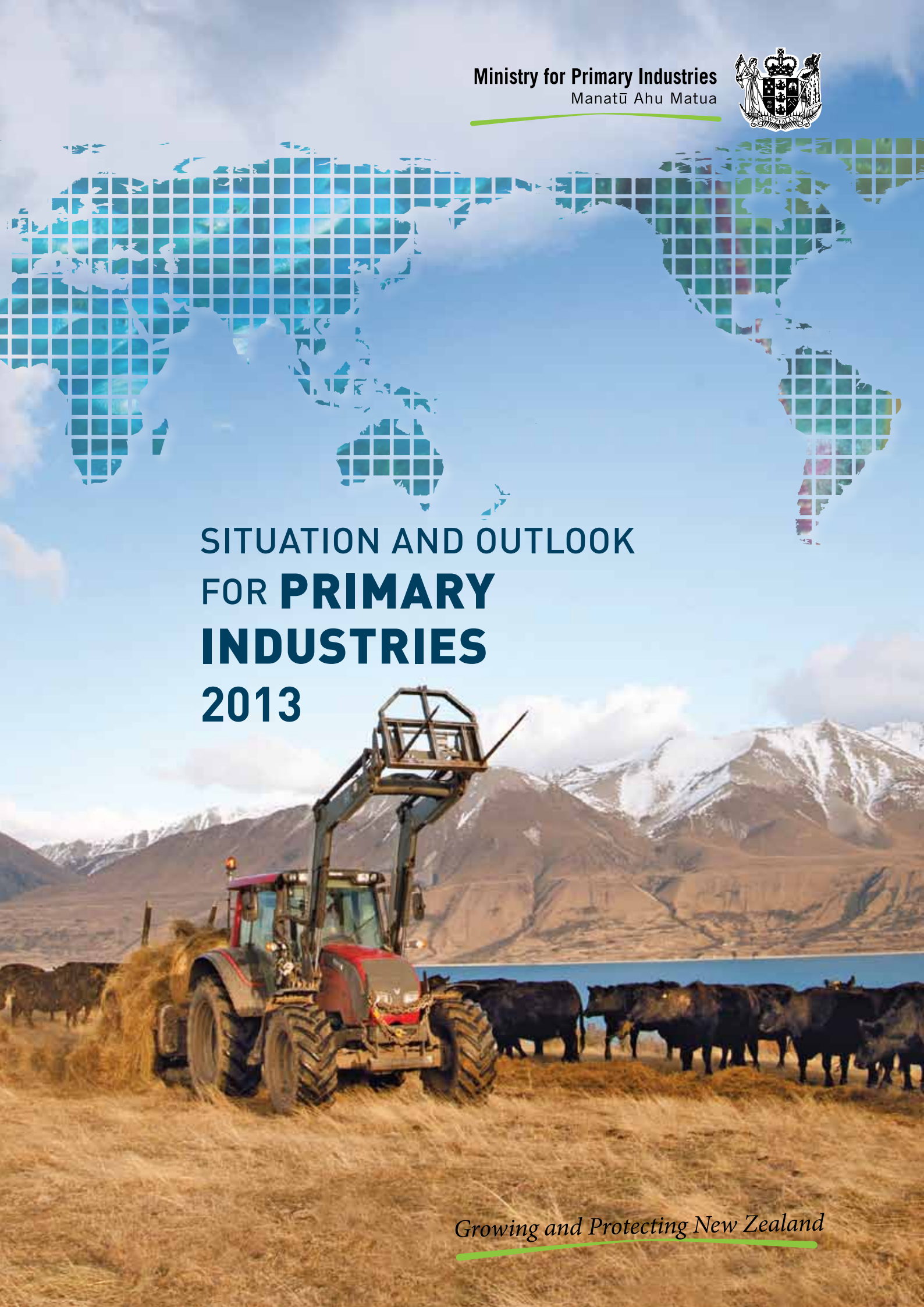
Ministry for Primary Industries
Manatū Ahu Matua

SITUATION AND OUTLOOK FOR **PRIMARY INDUSTRIES 2013**



Growing and Protecting New Zealand

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FOREWORD

Hon Nathan Guy
Minister for Primary Industries

As one of the flagship publications to support and guide the sector, I am proud to launch this year's edition of the *Situation and Outlook for Primary Industries.*

There are challenges and opportunities ahead for the primary sector, but overall there is enormous potential for sustainable growth to benefit all New Zealanders.

I believe the drought earlier this year has reinforced for many people just how crucial the primary industries are to New Zealand. They remain the powerhouse of our economy, generating around $30 billion a year in exports and helping to fund our health, education and social services.

The Ministry for Primary Industries has an ambitious target of doubling primary sector exports by 2025. This ties in with the Government's Business Growth Agenda, which is targeting an increase in exports from 30 percent to 40 percent of GDP by 2025.

To achieve this the Government is committed to major projects like the Irrigation Acceleration Fund, the Sustainable Farming Fund, and the Primary Growth Partnership (PGP).

In just three years, PGP has received $650 million in Government and industry funding for innovative market-led programmes that will, in time, realise tangible benefits to New Zealand. These have the potential to add over $7 billion to the wider economy.

The steady progress of current PGP projects is demonstrated in this year's *Situation and Outlook* update.

This annual update has become an important tool in helping to make robust, informed and balanced decisions.

I look forward to working closely with the primary sector over the next year to help them achieve their exciting potential.

Hon Nathan Guy


JUPITER LIGHT

FOREWORD

Deborah Roche
Deputy Director-General
Ministry for Primary Industries

Tēnā koutou

I am pleased to present this year's *Situation and Outlook for Primary Industries*, which provides an assessment of the current state of our major primary sectors and their prospects for the next four years.

The update is intended to provide the primary industries and stakeholders and the wider government sector with information and perspectives to inform our decisions as we collectively grow New Zealand's prosperity.

The Ministry for Primary Industries has made considerable progress over the past 12 months to implement our vision to grow and protect New Zealand. Central to that commitment is the Government's Business Growth Agenda and our goal to support primary industries to double the value of their exports by 2025. This will require significant changes to the way the primary industries operate, as well as an active commitment to collaboration and innovation.

The main focus for this year's *Situation and Outlook* update is the opportunity for responsible growth.

To illustrate this focus, we have included two case studies.

The first looks at dairy company Miraka, which is a good example of the shift from passive to active Māori land ownership, and the significant economic and social benefits that flow from increasing the productivity of Māori freehold land.

The second case study examines the proposed water reforms and their implications for all primary sectors that will result from a greater focus on water resource use.

New Zealand's primary industries face a diverse range of environmental, international, and economic issues. The information contained in this update will help in making informed, accurate and balanced decisions. I encourage you to read it thoroughly, and to take advantage of the supporting programme of presentations and seminars we will provide over the coming months.

Deborah Roche

OVERVIEW OF THE 2012/13 SEASON

The past 12 months have been challenging for many of New Zealand's primary producers. Given the warm and dry conditions which prevailed in many parts of the country during early 2013, this has been particularly true for primary producers dependent upon pasture growth.

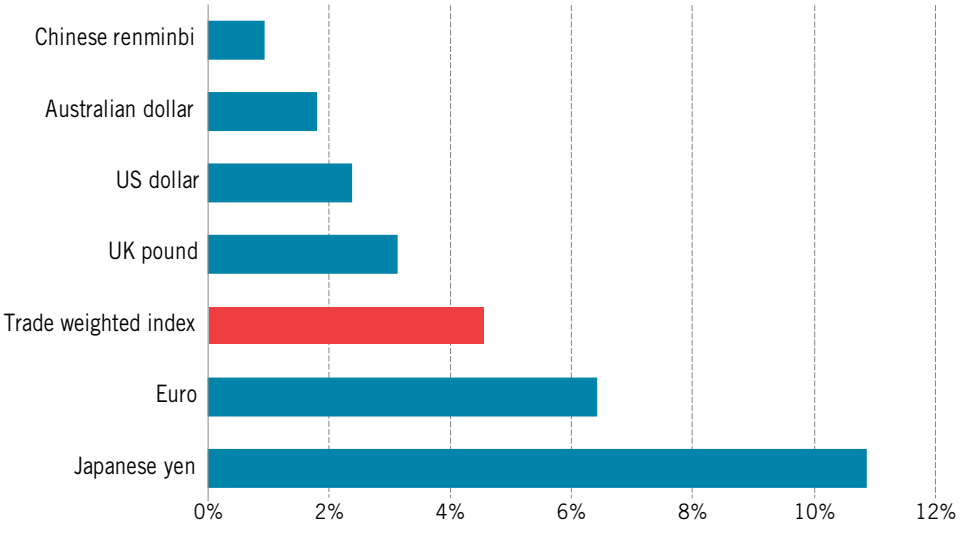
At the time of writing (mid-May), drought conditions have lifted over much of the country due to recent rainfall. The economic and social impacts of the drought, however, will continue to be felt into next season and beyond.

A stronger New Zealand dollar (NZD) and softer global economic conditions also weighed heavily on New Zealand's primary sectors over the past year.

Despite these challenges, New Zealand's primary sector exports have shown remarkable resilience to date in 2012/13. This is largely due to last season's outstanding climatic conditions, which lifted dairy and meat export volumes in the first two quarters of 2012/13. It is also testament to the sector's adaptability and sustained focus on producing high-quality and cost-effective food and fibre products for the international marketplace.

The NZD appreciated strongly against many of our trading partners' currencies over the past year – refer to Figure 1.1. This is due in part to the strong export performance of New Zealand's primary sectors, relatively high real New Zealand interest rates and monetary stimulus by the United States (US), European Union (EU), and Japan.

FIGURE 1.1: CHANGE IN NZD – 2012/13 SEASON AVERAGE (TO 29 APRIL 2013), COMPARED WITH 2011/12 SEASON AVERAGE



Sources: Reserve Bank of New Zealand and MPI.

2013 DROUGHT

The 2013 drought* created a season of two halves for many pastoral farmers. The first half of the season was characterised by a continuation of favourable climatic conditions experienced in 2011/12. A long spell of warm, dry weather over much of the country from January, however, quickly plunged the North Island and the West Coast of the South Island into drought.

While rainfall over much of the country in April started to address severe moisture deficits, the impact of the drought will continue to be felt into next season and beyond.

In the short term, farmers are carefully managing their livestock to ensure they maintain condition leading into calving and lambing; and stock feed to ensure that they have adequate supply to get them through winter. Pasture recovery will be crucial in this regard, as will stocking rates and (where necessary) supplementary feed, as this determines overall feed demand relative to supply. A greater reliance on supplementary feed and nitrogen to aid pasture recovery will create an ongoing financial burden for pastoral farmers into next season.

