Ministry for Primary Industries
Manatū Ahu Matua

Deforestation Intentions Survey 2018

Final Report

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Te Whare Wānanga o Waitaha

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Executive summary

Information on future rates of deforestation of planted forest is needed to assist with projecting New Zealand's likely emissions over the second commitment period of the Kyoto Protocol and beyond given New Zealand's commitment under the Paris agreement, as well as to inform future policy development.

This study was commissioned to:

- Gather and analyse the current and future conversion (from forest to another land-use) intentions of exotic forest owners/managers.
- Assess conversion intentions from a suitable sample group to obtain reliable estimates of national deforestation of planted forest up to the year 2030.
- Gauge how forest owners are likely to alter future conversion intentions under different carbon price and policy scenarios supplied by MPI.
- Assess the intention to implement offset planting under the flexible land use provision of the ETS.
- Provide commentary on:
  - information sourced and the methodology used;
  - key reasons and drivers behind conversion;
  - uncertainty in the stated intentions.

The scope of this report is limited to New Zealand plantation forests.

The general approach followed was a structured review of the conversion intentions of large-scale forest owners based on a telephone survey and other information gathering. Respondents were asked for their conversion intentions under two different scenarios:

1. Emissions Trading Scheme (ETS) – this assumes that the ETS legislation as amended under the Climate Change Response (Emissions Trading and Other Matters) Amendment Act 2012 (enacted on 13 November 2012) continues unchanged.

   As part of this scenario respondents were asked how much area of offset planting they would undertake.

2. No ETS legislation – this assumes that the ETS is repealed and not replaced by any other comparable legislation.

Results from the survey of large-scale forest owners were collated and interpreted. Additional information was sought from forestry consultants and managers to assess the current level of conversion for the small-scale estate. Results from an earlier survey of the intentions of forest owners following harvest of post-1989 forests were also considered. Based on the available information, it has been assumed that 10% of the small-scale forest area harvested will be converted to another land-use.

MAIN FINDINGS OF SURVEY

Less conversion (from forest to another land-use) is forecast for large-scale forest owners under the ETS scenario compared to the No ETS scenario – 10,000 hectares versus 16,000 hectares for 2018-2030. A summary of results for the ETS scenario is presented in Table 1.

Table 1: Forecast of area (ha) of conversion from forest to another land-use of plantation forest (ETS scenario).

	2018	2019 to 2030	2018 to 2030
Large-scale owners only	1,000	9,000	10,000
All owners	3,000	37,500	40,500

***Note:** These forecasts are based on current intentions. They reflect perceptions about land-use economics, land prices, government policy implementation, emission unit price and other factors as they exist at the time of the survey. As such, they are subject to change.*

Total conversion by all owners under the ETS scenario is estimated as 40,500 hectares between 2018 and 2030. During this period large-scale owners envisage 10,000 hectares of conversion. A further 30,500 hectares of conversion is estimated for small-scale owners.

The survey was carried out at a time when the carbon price was near $25/NZU. At this price level, the deforestation liability is a deterrent to land conversion for pre-1990 planted forest owners. Consequently there is an ongoing intention to use the flexible land use provision in the ETS. Large-scale owners intend to plant a carbon-equivalent area of new land to offset the conversion of 71 percent of the area of pre-1990 forest intended for conversion. This percentage could increase as options are still being evaluated for some conversion projects.

Of the 10,000 hectares that is intended to be converted by large-scale owners, less than 100 hectares is classified as post-1989 forest, the balance is pre-1990 forest. Of the intended conversion between 2018 and 2030, 45 percent will be to sheep and beef agriculture, 34 percent to dairy (or dairy support), 10 percent to residential/lifestyle and 11 percent to other land-uses including infrastructure and mining. The ranking of sheep and beef agriculture and dairy has swapped from the ranking in previous years.

The level of conversion varies by region with 51 percent of conversion by large-scale owners during 2018 to 2030 forecast to take place in Canterbury and 24 percent in the Central North Island. Most offset planting from 2018 to 2022 will occur in Otago (51 percent) and Wairarapa (39 percent).

A major source of uncertainty relates to the return of significant areas of Crown Forestry Licence (CFL) land to Māori as part of settlement of Treaty claims. In a number of cases iwi are still formulating future land-use plans. However virtually all ex-CFL land is currently being replanted after harvest.

As the large plantings of the 1990s mature, the conversion intentions of small-scale owners will have an increasing impact on the national level of deforestation. Given the diverse ownership of the small-scale estate there is greater uncertainty about their conversion intentions. However, as is the case for large-scale forests, most small-scale forests are being replanted after harvest.

