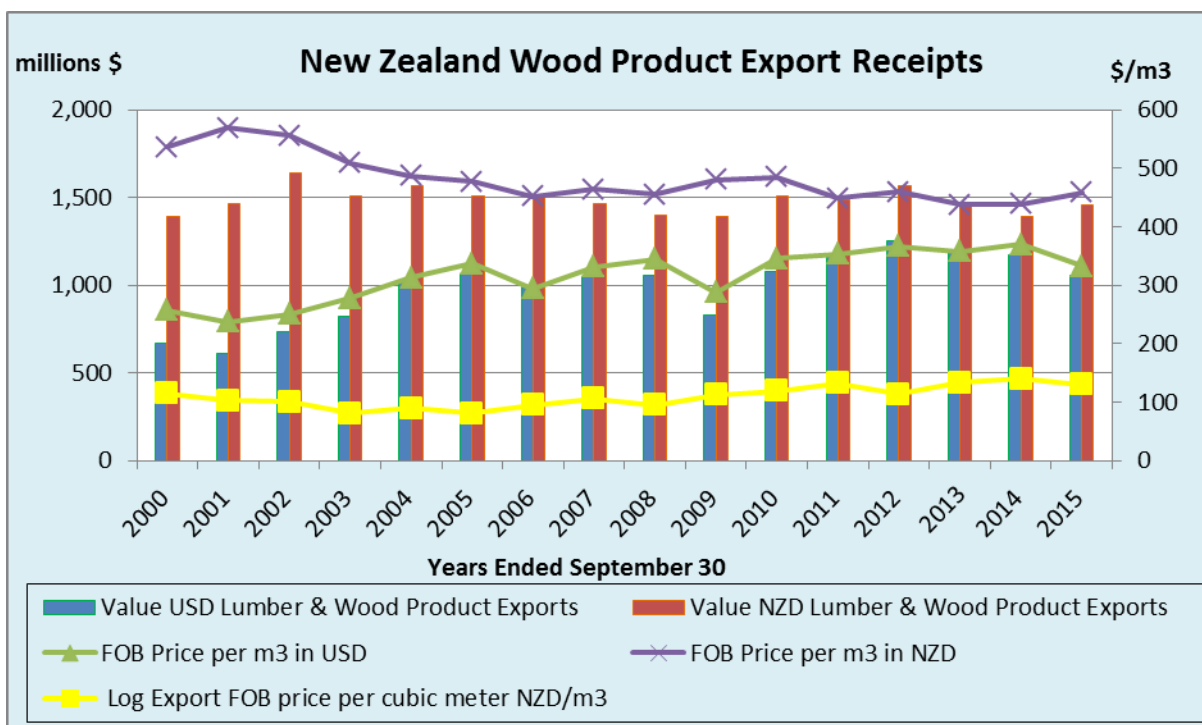
Total Log Exports for MY2015 were 15.9 million cubic meters which was 4% below the total for the same period 2014. For the year-to-date 2016 log exports are trailing the 2015 year but the increase in logging observed in March and April 2016 is expected to carry on for the rest of the year and consequently log exports are forecast to at least match the 2015 total if not reach 16 million cubic meters.

The narrative in New Zealand is that overall log and possibly lumber exports out of North America, Canada especially, to China is going to reduce, which will leave a gap for New Zealand to fill. This would suit the quality of log (K grade un-pruned) which will form the majority of the increase in volume over the next five years. Total log exports could reach 17.5 to 18 million cubic meters by 2020.

Total lumber and wood product exports from New Zealand have been stable over the last two years when viewed from a volume basis, estimated at 3.17 million cubic meters for MY2014 and MY2015. The most likely scenario for MY2016 is a similar volume of exports.

Down at the individual lumber/wood product category level there was not a lot of significant change in MY2015. Sawn lumber over six millimeters thick makes up 54% of all exports and the total volume exported in MY2015 was down 2.5% on the previous year. Fibreboard exports were notable because as a major export category they were up eight percent.

As for the export destinations the rankings didn't alter much Japan dropped to number four by value having been number two for the previous two years. Australia assumed the number two ranking but the total value of exports was still down by 12% on a US Dollar basis. New Zealand timber has been losing market share in Australia to cheaper European imports. Overall the export table below demonstrates the export side of the sectors reliance on exports to China who has contributed 45% to 49% of the total export receipts by value in US dollars over the last three years.