Longer term, relatively poor stock condition will have an adverse impact on lambing and calving rates in spring. Coupled with recent destocking, this will significantly reduce the number and weight of livestock available for slaughter next season (refer to the meat and wool chapter for more detail). This will have an adverse impact on sheep and beef farmers' incomes in 2013/14.

Because of the significant ongoing financial and social costs associated with the drought, the Minister for Primary Industries announced in late April that it is unlikely he will formally lift the official drought status before it expires at the end of September, stating, "The rain may be falling but the effects on rural communities will be felt for some time" (www.beehive.govt.nz/release/drought-status-likely-remain-until-september).

*The drought was officially declared by the Minister for Primary Industries on 15 March 2013 over the entire North Island, and one week later over the Buller and Grey districts of the South Island's West Coast. The declaration under the Primary Sector Recovery Policy provides funding to Rural Support Trusts, and some income assistance and tax relief. For more information on the support available, refer to www.mpi.govt.nz/environment-natural-resources/funding-programmes/primary-sector-recovery.

FIGURE 1.2: HISTORICAL COMPARISON OF 2013 DROUGHT

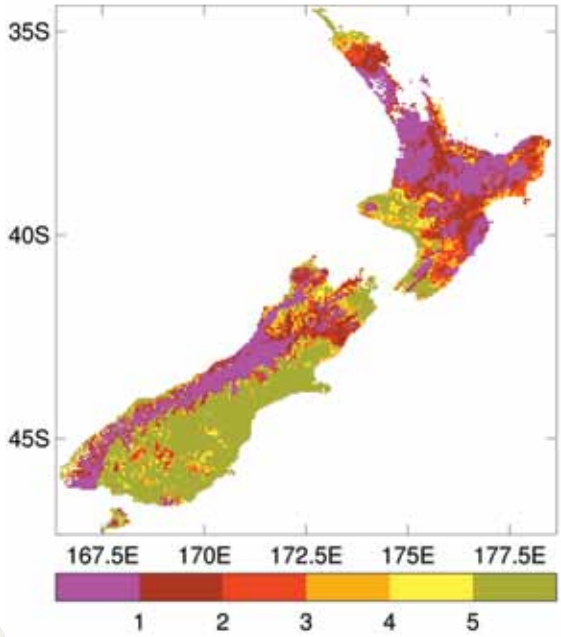


Figure 1.2 compares the period July 2012 to March 2013, with all previous July to March periods since 1972/73. It illustrates the severity of the drought across much of the country, compared with climatic conditions over the past 40 years.

For 27 percent of the country (those regions coloured magenta in the map opposite), the 2013 drought was the worst experienced since 1972/73 (when this data series began).

For over half the country (magenta, dark red and red colours), the 2013 drought was the worst, second worst or third worst since 1972/73.

Source: National Institute of Water and Atmospheric Research.

OUTLOOK

MPI expects primary sector export revenues to increase 2.2 percent to $24.1 billion[1] in the year to June 2014, and thereafter to grow at a compound annual growth rate of 7.4 percent over the outlook period, to $29.5 billion[2] in 2016/17. This favourable medium-term outlook reflects the sector's ability to tap growing markets in Asia, a rebound in international growth prospects, and a gradual softening in the NZD over the outlook period.

The major macroeconomic assumptions used in these forecasts relate to international growth prospects and the value of the NZD. Climatic conditions are expected to return to normal in the 2013/14 season, although the impact of the 2013 drought will continue to be felt next season, particularly in the sheep and beef sector.

INTERNATIONAL GROWTH PROSPECTS

The International Monetary Fund (IMF) forecasts a rebound in world output growth to 3.3 percent in 2013 and 4percent in 2014, following subdued growth in 2012[3] – refer to Figure 1.3.

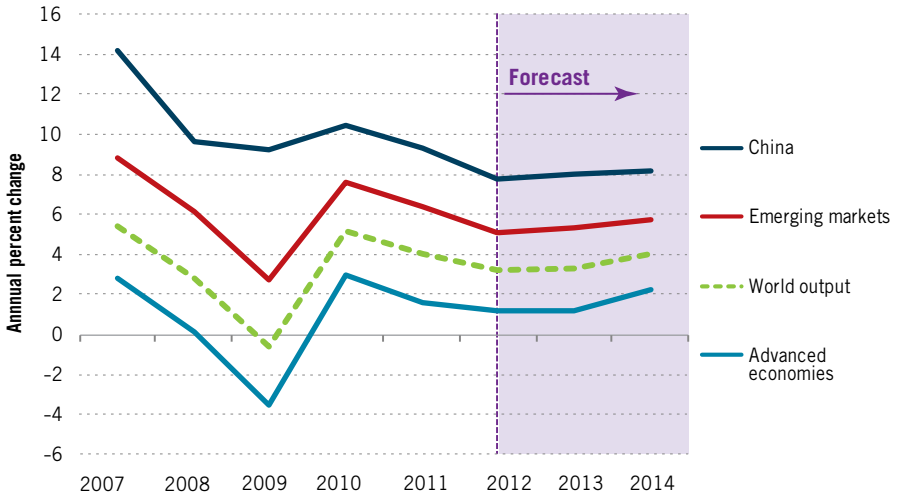
While the threats to short-term growth prospects posed by the debt crises in Greece and Cyprus plus the US "fiscal cliff" were successfully navigated, significant unresolved issues remain about the future management of US, European and Japanese debt. These issues create downside risk to IMF's economic growth forecasts (and, therefore, demand prospects for New Zealand's primary sector exports).

1 Note that MPI only forecasts export revenue for New Zealand's major primary sector commodities within the following sectors: dairy, meat and wool, forestry, horticulture and seafood.

2 All values are in NZD, unless otherwise specified.

3 *World Economic Outlook*, IMF, April 2013.

FIGURE 1.3: REAL GDP GROWTH RATES, 2007 TO 2014



Source: IMF (*World Economic Outlook*, April 2013).

IMF's growth forecasts disguise considerable variation between advanced economies (many of which are burdened by high debt levels) and emerging markets. Growth in advanced economies is forecast at just 1.2 percent in 2013, increasing to 2.2 percent in 2014.

By comparison, growth in emerging markets is forecast at 5.3 percent and 5.7 percent, respectively. Developing Asian economies (including China and India) are expected to grow by around 7 percent per annum over 2013 and 2014.

The short-term growth prospects outlined above are expected to reinforce the growing importance of Asia as a destination for New Zealand's primary sector exports.

MONETARY CONDITIONS

The exchange rate, inflation and interest rate assumptions used in MPI's forecasts are taken from The Treasury's 2013 *Budget Economic and Fiscal Update* – refer to Table 1.1.

In the short term, New Zealand's relatively strong economic performance and high real interest rates are expected to underpin a strong NZD. Over the medium term it is projected that New Zealand's large foreign debt exposure will eventually drag the NZD lower. The NZD is expected, however, to remain relatively high by historical standards – the trade weighted index is expected to fall from around 75 currently, to 71 in 2017.

TABLE 1.1: EXCHANGE, INTEREST AND INFLATION RATES, 2010 TO 2017

	ACTUAL				ASSUMPTIONS			
YEAR TO 30 JUNE	2010	2011	2012	2013	2014	2015	2016	2017
Trade weighted index	65.0	67.7	71.1	74.6 *	75.8	74.6	73.0	70.8
US dollar	0.70	0.76	0.80	0.83 *	0.85	0.83	0.80	0.76
UK pound	0.45	0.48	0.51	0.52 *	0.52	0.52	0.51	0.50
Australian dollar	0.80	0.77	0.78	0.80 *	0.81	0.81	0.81	0.82
Japanese yen	64.3	62.9	63.3	66.5 *	67.7	67.3	66.1	64.3
Euro	0.51	0.56	0.60	0.64 *	0.65	0.64	0.63	0.61
Interest rate (%)[1]	2.8	3.0	2.7	2.7 *	2.9	3.6	4.4	4.9
Inflation rate (%)[2]	1.8	3.8	2.2	0.9 *	1.7	1.9	2.0	2.2

Notes
1. For 90 day bank bills.
2. As measured by the annual average percent change in the Consumers Price Index.

Symbol
* Estimate

Sources: Reserve Bank of New Zealand, The Treasury and MPI.

SECTOR SUMMARIES

Dairy

After a difficult 2012/13 season, the dairy sector is expected to rebound in 2013/14 due to higher international prices, a modest increase in cow numbers, and higher cow productivity (reflecting more normal climatic conditions). Dairy exports are forecast to increase 8 percent to $14.0 billion in 2013/14, and at an average 8 percent per annum thereafter to reach $17.7 billion in 2016/17.

Forestry

The forestry sector experienced record log exports in the year to June 2013, due to strong demand from China. Looking ahead, total forestry exports are forecast to grow over the outlook period to reach $5.0 billion in 2016/17, primarily due to sustained demand for logs.

Meat and wool

The sheep and beef sector faces another difficult season in 2013/14, due to lower stock numbers and slaughter weights (following the 2013 drought) and subdued prices. A modest increase in export revenue is expected over the outlook period – with the exception of venison – on the back of improved economic growth in major export markets.