Introduction

BACKGROUND

MPI requires information on exotic forest land owner's current and future deforestation intentions. This information will be used for government projections of greenhouse gas (GHG) emissions for the second commitment period of the Kyoto Protocol and beyond.

Under the Kyoto Protocol and the UNFCCC, New Zealand must report CO_2 emissions resulting from deforestation. Therefore information on the projected deforestation will assist with GHG reporting and the Emissions Trading Scheme (ETS) financial forecast (as required for the Public Finance Act 1989). Information on deforestation also informs future policy scenarios and helps MPI assess the broader impacts of changing land use.

OBJECTIVES

The key objectives for this project are to:

- Gather and analyse the current and future conversion (from forest to another land-use) intentions of exotic forest owners/managers.
- Assess conversion intentions from a suitable sample group to obtain reliable estimates of national deforestation up to the year 2030.
- Gauge how forest owners are likely to alter future conversion intentions under different carbon price and policy scenarios supplied by MPI.
- Assess the intention to implement offset planting under the flexible land use provision of the ETS.
- Provide commentary on:
  - information sourced and the methodology used;
  - key reasons and drivers behind conversion;
  - uncertainty in the stated intentions.

The scope of this survey and report is limited to New Zealand plantation forests.

Deforestation definition

There are a number of different definitions for deforestation depending upon use and context. Deforestation is defined in the Marrakesh Accord as "the direct human-induced conversion of forested land to non-forested land".

Deforestation includes:

- A decision not to replant following clearfell with the conversion to another land use.
- Early liquidation of a forest (i.e. removing immature trees with conversion to another land use).

Deforestation excludes:

- Forests harvested and replanted.
- Harvested forests that are not replanted but naturally regenerate back into forest.

For the purposes of the ETS, deforestation is defined in the Climate Change Response Act (2002). Section 179 is reproduced in the Appendix. It legislates that deforestation is deemed to have occurred if:

- a specified stocking has not been achieved within four years of clearing by replanting or regeneration; or
- a specified canopy cover has not been achieved within 10 years of clearing.

The Act was amended by the Climate Change Response (Emissions Trading and Other Matters) Amendment Act 2012 to allow for conversion to not be treated as deforestation in certain cases including, under Section 179A,"in the case of pre-1990 forest land that is the subject of an offsetting forest land application that the EPA has approved under section 186B, the pre-1990 forest land that is cleared may not be treated as deforested if cleared".

Consequently, under the ETS, the area of deforestation is calculated as the area of conversion less the area of offset planting.

Approach

The general approach followed is a structured review of the conversion intentions of large-scale forest owners (owners with more than 10,000 hectares of forest as at 31 March 2005[1]), based on a telephone survey and other information gathering. This approach was taken because:

- The New Zealand plantation forest estate is relatively well understood in terms of ownership, land tenure and age-class.
- Half of the area that will be harvested over the next 10 years, and hence be most susceptible for conversion, is owned by relatively few owners.
- Owners have been willing to participate.
- Information is available from other sources in the forest industry that can be used to corroborate the stated intentions of forest land-owners.

Essentially the survey is a census of all large-scale forest owners. The dominant role that they currently play in the New Zealand plantation harvest is illustrated in Table 2. Large-scale forest owners account for 59 percent of the total plantation estate but they own 63 percent of the plantations of age 26 and older (as at 1 April 2017). There are relatively few owners in this category and therefore it makes sense to focus on their conversion intentions.

Table 2: Plantation area (ha) by age-class and size of ownership [Source: NEFD as at 1 April 2017]

	Age-class							
	1-5	**6-10**	**11-15**	**16-20**	**21-25**	**26-30**	**> 30**	**Total**
Large-scale owners[1]	175307	153600	157755	190131	175550	83351	68039	**1003733**
Small-scale owners	51411	47155	74956	164011	269252	37741	50652	**695177**
Total	**226718**	**200754**	**232711**	**354142**	**444802**	**121092**	**118691**	**1698910**

In some cases forest owners only have the right to harvest the existing crop and do not have the right to replant. Consequently the survey also included large-scale forest land-owners.

Large-scale forest owners and forest land-owners (or managers) were contacted in November/December 2018 and asked about their conversion intentions. In addition, individuals in other organisations were contacted to obtain their views. The information received was collated and interpreted. It was then converted into a "best estimate" of future conversion based on current intentions. Results were aggregated to a national level.

Table 2 indicates that, over the next 10 years, small-scale forest owners will contribute an increasing proportion of the area that is harvested, and liable to be deforested. The large plantings by small-scale owners in the 1990s mean that they own 52 percent of the plantations of age 21 and older (as at 1 April 2017). Consequently additional information was sought to assess the current level of conversion for the small-scale estate. Consultants and managers were asked about the proportion of the small-scale area harvested over the last one to two years that has been or will be converted.