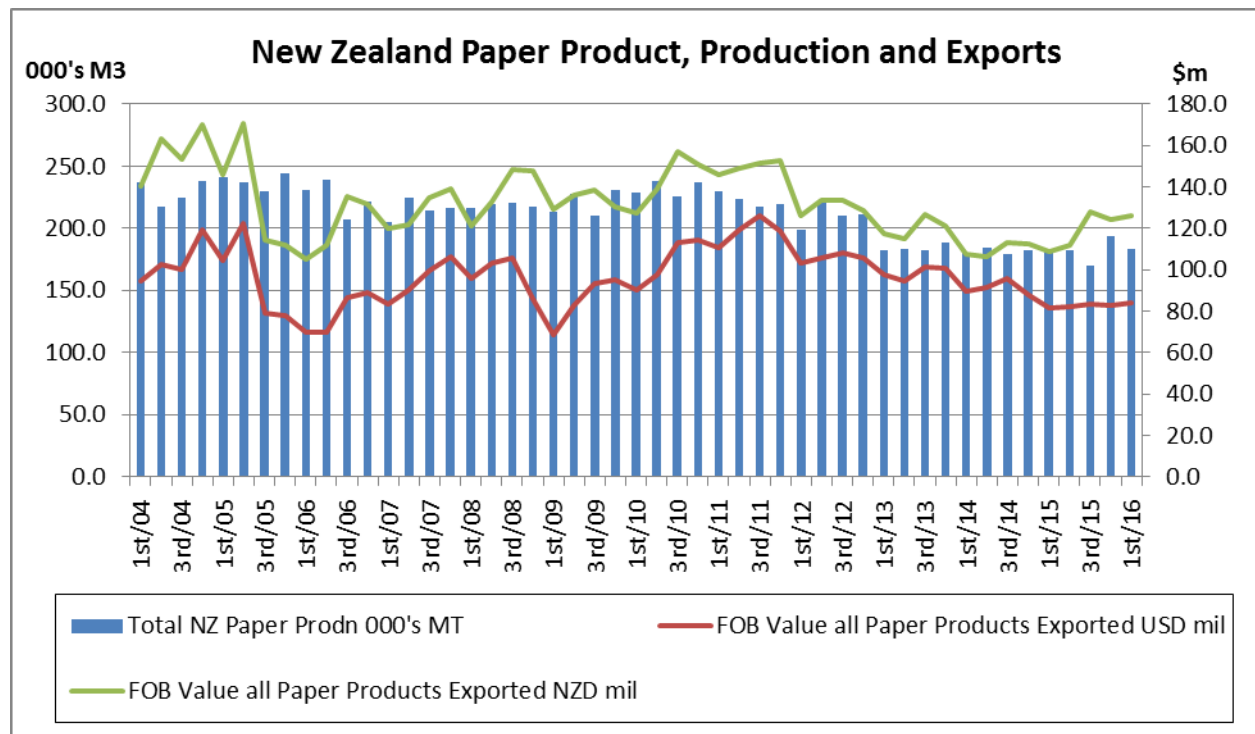
Source: GTA

New Zealand Export Destinations for Wood Products excl. Pulp/Paper by FOB Value							
Year Ending: September							
Partner Country	United States Dollars			% Share			% Change 15/14
	2013	2014	2015	2013	2014	2015	
China	1,410,877,515	1,537,458,692	1,175,010,770	46.88	48.55	44.94	- 23.57
Australia	299,393,115	325,304,274	285,619,014	9.95	10.27	10.92	- 12.20
Korea South	313,193,744	312,941,656	262,134,345	10.41	9.88	10.02	- 16.24
Japan	348,385,352	329,694,191	247,587,550	11.58	10.41	9.47	- 24.90
India	163,462,009	167,704,342	161,497,927	5.43	5.30	6.18	- 3.70
United States	145,821,770	144,177,040	146,653,879	4.85	4.55	5.61	1.72
Taiwan	49,101,640	43,730,935	50,639,446	1.63	1.38	1.94	15.80
Vietnam	51,736,561	48,253,182	46,052,071	1.72	1.52	1.76	- 4.56
Indonesia	32,839,454	31,649,190	35,241,993	1.09	1.00	1.35	11.35
Philippines	38,597,162	42,261,646	30,930,912	1.28	1.33	1.18	- 26.81
All Other Destinations	155,838,861	183,336,568	173,440,692	5.18	5.79	6.63	-5.40
World Total	3,009,247,183	3,166,511,716	2,614,808,599	100.00	100.00	100.00	- 17.42