Horticulture

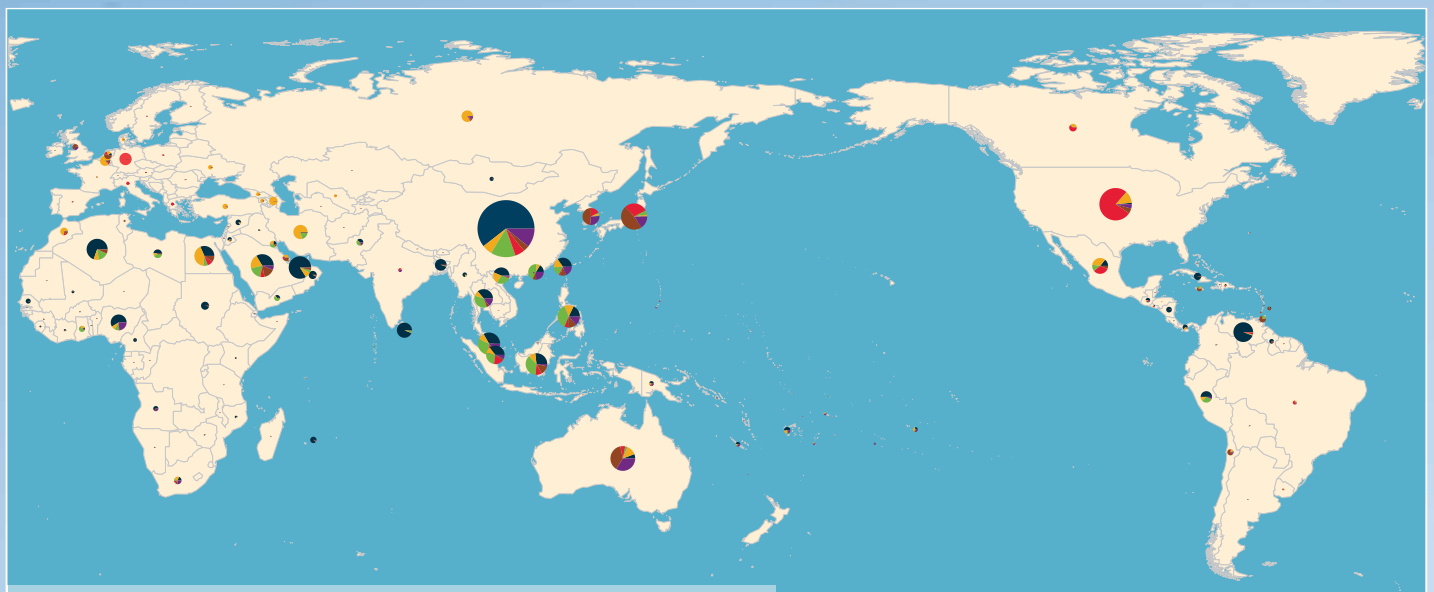
Export revenue from the main horticulture sectors is forecast to decline slightly in 2013/14, to $3.2 billion, due to the impact of the bacterial disease *Pseudomonas syringae* pv. *actinidiae* (known as Psa) on the gold kiwifruit harvest. Over the rest of the outlook period, horticultural exports are expected to increase by an annual average 4.7 percent, to $3.6 billion in 2016/17. This is due to an expected rebound in the kiwifruit sector and ongoing growth of the wine industry.

Seafood

MPI estimates static seafood export earnings in the year to June 2013 of $1.5 billion. Thereafter, seafood export earnings are forecast to increase by an annual average 4.5 percent, to reach $1.8 billion in 2016/17. This forecast is predicated on achieving higher prices – it assumes no change in the volume of wild capture and aquaculture exported over the outlook period.

DAIRY

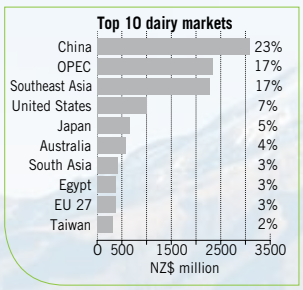
FIGURE 2.1: DAIRY EXPORT REVENUE BY DESTINATION AND PRODUCT, YEAR ENDED MARCH 2013

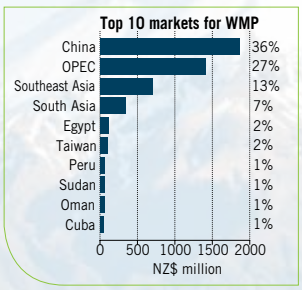


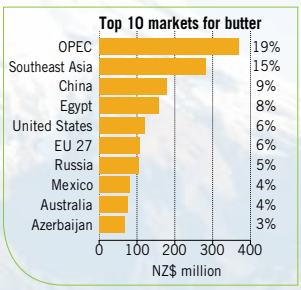
Legend: Export revenue by key products

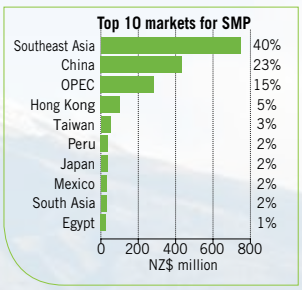
- **WMP:** NZ$ 5251 million (38.7%)
- **Butter:** NZ$ 1913 million (14.1%)
- **SMP:** NZ$ 1882 million (13.9%)
- **Casein:** NZ$ 1790 million (13.2%)
- **Cheese:** NZ$ 1448 million (10.7%)
- **Other:** NZ$ 1296 million (9.5%)

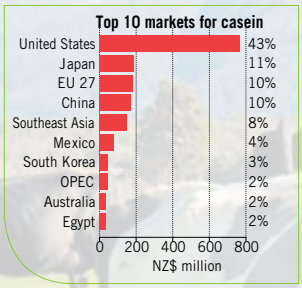
Sources: Statistics New Zealand and MPI.

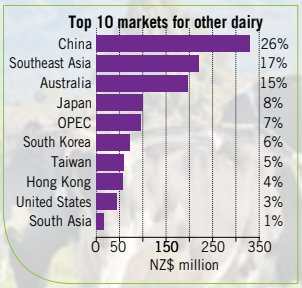












The long-term outlook for New Zealand's dairy sector is positive, with steady growth in domestic production and firm demand from emerging markets.

Dairy export revenue is expected to decline 5.5 percent to $12.9 billion in the year ending 30 June 2013, due to a fall in production, lower prices and high exchange rate. Export revenue is expected to increase by 8.1 percent in 2013/14 due to an increase in production and higher prices. Looking to the latter years of the outlook period, export revenue is forecast to reach $17.7 billion for the year ending 30 June 2017, as shown in Table 2.1.

PRODUCTION

New Zealand's milk solids production is very likely to experience the first year-on-year decrease since 2007/08 as a result of the drought.

Mild winter and excellent spring conditions contributed to favourable production conditions at the start of the 2012/13 season. Indeed, as at 1 July 2012, there were 5.01 million dairy cows and heifers in New Zealand, a 4.2 percent increase on the previous year.

Low rainfall and the resulting record-high soil moisture deficit from January to March, however, saw production fall relative to the previous season. Assuming average climatic conditions for autumn and winter 2013, milk solids production is expected to reach 1 665 000 tonnes, representing a 1.2 percent decrease in milk solids production for the 2012/13 season.

A modest increase in milk solids production is expected in the 2013/14 season. Milk yield per cow, which decreased by 5.2 percent in the current season, is expected to bounce back in the 2013/14 season based on a return to average climatic conditions. The expected higher milk yield per cow and a moderate increase in cow numbers results in a 4.5 percent increase in production in the 2013/14 season.

Over the remainder of the outlook period, moderate year-on-year increases in milk solids production, of around 3 percent per annum, are forecast. This assumes a gradual increase in cow numbers and milk yield per cow, as well as average climatic conditions.

EXPORTS

Dairy export revenue is forecast to increase by 8.1 percent to $13.9 billion for the year ending June 2014. This is due to high dairy prices and an increase in production more than offsetting the expected high exchange rate. Looking further out to the year ending 30 June 2017, export revenue is forecast to reach $17.7 billion as a result of an expected rise in domestic production, increasing international dairy prices, and a depreciating NZD.

The composition of New Zealand's dairy export markets has changed markedly over the past 20 years, as shown in Figure 2.3, with the focus shifting from developed economies to emerging markets. The US and EU markets were New Zealand's top dairy export markets in 1991, but

TABLE 2.1: DAIRY FARM PRODUCTION, MILK PRICE AND EXPORT VALUE, 2010 TO 2017

	ACTUAL				FORECAST			
	2010	2011	2012	2013	2014	2015	2016	2017
Cows and heifers in calf or in milk[1] (million)	4.61	4.68	4.81	5.01	5.09	5.22	5.35	5.48
Milk solids production[2] (million kg)	1 437	1 513	1 685	1 665 *	1 740	1 803	1 864	1 925
Milk price[2] (cents per kg milk solids)	610	760	596	563 *	590	595	641	697
Total export value ($ million)[3]	10 565	13 173	13 659	12 913 *	13 962	14 682	15 971	17 695

Notes
1. As at 1 July (opening numbers).
2. Year to 31 May.
3. Year to 30 June.

Symbol
* Estimate

Sources: Statistics New Zealand, DairyNZ, Fonterra Co-operative Group, and MPI.

DAIRY DEBT: BURDEN OR OPPORTUNITY?

New Zealand's dairy sector debt nearly tripled over the past decade, to $30.5 billion in 2012. This debt is spread unevenly amongst farmers, with approximately half held by just 10 percent of dairy farmers.

The rate of increase and concentration of dairy sector debt is not of itself concerning. Given the rapid growth in dairying over the past decade, it is not surprising that its level of debt has also increased – debt is an important instrument for growth, if used wisely. What's more significant is whether the debt has been used for productive or non-productive purposes and the ability of borrowers to service the debt into the future.

The dairy sector's demand for debt financing over the past decade was due to a number of factors. It was partly required to fund a large number of capital-intensive dairy conversions. While there is a strong correlation between the increase in debt and dairying land during the six-year period ending June 2009 (the period of strongest debt growth), the 15.5 percent annual average growth in debt during this period was only associated with a 2 percent increase in dairy land per annum.

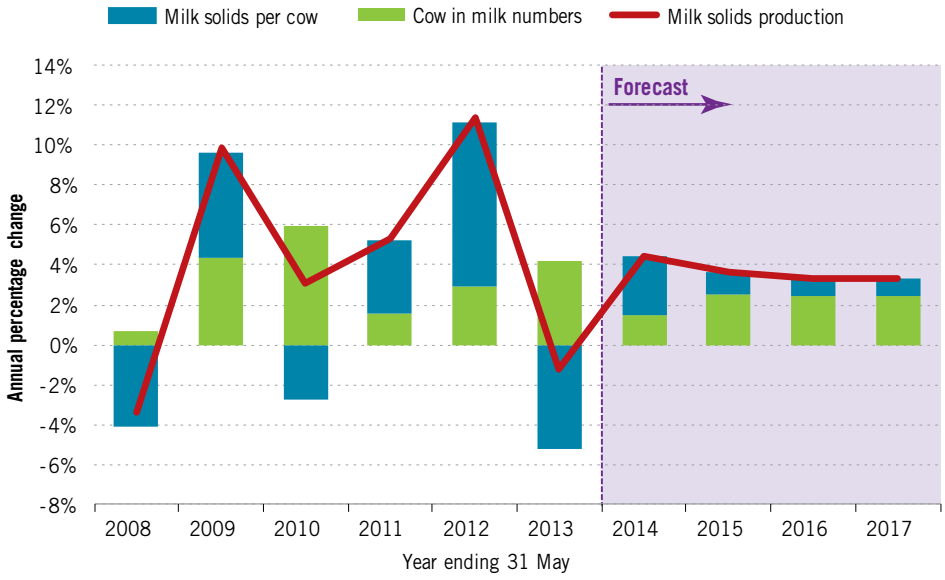
A significant proportion of the debt accumulated during this period can be attributed to price inflation for dairy land, which averaged 12 percent per annum. Because demand for such land exceeded available supply, much of the debt was reflected in higher land prices.