ALTERNATIVE SCENARIOS

Respondents (to the survey of large-scale owners) were asked for their conversion intentions under two different scenarios:

1. Emissions Trading Scheme (ETS) – this assumes that the current ETS legislation as amended under the Climate Change Response (Emissions Trading and Other Matters) Amendment Act 2012 (enacted on 13 November 2012) continues unchanged.

   As part of this scenario respondents were asked how much area of offset planting they would undertake – the 2012 amendments to the ETS enable offsetting; i.e., landowners are permitted

[1] Forest ownership as at 31 March 2005 is used as the basis for this study. This defines a forest estate prior to recent deforestation and aligns with the date the first deforestation intentions survey was conducted. For consistency the same forest owners have been included in the survey each year.

(without incurring any liability) to convert area provided that they afforest /reforest a carbon-equivalent area elsewhere in New Zealand.

2. No ETS legislation – this assumes that the ETS is repealed and not replaced by any other comparable legislation.

YEAR OF CONVERSION

In this report the conversion of forest to a non-forest land use is reported as occurring in the year in which the clearfelling activity occurred on that area of land, which is consistent with international LULUCF and Kyoto Protocol reporting and accounting. However this does differ from the definition used in the ETS where the year of deforestation is determined at the point of land use change, rather than the point of clearfell, but with deforestation liabilities (if any) calculated at the time the forest was cleared.

Limitations

INCOMPLETE INFORMATION

The general response to the telephone survey of the large companies was very good. All individuals contacted were willing to provide information. However sometimes the information provided was incomplete because the company was not willing or able to provide details. For example:

- Some forests are grown on land under a single rotation lease. As such the replanting decision will be made by the land-owner rather than the current crop-owner.
- Some land-owners are still evaluating their options.

The response by consultants and managers of small-scale forests was also very good. However much of the information provided was qualitative or anecdotal. It does not provide a basis for directly estimating the level of conversion by small-scale owners. Rather it is used to indicate whether the assumed rate of conversion for small-scale forests is reasonable or not.

INCONSISTENT INFORMATION

The information obtained from different sources was not always consistent. In particular, some information was for a calendar year, some was for a March year, while some was for a June year.

CURRENT INTENTIONS

Forecasts are based on current intentions. These reflect perceptions about land-use economics, Government policy implementation, emission unit price and other factors as they exist at the time of the survey. Clearly they are subject to change.

The survey was carried out at a time when the carbon price was near $25/NZU.

Results

Aggregated conversion intentions of large-scale owners are shown in Figure 1. Results for the two scenarios are quite distinct. From 2018 to 2030, 10,000 hectares of conversion is forecast under the ETS scenario while 16,000 hectares is forecast under the No ETS scenario. In terms of the annual area being harvested there is not a great difference between the two scenarios. This reflects the reality that the ETS has become the norm for respondents; i.e., that respondents aren't spending a lot of time thinking about a very hypothetical No ETS scenario. It also reflects the fact that the availability of water and regulation of nitrates and phosphates are increasingly becoming constraints for conversion.

Of the 10,000 hectares of conversion by large-scale owners between 2018 and 2030 under the ETS scenario, less than 100 hectares is estimated to be conversion of post-1989 plantations.

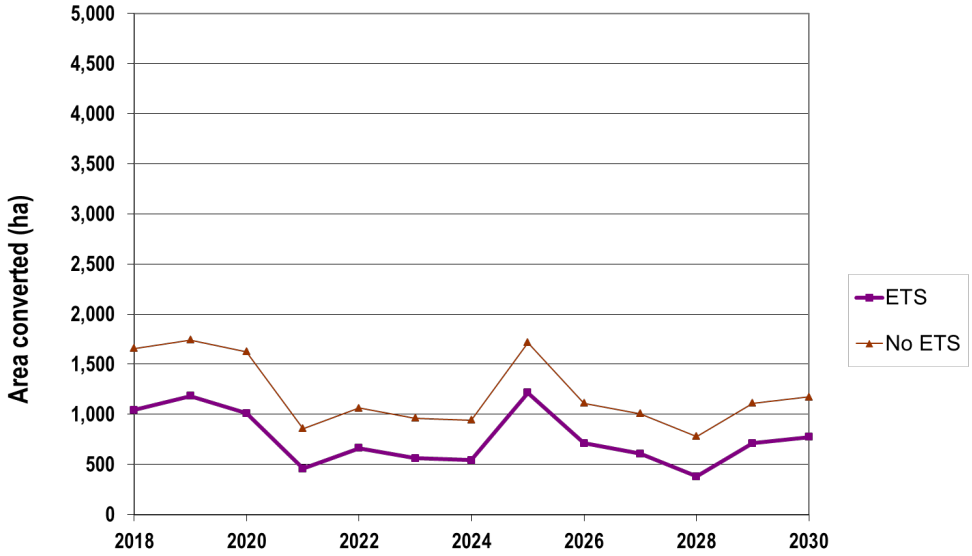

Figure 1: Forecast of conversion from forest to another land-use for New Zealand plantations (large-scale owners only). Results are shown for two different scenarios: ETS and No ETS.