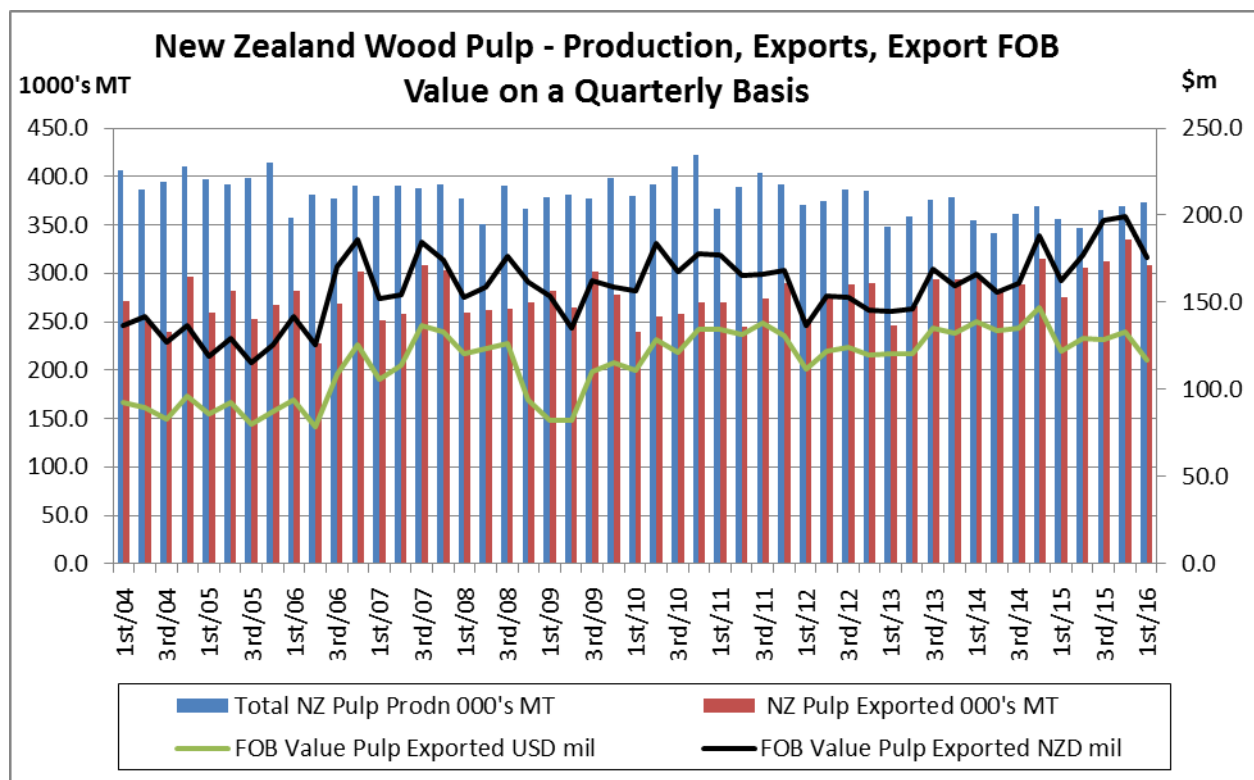
Source: GTA

New Zealand Export Destinations for Wood Pulp & Paper by FOB Value							
Calendar Year: 2013 - 2015							
Partner Country	United States Dollars			% Share			% Change 15/14
	2013	2014	2015	2013	2014	2015	
Australia	255,567,507	251,938,750	225,319,177	28.33	27.38	26.75	- 10.57
China	174,064,166	193,073,390	191,295,533	19.30	20.98	22.71	- 0.92
Korea South	77,102,575	81,493,805	71,174,126	8.55	8.86	8.45	- 12.66
Indonesia	100,822,903	89,457,619	69,451,516	11.18	9.72	8.25	- 22.36
Japan	49,560,868	50,629,754	48,994,414	5.49	5.50	5.82	- 3.23
South Africa	38,962,552	49,174,126	41,979,025	4.32	5.34	4.98	- 14.63
Malaysia	39,942,103	35,961,574	31,940,278	4.43	3.91	3.79	- 11.18
Thailand	21,301,690	26,090,921	30,042,789	2.36	2.84	3.57	15.15
India	15,006,739	22,634,156	26,954,383	1.66	2.46	3.20	19.09
All Other Destinations	129,700,203	119,858,660	105,021,866	14.38	13.02	12.47	-12.38
World Total	902,031,306	920,312,755	842,173,107	100.00	100.00	100.00	- 8.49

Source: GTA



Source: GTA



Source: GTA

China



Source: GTA

The narrative within the sector now is that Canadian exports to China will reduce because of insect damaged forest, fires, and better demand from the US for lumber. This will ultimately lead to NZ getting better prices or an increased volume of lumber and/or logs in to China.

United States

Overall volume of wood product exports from New Zealand to the US were up ten percent in MY2015 and the FOB value in NZ dollars was up 19%. However in US dollar terms exports were only up two percent underlining the help the depreciating NZ Dollar gave exporters during MY2015. In fact average prices per cubic meter of timber in USD terms were down eight percent. Lumber over six millimeters thick makes up 76% of exports by volume and was up eleven percent in MY2015 over MY2014. Fibreboard products, which now make up 20% of total exports, were up 45% on a volume basis.



Source: GTA

Note: This analysis does not include wood chips which are relatively minor.

Other Issues

New Saw Mills

Red Stag Timber (NZ's single largest sawmill) has almost completed, at reportedly \$NZ120 million cost, a major upgrade to its capacity to become a state of the art one million cubic meter output mill. It is likely it will take market share off other mills because it will be more cost-efficient.

The Lumber-Cube mill in Rotorua can now process 700,000 cubic meters per annum. It takes export logs and cuts the bark and just enough wood off the log to cube it for more efficient transport off-shore to buyers who will further process the wood to their own specifications. The off-cuts/residue is sent to the pulp and paper mills.

Useful Websites:

MPI: <http://www.mpi.govt.nz/>

NZ Forest Owners Assn: <http://www.nzfoa.org.nz/>

Wood Processors Association of New Zealand: <http://www.wpa.org.nz/>

Structural Timber Innovation Company (STIC): <http://www.stic.co.nz/home>

Cross Laminated Timber: <http://nzwood.co.nz/industry-news/2011/07/05/cross-laminated-timber-comes-to-nz/>