This has left a significant number of dairy farmers vulnerable to a fall in the milk price or a decline in land prices. The drought has further increased the vulnerability of most North Island dairy farmers by reducing milk revenues and increasing feed and pasture renewal costs. DairyNZ estimates that nearly 40 percent of North Island dairy farmers will not be able to meet their working expenses and interest costs this season due to the effects of the drought.

An expected higher milk payout next season will assist farmers to service their debt. Unfortunately, some of the most heavily indebted dairy farmers may have difficulty in servicing their debt even with the higher payout. Over the outlook period, debt will remain a risk to the financial viability of many dairy farmers.

Photo courtesy of DairyNZ.

FIGURE 2.2: YEAR-ON-YEAR CHANGE IN THE NUMBER OF COWS IN MILK, MILK SOLIDS PRODUCTION PER COW AND TOTAL MILK SOLIDS PRODUCTION, 2008 TO 2017



Sources: Statistics New Zealand and MPI.

have been surpassed in 2013 by China, Organization of the Petroleum Exporting Countries (OPEC) members, and other Asian countries.

The change in the focus of New Zealand's export markets brings challenges for the New Zealand dairy sector to increase the value of its exports. Cultural and language differences are the foremost barriers for New Zealand companies doing business in emerging markets. Understanding customers' needs and developing value-added products to meet those needs are also important. Long-term, proactive and strategic thinking by companies and the government will be needed to overcome these challenges.

PRICES

International dairy prices fell from a peak in 2011 until mid-2012, when the advent of widespread drought in the US led to a change in market dynamics. A sudden jump in animal feed prices, caused by the US drought, triggered a gradual recovery in international dairy prices. This recovery in international prices intensified in early 2013 as a result of the subsequent drought in New Zealand and drier conditions in Australia, with average auction prices climbing by 31.6 percent from January to April 2013, reaching a record high level in US dollar (USD) terms.

The recent increase in dairy prices is driven by a short-term imbalance between supply and demand. The four largest dairy exporters – New Zealand, the US, the EU, and Australia – all experienced either limited growth or decreases in milk production in 2012/13 compared with the previous year. Low dairy prices, high feed costs, and adverse climatic events all contributed to the subdued production.

Meanwhile, demand from emerging markets continues to grow steadily as population and income levels increase.

International dairy prices are forecast to increase further in the 2013/14 season, and to continue to trend upwards for the remainder of the outlook period. Asian countries, especially China, OPEC members and Russia are the dominant dairy importers. Their positive economic outlook, driven by high GDP growth rates or high oil prices, is expected to support increased demand in the medium and long terms, contributing to the continuing recovery of dairy prices.

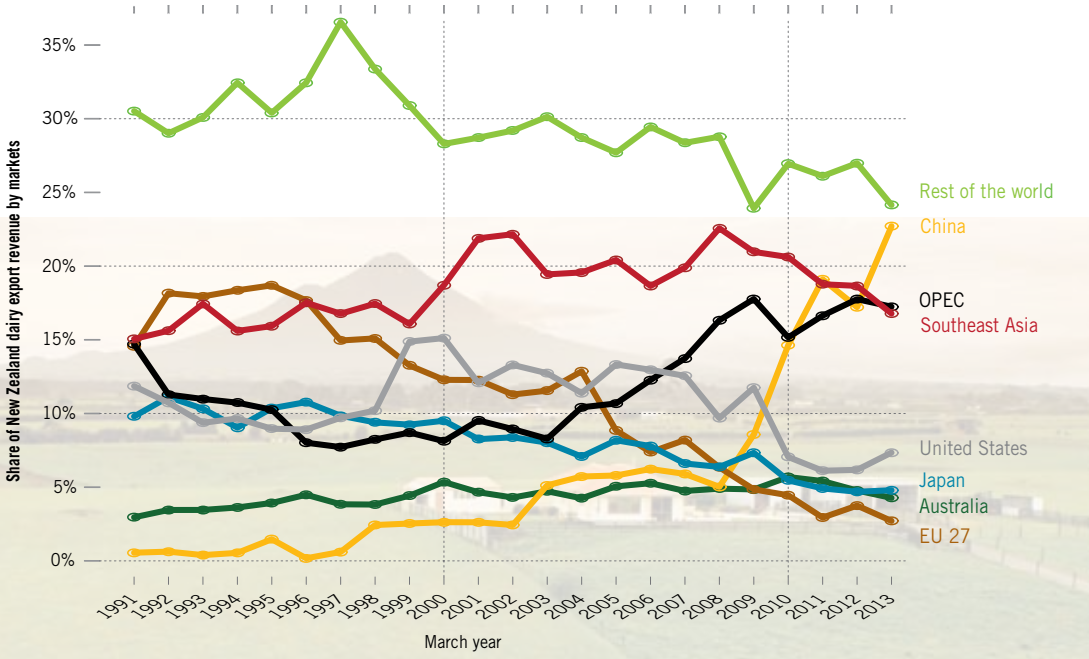
The domestic farm gate milk price is expected to be $5.63 per kilogram of milk solids in the 2012/13 season, 5.5 percent lower than the previous season. This is attributed to the stronger NZD, as well as relatively low international dairy prices through much of the dairy season.

The outlook for the farm gate milk price in 2013/14 is $5.90, a 4.8 percent increase on the 2012/13 season. This results from an expected increase in international dairy prices, though the impact on New Zealand's farm gate milk price is moderated by the high NZD.

STOP PRESS: On 29 May, Fonterra announced a forecast milk price in 2013/14 of $7 per kilogram of milk solids.

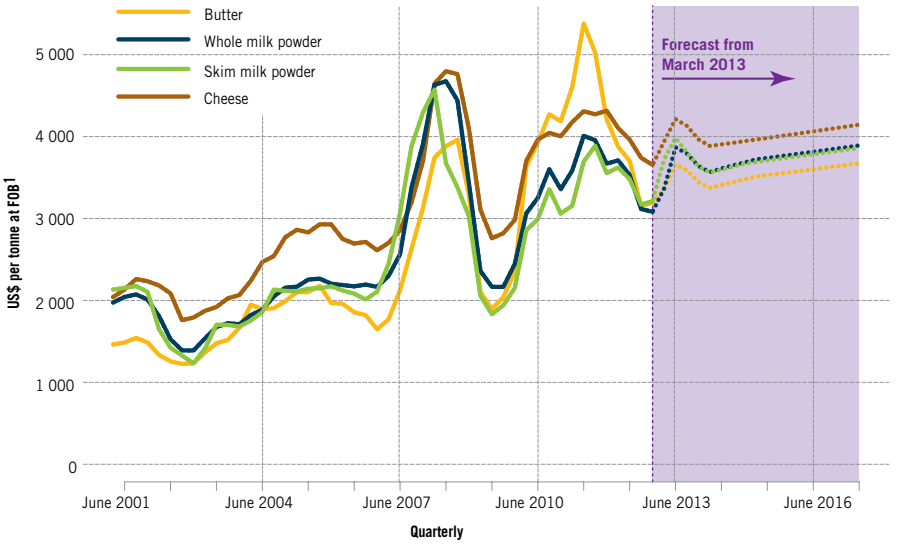
Beyond 2014, the assumption of a depreciating NZD and the continued recovery of international dairy prices lift the farm gate milk price, which is projected to be $6.97 per kilogram of milk solids, by the year ending 31 May 2017.

FIGURE 2.3: SHARE OF NEW ZEALAND DAIRY EXPORT REVENUES BY MARKETS FROM THE YEAR ENDED MARCH 1991 TO 2013



Sources: Statistics New Zealand and MPI.

FIGURE 2.4: DAIRY EXPORT PRICES AND MPI FORECASTS IN US$



Note

1 Free on board is the value of goods at the port of export and loaded onto a vessel for transportation out of the country of origin.

Sources: Statistics New Zealand and MPI.

TRADING AMONG FARMERS

Last year, the Government amended the Dairy Industry Restructuring Act 2001 to enable Fonterra to launch its share trading scheme, known as Trading Among Farmers (TAF). The aim of the amendment was to ensure that if TAF was launched, the market would be an effective substitute to Fonterra standing ready to issue and redeem its shares. The amendment also preserved the freedom of farmers to enter or exit Fonterra.

TAF is Fonterra's innovative response to redemption risk, a risk that arose from its obligation to redeem shares based on farmers' supply decisions. This obligation meant that Fonterra risked needing to pay large sums of money to farmers who reduce their milk supply.

Under TAF, Fonterra farmers can trade shares among themselves rather than trading them directly with Fonterra. TAF also enables external investors to purchase units which give investors the economic rights associated with shares; however, the co-operative nature of the Fonterra business is retained as these units do not confer full ownership and voting rights to external investors.

Fonterra launched TAF on 30 November 2012. The ringing of a symbolic giant cowbell marked the launch on the New Zealand Stock Exchange, as units debuted at $6.66, up $1.16 on their issue price of $5.50. Demand for units represented a strong vote of confidence in the New Zealand dairy industry, with $133 million of trading taking place within the first three hours of the launch.

The TAF scheme is still in its early days, with dairy farmers and investors alike watching to see how this change may affect the market. In the meantime, the dairy industry will benefit from a number of ancillary benefits brought about by TAF.

Instead of Fonterra's share price being set once a year and by an administrative mechanism, it is set by the market on a real-time basis. Moreover, under TAF Fonterra has new obligations to disclose information on its performance to the market. These obligations, and the fact that independent analysts will be commenting on how Fonterra is performing, will bring about increased transparency of Fonterra's performance.