Intention to use offset planting

The majority of respondents who intend to convert pre-1990 forest also plan to do offset planting. They intend using the flexible land-use provision and plant a carbon-equivalent area of new land to offset the conversion of almost 7000 ha of existing forest land between 2018 and 2030. The intention is to do offset planting for 71 percent of conversion on pre-1990 forest land (see Figure 2). This percentage could increase as options are still being evaluated for some conversion projects. However NZUs will be surrendered to cover some of the conversion (i.e. deforestation) in 2018 and also in later years for some land.

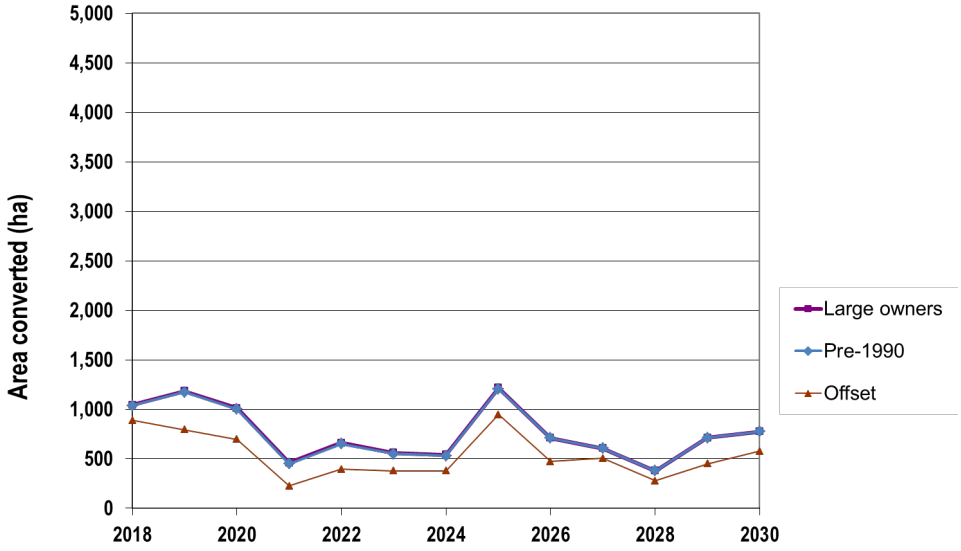

Figure 2: Intention to do offset planting (large-scale owners only). The 'Large owners' line shows the total intended conversion by large-scale owners while the almost identical 'Pre-1990' line shows their intended conversion of pre-1990 forests. A high percentage of this conversion will be matched by 'Offset' planting.

Impact of carbon price

The survey was carried out at a time when the carbon price was around $25/NZU. The low level of deforestation (conversion less offset planting) indicates that, at this carbon price, the quantum of the deforestation liability is such that the ETS is having an impact on the level of deforestation. The impact is similar to that observed in the 2017 survey when the carbon price was in the range $19/NZU to $20/NZU and also in the 2016 survey when carbon price was $17/NZU to $18/NZU. In the 2015 survey carbon prices of $7/NZU to $7.50/NZU were starting to have an impact on deforestation. In contrast, in the 2014 survey with NZUs at $4.30 to $5.50 and international ERUs much lower at 10 cents, the ETS had no impact on deforestation.

Table 3 summarises the results of the last 5 surveys. It clearly shows how an increasing carbon price is associated with a reduction in the area of post-1989 forest intended for conversion between 2018 and 2030 as well as an increase in the intended use of offset planting. Other factors besides carbon price have played a part in the reduction including an increase in log prices, a reduction in dairy prices and greater scrutiny of the suitability of land for conversion.

Table 3: Area of Conversion, offset planting and deforestation intended for pre-1990 forests from 2018 to 2030. Results are presented for deforestation intention surveys from 2014 to 2018 with the carbon price prevailing at the time of the survey.

Survey year	Carbon price ($/NZU)	Conversion (ha)	Offsetting (ha)	Deforestation (ha)
2014	4.30 to 5.50	24400	0	24400
2015	7 to 7.50	23000	5000	18000
2016	17 to 18	9300	7500	1800
2017	19 to 20	9700	7100	2600
2018	25	9800	7000	2800

Where is most conversion occurring?

Some 51 percent of conversion by large-scale owners during 2018 to 2030 is forecast to take place in Canterbury while 24 percent is in the Central North Island and 10% is in Northland.

What land-use is area being converted into?

Based on the information provided, it is possible to make a broad estimate of the land-use into which deforested land is being converted (Table 4). Conversion by large-scale owners is mainly to sheep and beef agriculture and dairy (or dairy support). The ranking has changed from 2017 when 47% of intended conversion was to dairy and 40% to sheep and beef agriculture. The 'Other' category includes land required for infrastructure as well as land clearance for mining.

Table 4: Land-use into which deforested area is being converted in 2018-2030 by large-scale owners for ETS scenario (figures are approximate)

Forest converted to	Percent
Sheep & beef	45
Dairy	34
Residential/Lifestyle	10
Other	11

Where is offset planting occurring?

Of the 3000 ha of planting that is intended to offset conversion for the five-year period 2018-2022, some 51% is in Otago, 39% is in Wairarapa, 8% is in Marlborough and 2% is in Northland. It is intended to use radiata pine for all of this planting.

What are small-scale forest owners doing?

Forestry consultants and managers throughout New Zealand provided information about conversion by small-scale forest owners. Some responses:

- "We replanted 75% of small-scale forest that we harvested. No decision has been made for the other 25% which were typically smaller blocks. However none has been converted so far."
- "Larger woodlots are all being replanted. Smaller blocks (5 to 20 ha) often haven't been replanted but are reverting to scrub rather than being converted."
- "100% of small-scale blocks were replanted."
- "All private woodlots that we harvested in 2018 have been, or will be, replanted. It is evident that 30 to 50 ha blocks are being replanted often with some additional afforestation around the boundary."
- "We were contracted to replant 80% of the woodlots that we harvested. We are not aware of any conversion of the other 20%."
- "Some 90% of the 2017 harvest area was replanted with the other 10% converted to grass. All of the 2018 harvest area will be replanted, 50% in pine and 50% in mānuka."
- "The majority of area is being replanted. There are no alternatives for a lot of the land."
- "We will replant 98% of the area we harvested. The remaining 2% will be reverted back into native bush to expand riparian areas of SNA sites."
- "Of the small-scale forests harvested about 85% were replanted in radiata pine with another 5% allowed to revert or planted in mānuka. Only 10% were converted to pasture or lifestyle."
- "Few woodlots on the plains are being replanted but are being converted. Forest on the foothills is being replanted."
- "Most of the woodlots that we are harvesting are post-1989. The level of replanting is high. I am not aware of any substantial conversion."
- "I am not aware of any conversion. Last year we harvested about 1000 ha and as far as I know this is all being replanted."

Some overall patterns emerge:

- Forestry is the highest and best use for the majority of land being harvested. The majority of this land is being replanted following harvest with a small proportion being left to revert either deliberately or by default. Most land is being replanted into radiata pine although some mānuka is being planted.
- In some regions a small proportion of land is being converted to dairy or sheep and beef agriculture.

Manley (2018[2]) carried out a survey of the intentions of forest owners following harvest of post-1989 forests. The survey was carried out at a time when carbon price was in the range $20-22/NZU. Overall results (Table 5) indicate that 2.6% of area is intended to be converted while another 6.6% of area will be sold in cutover state following harvest, returned to its owner, or there is uncertainty about intentions. Results for the first three size classes are most relevant for small-scale owners. These indicate that 2.0 to 8.3% of area will be converted with uncertainty over a further 7.1 to 13.8%. The average values for the three categories with area under 1000 ha, on an area-weighted basis, are 3.8% conversion and 9.0% uncertain.

Table 5. Summary of intentions after harvesting for all post-1989 owners [Table 14 of Manley (2018)]

	<40 ha	40-99 ha	100-999 ha	>1000 ha	Total
Replant/ mānuka /regenerate	81.2	81.1	90.9	97.2	90.8
Convert	8.3	5.1	2.0	0.3	2.6
Return/Sell/Unknown	10.5	13.8	7.1	2.5	6.6
Total	100.0	100.0	100.0	100.0	100.0

Data provided by the Ministry for Primary Industries (MPI) was also evaluated.