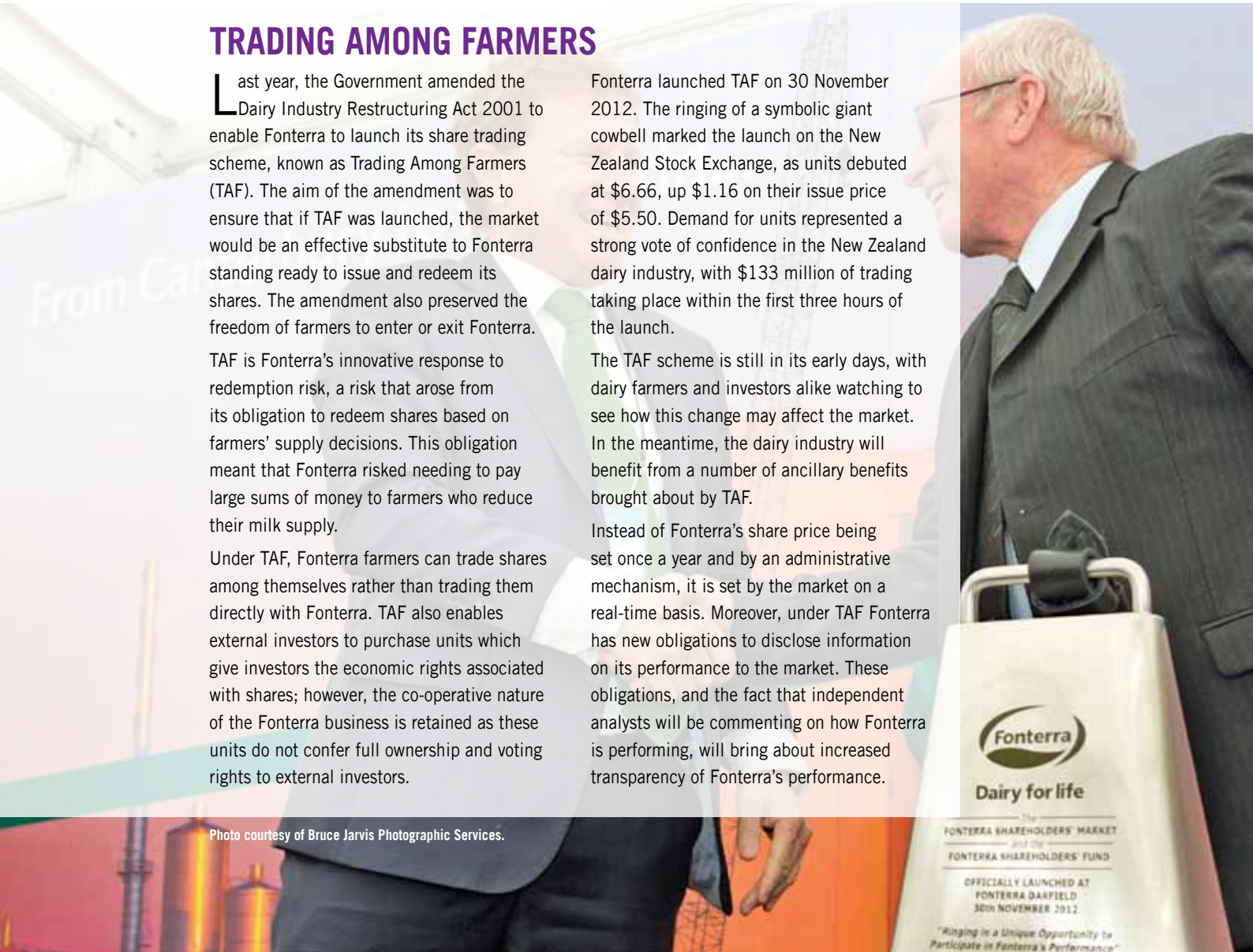


Photo courtesy of Bruce Jarvis Photographic Services.

MĀORI AGRIBUSINESS: OPPORTUNITIES AND CHALLENGES

Whatungarongaro te tangata; toitū te whenua
People are ephemeral; the land remains

The headline story in Māori agribusiness is the shift from being passive owners to active owners and managers of Māori land, with the aim of increasing productivity and profitability. The shift from passive to active ownership is driven by a significant increase in the capability of Māori landowners.

Raising the productivity of 970 000 hectares of Māori freehold land to average levels could potentially yield $8 billion gross over 10 years, and create 3600 jobs (Ministry for Primary Industries (2013), *Growing the Productive Base of Māori Freehold Land*; a report prepared for MPI by PricewaterhouseCoopers). Despite being driven by a desire to improve profitability, however, Māori in the primary industries remain concerned with multiple sustainabilities – environmental, cultural and community, in addition to financial.

Most land in the Māori primary sector is passed down through generations, although the asset base continues to grow modestly, through the settlement of claims made under the Treaty of Waitangi.

Increases in productivity are coming about through a number of strategies including:

- collaboration and amalgamations, to achieve economies of scale and capability;
- improving existing land use, or changing to new uses;
- diversifying to improve value and reduce risk;
- innovating across the value chain, and better accessing new technology;
- moving down the value chain or vertically integrating; and
- developing a "brand Māori" within the "brand New Zealand".

Showcasing the Federation of Māori Authorities

The Federation of Māori Authorities ("the Federation") was formed in 1984 and represents around 130 Māori authorities. The Federation is focused on supporting its members to raise productivity and generate export earnings through the design and deployment of an integrated and collaborative Māori primary industry strategy – Tūhono Whenua.

The Tūhono Whenua strategy is an integrated approach to increasing economic performance in Māori agribusiness. The strategy comprises a number of initiatives relating to:

- **KIWIFRUIT ORCHARD PRODUCTIVITY:** the aim is to increase production and productivity of collectively owned Māori kiwifruit orchards through technology transfer.
- **DAIRY PRODUCTIVITY:** the aim is to bring together Māori dairy entities to work in a more integrated way. Current work involves eight central North Island Māori dairy entities.
- **RED MEAT PRODUCTIVITY:** this initiative will develop a strategy to gain greater control across the value chain, and possibly a joint marketing strategy.

Showcasing Miraka

Miraka is the outcome of a shared vision by a collective group of whānau (family) businesses looking to add value to their farm production beyond the farm gate by investing in the manufacture and marketing of their products to a global market.

The Miraka brand – nurturing our world – and its logo reflect the company's commitment to whānau and environmental values, sustainable business practice and production of a top quality product.

Miraka is backed by a collaborative group of Māori trusts and incorporations that are the majority shareholders. The company has also developed strategic alliances with Vinamilk from Vietnam and Global Dairy Network New Zealand.

Miraka began processing whole milk powder on 1 August 2011 at its plant near Taupo, and exceeded supply and production targets to become the first independent processor to make a profit in its first year of operation.

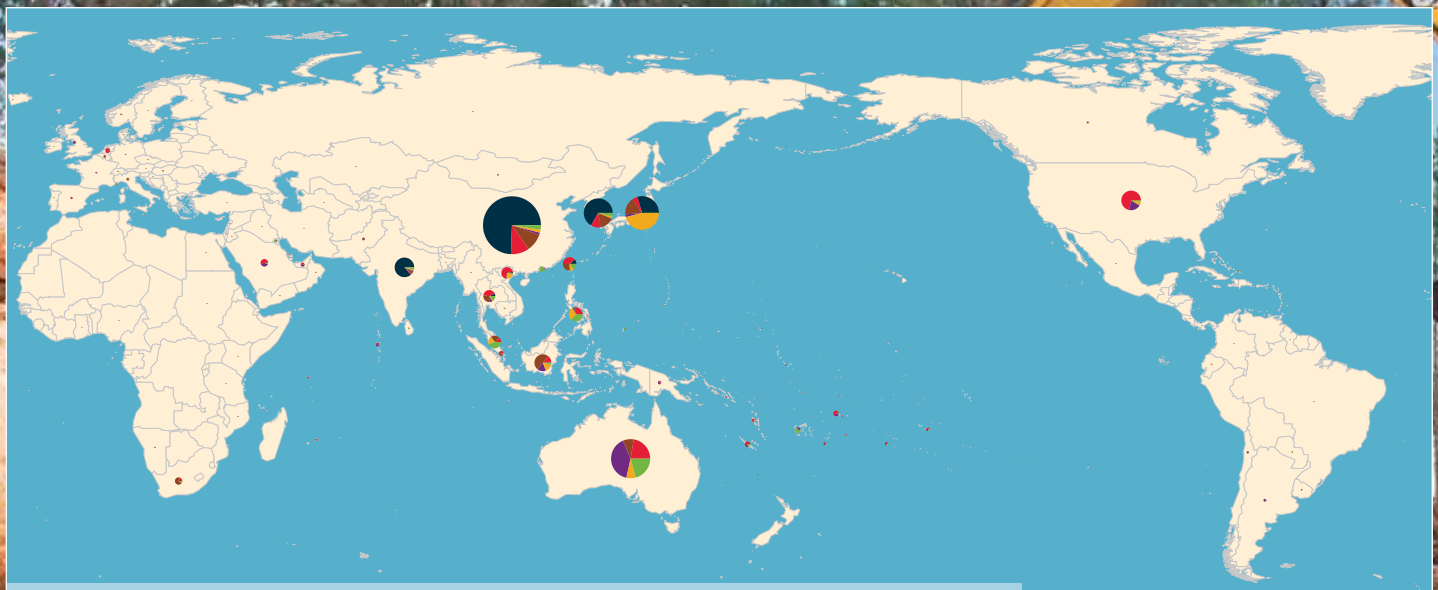
At the start of the 2013 dairy season, Miraka had 92 farmers supplying 235 million litres of milk to the factory. This equates to 1.1 million litres a day during peak season and production of 35 000 tonnes of whole milk powder for the year. Its suppliers are currently made up of a 50/50 split of Māori and non-Māori dairy farmers.

Going forward, Miraka will look to expand their customer base for their current whole milk powder products, as well as manufacture other value-added products for the consumer markets.

A recently signed agreement with Shanghai Pengxin will see Miraka process milk from their farms that are in close proximity to the factory, to create UHT (ultra-heat treated) products for the Chinese market. A memorandum of understanding with an Indian dairy company is another example of a collaborative partnership that Miraka will foster in the future.

FORESTRY

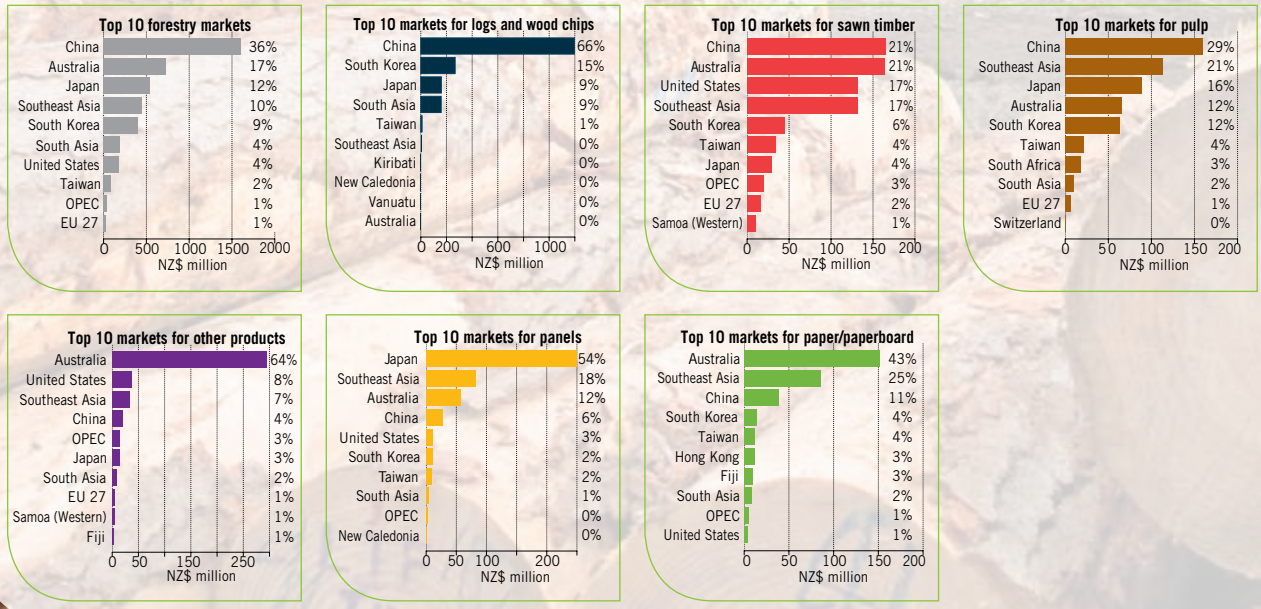
FIGURE 3.1: FORESTRY EXPORT REVENUE BY DESTINATION AND PRODUCT, YEAR ENDED MARCH 2013



Legend: Export revenue by key products

- **Logs and chips:** NZ$ 1 801 million (40.9%)
- **Sawn timber:** NZ$ 788 million (17.9%)
- **Pulp:** NZ$ 549 million (12.5%)
- **Other forestry products:** NZ$ 461 million (10.5%)
- **Panels:** NZ$ 459 million (10.4%)
- **Paper and paperboard:** NZ$ 349 million (7.9%)

Sources: Statistics New Zealand and MPI.