Based on the available information, a 10 percent rate of conversion has been retained for the small-scale forest estate. A forecast of the area to be harvested by small-scale owners in 2018 to 2030 was generated based on the New Zealand Wood Availability Forecasts (MPI, 2016[3]). Applying the 10 percent conversion rate to this area gives an estimate of 30,500 hectares of conversion by small-scale owners over the period 2018 to 2030.

Figure 3 shows the forecast of conversion for all owners. From 2018 to 2030 a total of 40,500 hectares of conversion by all owners is forecast.

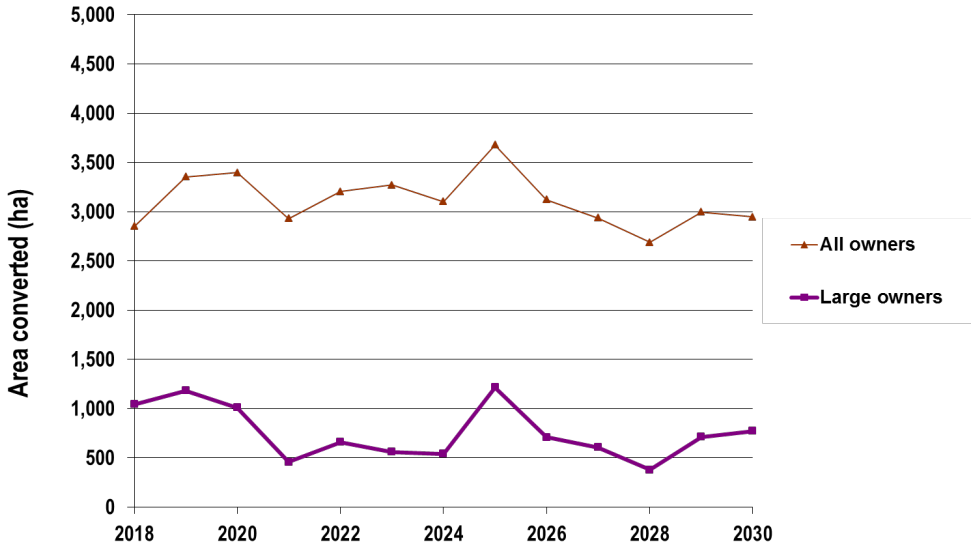

Figure 3: Forecast of conversion from forest to another land-use for New Zealand plantations (all owners) under the ETS scenario. (Large-scale owner intentions and small-scale owners assuming 10 percent conversion)

[2] Manley, B. 2018. Intentions of forest owners following harvest of post-1989 forests. MPI Technical Paper No. 2018/55.

[3] New Zealand Wood Availability Forecasts 2014-2050, Prepared for Ministry for primary Industries by Indufor Asia Pacific Limited, 2016.

Comparison with 2017 survey

Results from the 2018 survey are compared with those of the 2017 survey for the ETS scenario in Figure 4. Although there is less conversion in 2018 and 2019, there is more in later years. Total conversion forecast for 2018 to 2030 by large-scale owners for the current (2018) survey is estimated to be only 150 hectares less than that reported in the 2017 survey for this period.

There were changes in 11 different projects resulting in the small net reduction in intended conversion. In six projects the level of conversion increased. Most of these projects relate to infrastructure, mining or residential/lifestyle rather than conversion to agriculture.

In contrast, the five projects with a decreased level of conversion primarily involved conversion to agriculture. For these projects the lower level of conversion is a result of:

- High carbon price.
- Increasing forest profitability.
- Decreasing dairy profitability.
- Difficulty in acquiring land for offsets.

These factors are causing the land-owners involved to be more selective in the land that they convert. One owner has stopped work looking at HBU (Higher and Better Use) opportunities for its land – "Everyone is happy with current forestry returns".

No mention was made of the National Environmental Standard for Plantation Forestry (NES-PF) being a factor in changing conversion intentions. However one respondent noted that the implementation by their district council of the NES-PF, together with the National Policy Statement for Freshwater Management, would see some harvested areas left to revert rather than being replanted in pine.

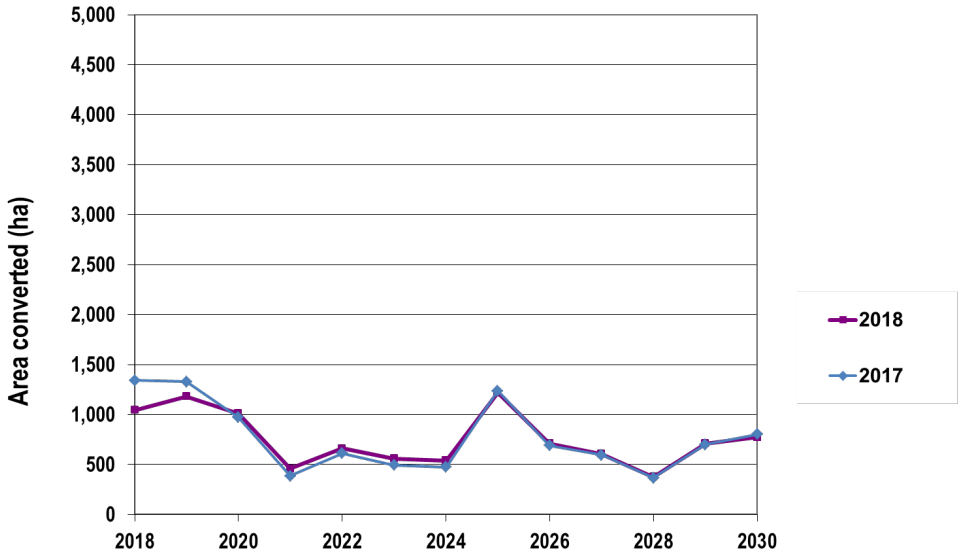

Figure 4: Comparison of the 2018 survey results with those from the 2017 survey – large-scale owners only (ETS scenario)

Uncertainty

An inherent source of uncertainty is that perceptions about land-use economics, land prices, government policy implementation, and emission unit price are all subject to change. As land is handed back detailed analysis and a greater appreciation of the suitability of land for different end uses often causes intentions to change. There is an increasing focus on only converting better forest land given the cost of either the deforestation liability or the land required for offsetting.

Changes are being proposed by regional and district councils in the Central North Island including the Waikato Regional Council, the Bay of Plenty Regional Council and the Rotorua Te Arawa Lakes Programme (Bay of Plenty Regional Council, Rotorua Lakes Council and Te Arawa Lakes Trust). These changes impact on both water take and water quality and when implemented are likely to restrict conversion from forestry to agriculture. In a sense they are reducing the uncertainty about deforestation.

An ongoing source of uncertainty relates to the return of significant areas of CFL land to Māori as part of settlement of Treaty claims. A number of these claims have been settled while others are still in the process of being settled. Some of the settled claims are undergoing a mana whenua process to determine which hapū or iwi has ownership of each area of land. Consequently there is a large area of land, currently under trees, over which iwi have not yet developed land-use plans or are not yet in a position to implement any plans. A proportion of this land is adjacent to dairy or sheep and beef farms and has the potential to be converted. However virtually all ex-CFL land is currently being replanted after harvest.

Although large-scale owners have 63 percent of the plantation area older than age 25 they only own 48 percent of the area older than age 20. As the large plantings of the 1990s mature the conversion intentions of small-scale owners will have an increasing impact on the national level of deforestation. Given the diverse ownership of the small-scale estate there is greater uncertainty about their conversion intentions.

An estimate was made of the likely upper and lower limits of conversion for each of the projects of large-scale owners. For small-scale owners limits were estimated using a conversion rate of 20 percent for the upper limit and 5 percent for the lower limit – these limits are indicative of the range of the small-scale owners' conversion rate since 2008. The resulting bounds on total conversion by all owners are wide (Figure 5).

Results should be viewed in the context of a total plantation area (as at 1 April 2017) of 1,699,000 hectares of which1,004,000 hectares is in the large-scale estate and 695,000 hectares is in the small-scale estate. The total area harvested annually is currently over 40,000 hectares.

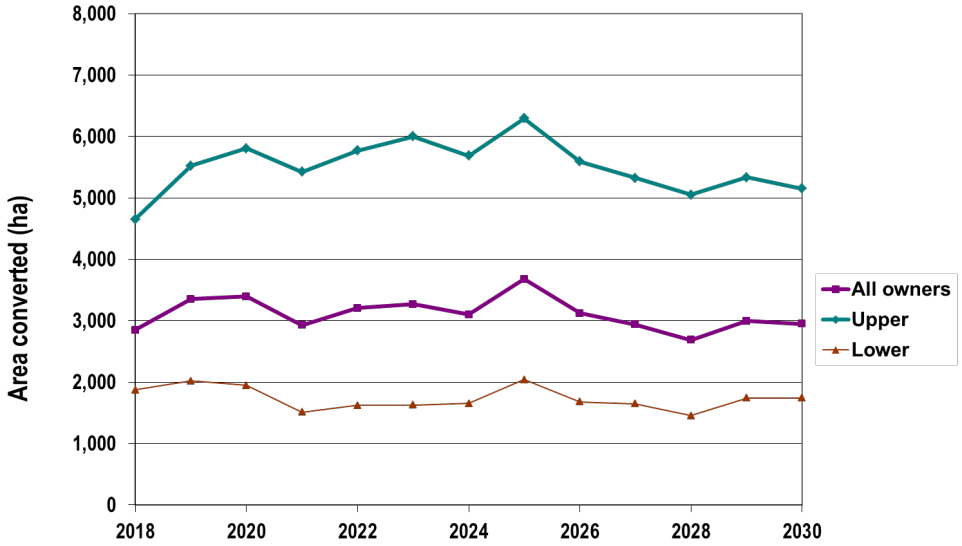

Figure 5: Forecast of conversion from forest to another land-use for New Zealand plantations (all owners) with estimated upper and lower bounds (ETS scenario).