Forest product exports in the year to June 2013 are expected to remain stable at $4.3 billion – refer to Table 3.1. Record log export volumes have offset lower prices for most other forest products. Exports are forecast to increase gradually over the outlook period, reaching $5.0 billion in 2016/17.

In the longer term, New Zealand is well positioned to increase export returns from the forest and wood products industry. Between 2015 and 2025, wood availability is forecast to increase rapidly, lifting to 35 million cubic metres per annum – refer to Figure 3.2.

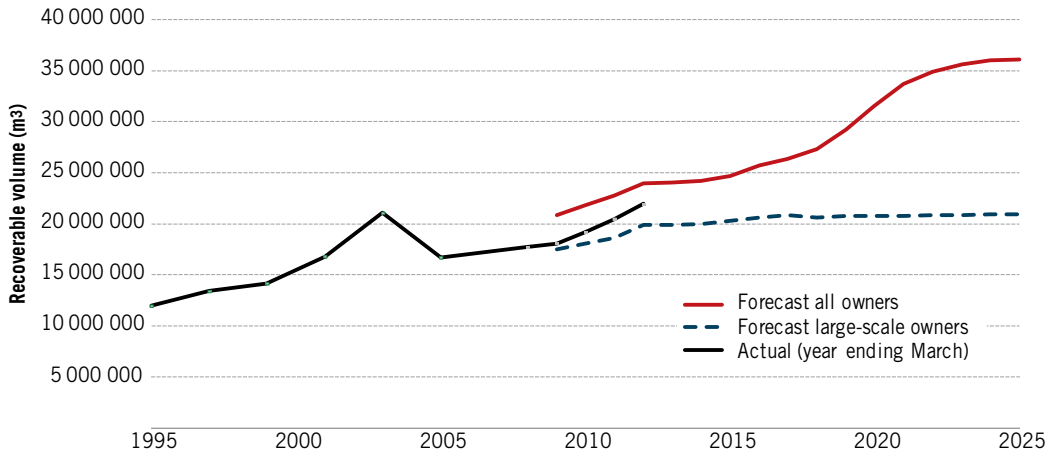
Most of this increase will come from small growers who established forests in the early 1990s. The actual harvest of these forests will depend upon market conditions and the decisions of a large number of small-scale owners.

In addition to increased wood availability, there are also significant opportunities to increase the value of exports through greater wood processing. The Wood Council of New Zealand (Woodco) has recognised this and developed a strategic action plan for the New Zealand forest and wood processing industry that has a vision of more than doubling the value of forestry sector exports to $12 billion by 2022.

As part of its strategic action plan, Woodco commissioned "WoodScape" – a systematic exploration of the opportunities and challenges of profitably processing more logs in New Zealand. The WoodScape analysis provides financial metrics for 39 wood processing technologies and looks at the impact of scale, variable input costs and exchange rates to gain a better understanding of investment risks associated with each technology. The key messages arising from the study are expected to be released shortly.

WoodScape was undertaken by Scion using a financial model developed by FP Innovations (Canada). That model was adapted to New Zealand conditions using local costs, product prices and log conversion rates with the local forest and wood processing industry providing input data, guiding the analysis and reviewing the results.

FIGURE 3.2: HISTORICAL HARVESTING AND FORECAST WOOD AVAILABILITY (RADIATA PINE ONLY)



Source: MPI, *National Wood Availability Forecasts 2010-2040* (March 2010).

The WoodScape model will be available through Scion for use by wood processors, potential investors and others. It is anticipated this will result in:

» more site-specific analysis to complement the generic results of the current study;

» ongoing analysis of emerging technologies;

» existing mills using the model to analyse options for adopting new processes or technologies;

» regional wood-processing options such as co-locating or clustering processing plants being considered and their benefits being quantified;

» an improved understanding of the economics of wood processing; and

» more informed and robust discussion and debate about the future shape, direction and priorities of the industry.

LOGS

New Zealand's plantation forests are well positioned to meet the increasing demand in global markets for sustainably managed forests and legally harvested timber.

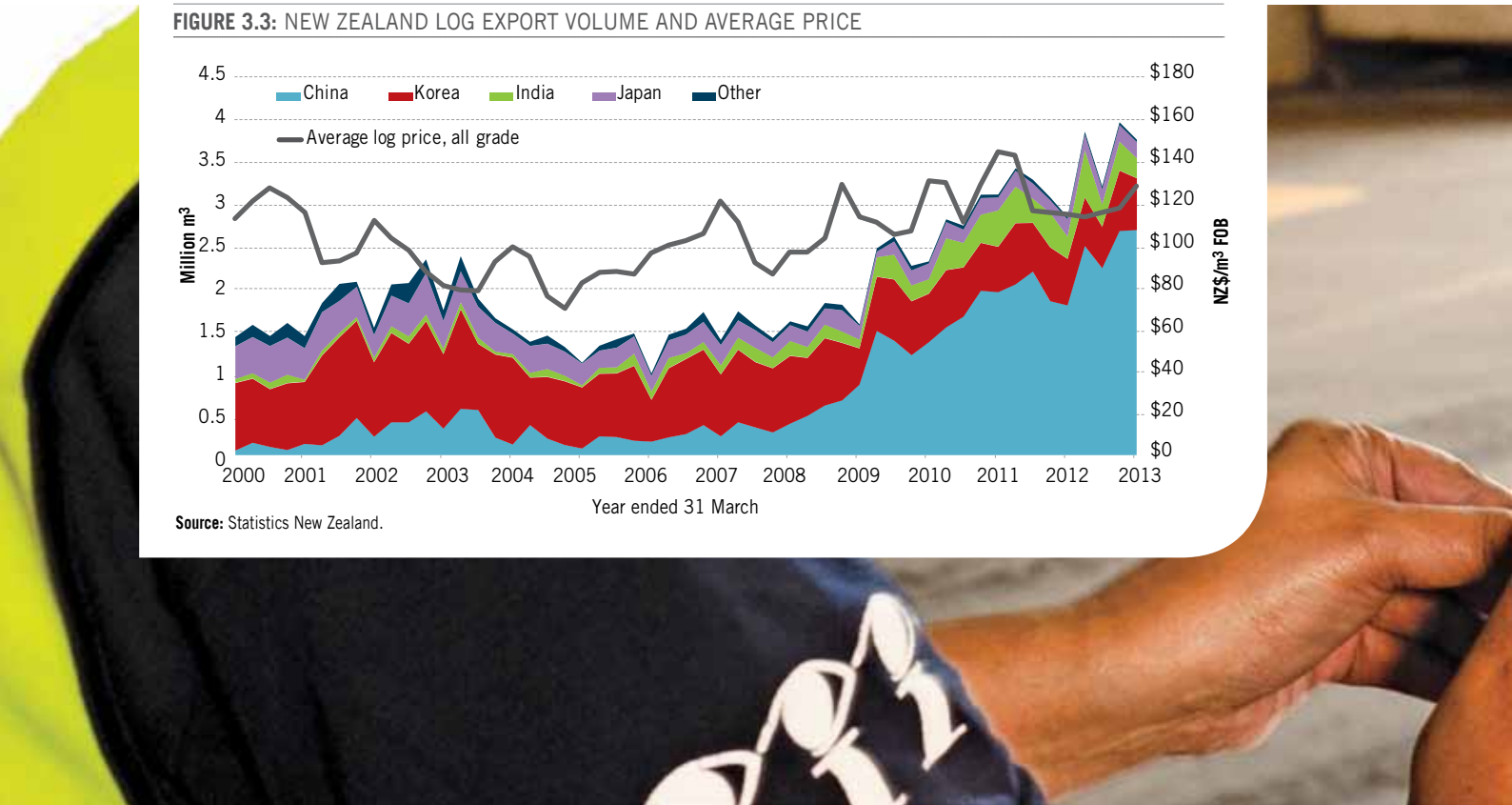
Log export volumes in the year ending 30 June 2013 are estimated to increase 7percent on the previous year. Coupled with a 4.4 percent price increase, this is forecast to increase log export value by nearly 12 percent, to $1.65 billion. Domestic log prices have also increased as domestic wood processors have tried to secure supply in the face of rapidly increasing export log prices.

New Zealand has experienced strong demand from China for its logs in recent years and this is expected to continue. New Zealand's market share in China is increasing at the expense of Canada, which is diverting logs to the US (which is experiencing a re-bounding housing market), and Russia, where log exports have dropped on the back of measures to encourage domestic processing and a lack of investment in harvesting and transport infrastructure.

New Zealand's log export volumes were extremely high in the 2012 calendar year at 13.8 million cubic metres, breaking records in the June quarter and then again in the December quarter. Steady demand and attractive export log prices are driving harvest growth. As the smaller forests established during the 1990s mature, the potential annual harvest is projected to increase by about 40 percent to reach around 35 million cubic metres per year from the early 2020s.

FIGURE 3.3: NEW ZEALAND LOG EXPORT VOLUME AND AVERAGE PRICE

Source: Statistics New Zealand.



Log exporters, however, are beginning to run up against capacity constraints. Many log export ports are reaching capacity and the increased activity is seeing demand and prices rise for harvesting and log transport services. In addition, log shipping costs are beginning to nudge upwards after being at low levels.