Appendix

Climate Change Response Act (2002)

179 Forest land to be treated as deforested in certain cases

(1) Without limiting paragraph (a) of the definition of deforest in section 4(1), a hectare of forest land must be treated as deforested for the purposes of this Act if the forest species on that hectare have been cleared and,—

(a) 4 years after clearing, the hectare has not—

(i) been replanted with at least 500 stems of forest species; or

(ii) regenerated a cover of at least 500 stems of exotic forest species; or

(iii) been replanted with at least 100 stems of willows or poplars in a manner consistent with managing soil erosion; or

(iv) regenerated predominantly indigenous forest species growing in a manner in which the hectare is likely to be forest land 10 years after the hectare was cleared; or

(b) 10 years after clearing,—

(i) predominantly exotic forest species are growing, but that hectare does not have tree crown cover of at least 30% from trees that have reached 5 metres in height; or

(ii) predominantly indigenous forest species are growing, but that hectare is not forest land; or

(c) 20 years after clearing, predominantly indigenous forest species are growing, but that hectare does not have tree crown cover of at least 30% from trees that have reached 5 metres in height.

(1A) Subsection (1)(a)(iii) applies only if the EPA is satisfied that the relevant local authority has determined that the soil erosion risk of the land is at least moderate.

(2) If forest land is to be treated as deforested under subsection (1),—

(a) the deforestation is to be treated as having been carried out 4 years, 10 years, or 20 years, after the clearing of the forest species, as the case may be; but

(b) the liability in respect of the deforestation must be calculated by reference to the age and forest species of the trees cleared 4 years, 10 years, or 20 years earlier, as the case may be.

(3) Nothing in this section limits the EPA's ability to exercise powers under section 121 in respect of the deforestation of a hectare of forest land whenever the EPA considers that—

(a) the hectare has been converted to land that is not forest land; and

(b) any obligations imposed under this Act in respect of the deforestation have not been complied with.

179A Forest land may not be treated as deforested in certain cases

(1) Despite section 179 and the definition of deforest in section 4(1),—

(a) in the case of pre-1990 forest land, pre-1990 forest land that is cleared may not be treated as deforested for the purposes of this Act if the cleared land is exempt land or—

(i) is contiguous with the edge of pre-1990 forest land that existed on 31 December 2007; and

(ii) is an area that is less than 1 hectare or that is less than 30 metres wide at its widest point; and

(iii) is required to be or remain cleared to implement New Zealand's best practice forest management; and

(iv) is used only for the purpose of implementing New Zealand's best practice forest management:

(b) in the case of pre-1990 forest land that is the subject of an offsetting forest land application that the EPA has approved under section 186B, the pre-1990 forest land that is cleared may not be treated as deforested if cleared,—

(i) in the case where the land is converted to a use other than forest land (for example, dairy), in the period—

(A) beginning on the date that the approval is given; and

(B) ending with the earlier of 2 years after the date that the approval was given or 4 years after the date that the pre-1990 forest land was cleared; or

(ii) in the case where the land is not converted to another land use and remains forest land, in the period—

(A) beginning on the date that the pre-1990 forest land was cleared; and

(B) ending 4 years after the date that the pre-1990 forest land was cleared:

(c) in the case of post-1989 forest land, the post-1989 forest land that is cleared may not be treated as deforested if the cleared land—

(i) is contiguous with the edge of post-1989 forest land that existed on the date of registration; and

(ii) is an area that is less than 1 hectare or that is less than 30 metres wide at its widest point; and

(iii) is required to be or remain cleared to implement New Zealand's best practice forest management; and

(iv) is used only for the purpose of implementing New Zealand's best practice forest management.

(2) Subsection (1)(b) does not apply if the EPA revokes its approval of an offsetting forest land application under section 186G(1).

(3) This section applies to land that was cleared before, on, or after the commencement of this section.

Section 179A: inserted, on 1 January 2013, by section 73 of the Climate Change Response (Emissions Trading and Other Matters) Amendment Act 2012 (2012 No 89).