SAWN TIMBER

In contrast to log exporters, New Zealand wood processors generally continue to experience challenging conditions.

Timber export volume and value for the year ending 30 June 2013 are estimated to increase by 0.9 percent and 3.6 percent respectively, compared to 2012.

There is reduced demand for structural timber from Australia and New Zealand due to weak housing markets, although recent increases in activity in Christchurch and Auckland are slightly improving this situation. The demand for export logs from China has also pushed up domestic log prices for wood processors, increasing their costs. The unfavourable exchange rate is also problematic for exporters of processed timber, but this has been partly offset by an improving US housing market.

PANELS

Panel export volumes in the year ending 30 June 2013 are expected to remain at the same level. Due to increased supply from competitors, however, prices are forecast to decrease by 6.8 percent.

The international plywood market has been significantly affected by the EU Timber Regulation which came into effect on 3 March 2013. The regulation is designed to reduce illegal logging, by ensuring that all timber products imported into the EU can be traced. Following a surge in imports of Chinese plywood at the end of 2012, few new orders are being placed with Chinese suppliers due to the difficulties of meeting the traceability requirements of the new regulation.

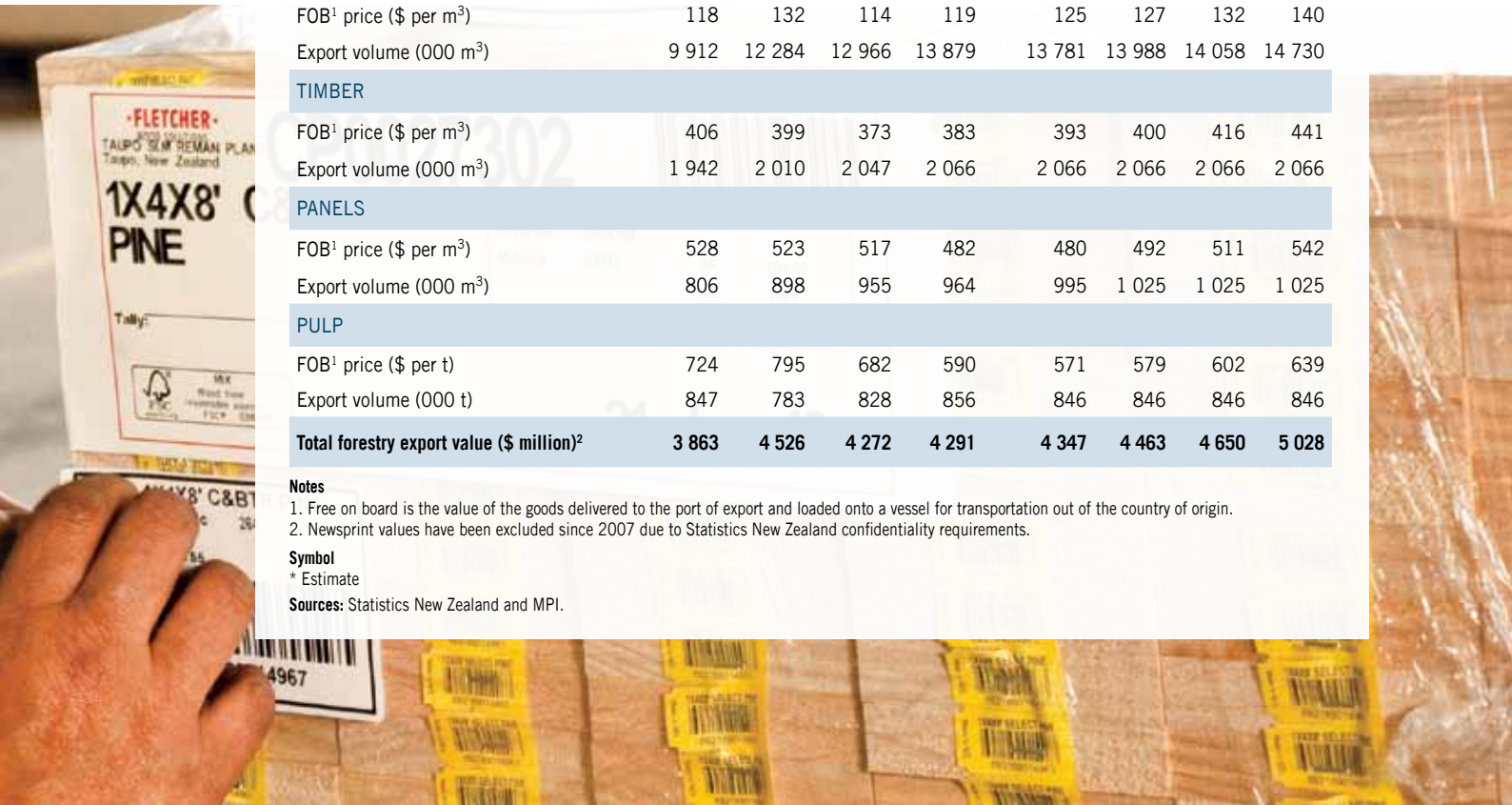
TABLE 3.1: FORESTRY EXPORT VOLUMES, PRICES AND VALUES, 2010 TO 2017

	ACTUAL				FORECAST			
YEAR TO 30 JUNE	2010	2011	2012	2013*	2014	2015	2016	2017
LOGS								
FOB[1] price ($ per m^3)	118	132	114	119	125	127	132	140
Export volume (000 m^3)	9 912	12 284	12 966	13 879	13 781	13 988	14 058	14 730
TIMBER								
FOB[1] price ($ per m^3)	406	399	373	383	393	400	416	441
Export volume (000 m^3)	1 942	2 010	2 047	2 066	2 066	2 066	2 066	2 066
PANELS								
FOB[1] price ($ per m^3)	528	523	517	482	480	492	511	542
Export volume (000 m^3)	806	898	955	964	995	1 025	1 025	1 025
PULP								
FOB[1] price ($ per t)	724	795	682	590	571	579	602	639
Export volume (000 t)	847	783	828	856	846	846	846	846
Total forestry export value ($ million)[2]	**3 863**	**4 526**	**4 272**	**4 291**	**4 347**	**4 463**	**4 650**	**5 028**

Notes
1. Free on board is the value of the goods delivered to the port of export and loaded onto a vessel for transportation out of the country of origin.
2. Newsprint values have been excluded since 2007 due to Statistics New Zealand confidentiality requirements.

Symbol
* Estimate

Sources: Statistics New Zealand and MPI.



The EU Timber Regulation has resulted in the redirection of significant quantities of competitively priced Chinese plywood into non-EU markets, in direct competition to New Zealand product in some instances.

By contrast, fibreboard and particleboard manufacturers, which constitute the bulk of New Zealand panel products, are experiencing excellent conditions and many are now producing to capacity.

PULP, PAPER AND WOODCHIPS

Woodchips, pulp and paper export prices for the year to 30 June 2013 are estimated to decrease by 16 percent, 13.5 percent and 6 percent, respectively, on 2012 results. This, coupled with a small export volume drop for woodchips (5 percent) and paper (3 percent), is forecast to reduce export value for these products by 10 percent compared to the June 2012 year.

Weaker pulp markets are forcing pulp manufacturers worldwide to reduce costs, resulting in the lowest softwood fibre prices since 2010. Lower pulp prices have resulted in downward pressure on wood fibre prices. When profit margins for pulp mills are being squeezed, one of the first steps taken to improve profitability is often to try to reduce the wood input costs, since those costs typically account for 60 to 70 percent of the production costs in manufacturing pulp. As such, pulp log export prices have fallen significantly in New Zealand.

In addition, Norske Skog reduced capacity in January 2013, significantly reducing domestic newsprint paper production. Demand for newsprint has been negatively affected by competition from new electronic media.

ENGINEERED TIMBER PRODUCTS: BUILDING A STRONGER NEW ZEALAND TIMBER INDUSTRY

Engineered timber products are created by binding together the strands, fibres or veneers of wood with adhesives to form composite materials. Engineered timber can be easily manufactured into large panels for floors, walls and roofs, as well as pre-fabricated structural components, such as long-span beams. These products have been used in residential, commercial and industrial construction for many years.

Glulam and laminated veneer lumber (LVL) components are the most commonly found structural engineered timber products in New Zealand. Cross-laminated timber (CLT) is a relatively new addition. While CLT has been used in Europe for many decades, New Zealand's first plant was commissioned in Nelson in 2012. These products have potential to add value to our commodity forest products.

Engineered timber products are more uniform and more dimensionally stable than traditional solid wood products. Other positive characteristics include durability, good seismic performance, aesthetic qualities, and sustainability. These properties make engineered timber competitive with steel and concrete, especially in multi-storey commercial and residential buildings and in light industrial buildings.

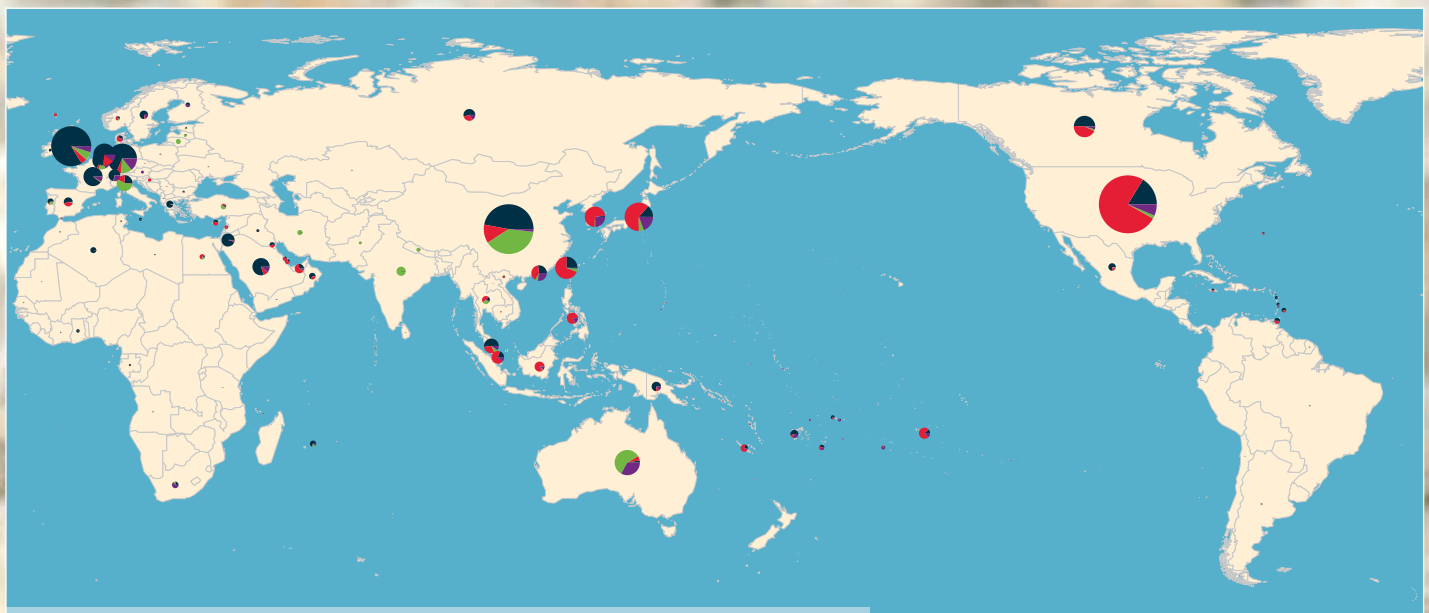
The Structural Timber Innovation Company (STIC) – jointly funded by the Government, the University of Auckland, the University of Canterbury, and the wood processing industry – is nearing the end of its five-year programme. It has developed an innovative system that uses pre-fabricated LVL beams and Glulam that are pre-stressed with steel or carbon-fibre tendons, to construct seismically stable low-rise buildings. STIC technology was used in the Nelson-Marlborough Institute of Technology Arts and Media Building – a world first (the design of which was partly sponsored by MPI). The STIC programme is wrapping up in June 2013. The challenge for the timber and building industries is how to increase uptake of these, and other, new systems.

New building systems, such as STIC, could transform the way buildings are constructed in New Zealand. Pre-fabricated components, manufactured in a controlled environment off-site, are of high quality, make health and safety easier to manage, and increase on-site construction efficiency. While there is opportunity for more pre-fabricated components and buildings in New Zealand, there could also be opportunities to develop and export high-value, pre-fabricated buildings or the technology to the Asia-Pacific region.

Photo courtesy of Irving Smith Jack Architects.

MEAT AND WOOL

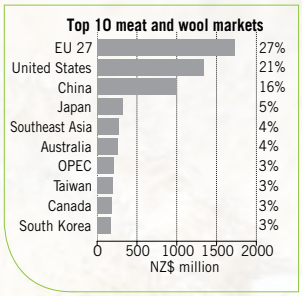
FIGURE 4.1: MEAT AND WOOL EXPORT REVENUE BY DESTINATION AND PRODUCT, YEAR ENDED MARCH 2013

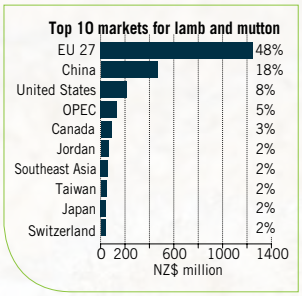


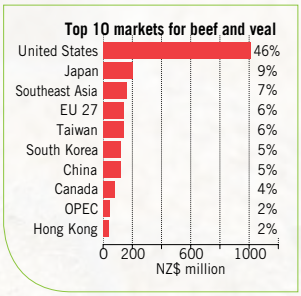
Legend: Export revenue by key products

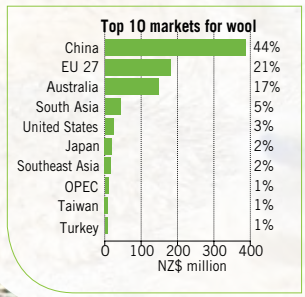
- **Lamb and mutton:** NZ$ 2635 million (41.6%)
- **Beef and veal:** NZ$ 2213 million (35%)
- **Wool:** NZ$ 871 million (13.8%)
- **Other meat:** NZ$ 608 million (9.6%)

Sources: Statistics New Zealand and MPI.









The year ending June 2013 has been a tough year for the sector as it deals with the most widespread drought since 1945/46, a strong NZD, and sheep meat, venison and wool prices retreating from near historic highs of the previous year. Long-term trends in the meat and wool sector have shown producers to be resilient, with farmers learning to adapt to demand and supply shocks beyond their direct control. This resilience is once again being tested as the sector deals with the effects of the 2013 drought.

Export values of meat, wool, hides and skins for the year ending June 2013 are estimated at $5.95 billion and are forecast at $6.37 billion in year ending June 2017.

BEEF

Total beef export revenue for year ending June 2013 is estimated to decline 3.3 percent to $1.94 billion, reflecting a 4.9 percent fall in price and a slight increase in volume – refer to Table 4.1. By 2017, beef export value is projected at $2.17 billion due to increased international prices and an assumed depreciation of the NZD. Export volume of beef averages 335 000 tonnes over the outlook period.

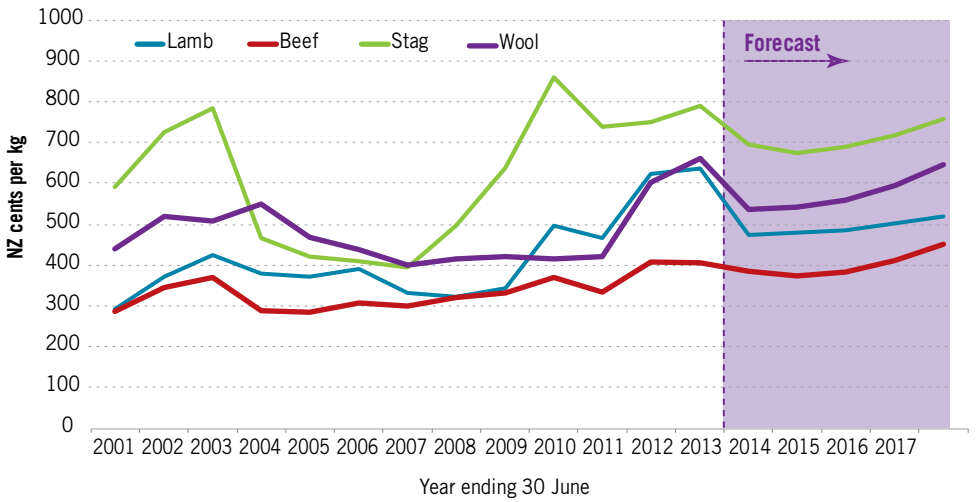
PRICES

Beef prices in the key US market have strengthened since December 2012 because of constrained domestic supply. The central and southern plains of the US are suffering a drought for the third year in a row. Consequently, demand for imported beef increased, as did New Zealand tonnage during the first quarter of 2013 (compared to a year earlier).

Over the next 18 months, New Zealand beef export prices in USD are forecast to remain high, with commercial beef production in the US not expected to increase until the 2016 calendar year. In the longer term, beef prices are expected to increase slowly due to economic recovery in main beef markets and increasing demand for animal protein in Asia and some developing countries.

For farmers, however, the beef schedule prices are forecast to decrease in the year ending June 2014 due to an assumed appreciation of the NZD against the USD. Further out, slowly rising international prices and an assumed depreciation of the NZD against the USD should lift schedule prices.

FIGURE 4.2: MEAT AND WOOL PRODUCER PRICES, 2001 TO 2017



Sources: Beef + Lamb New Zealand Economic Service, NZX AgriFax and MPI.

TABLE 4.1: BEEF CATTLE NUMBERS, BEEF PRICES, EXPORT VOLUMES AND VALUES, 2010 TO 2017

	ACTUAL				FORECAST			
YEAR TO 30 JUNE	2010	2011	2012	2013	2014	2015	2016	2017
Total beef cattle[1] (million)	4.10	3.95	3.85	3.73	3.67	3.63	3.57	3.54
Schedule prime beef price (cents/kg)	335	408	406	386 *	374	383	412	452
Export volume (000 tonnes)	362	350	346	347 *	333	339	335	334
Export value ($ million)	1 822	2 036	2 010	1 943 *	1 829	1 910	2 004	2 166

Note
1. Opening numbers are as at 1 July of the preceding year.

Symbol
* Estimate

Sources: Statistics New Zealand, Beef + Lamb New Zealand Economic Service and MPI.

PRODUCTION

Because favourable climatic conditions encouraged earlier than normal finishing of steers and non-breeding bulls for slaughter, total beef cattle numbers were down 2.9 percent to 3.73 million as at 30 June 2012. Breeding cows were slightly up on the previous year.

Beef production is estimated to increase by 0.6 percent for the year ending June 2013 compared to last year. This increase is a result of drought conditions increasing the number of animals for slaughter at lighter carcass weights and is expected to contribute to a 1.6 percent decline in total cattle numbers to 3.67 million as at 1 July 2013.

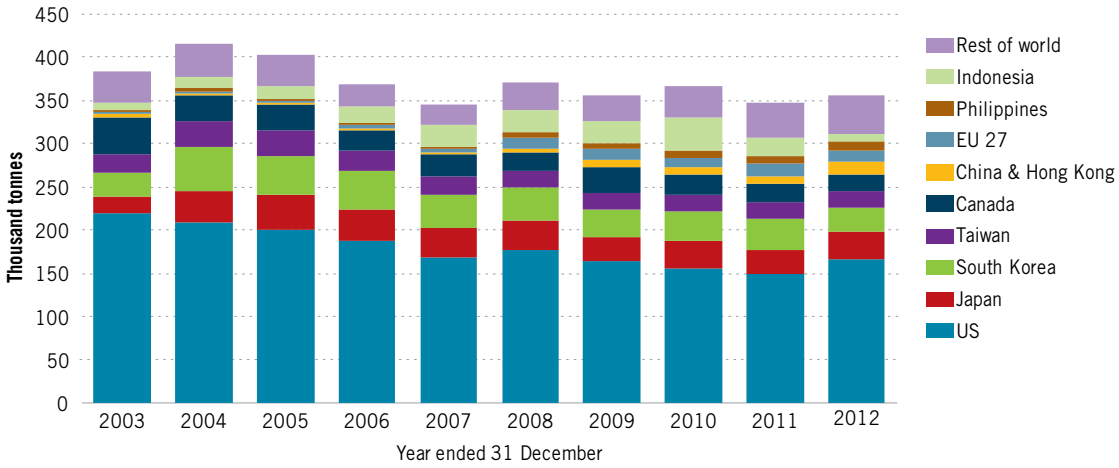
Over the outlook period, total beef cattle numbers are expected to decrease as dairy continues to expand. Assuming average climatic conditions, increasing carcass weights and increasing dairy herd culls, beef production is forecast to remain around 593 000 tonnes to 2017.

EXPORTS

The US remains the largest market for New Zealand beef exports, accounting for 47 percent by volume and 44 percent by value in the year ended December 2012. Most beef exported to the US is manufacturing grade beef.

The main destination for chilled prime cuts is Japan. The EU is also a key market for prime cuts

FIGURE 4.3: BEEF EXPORTS BY DESTINATION, 2003 TO 2012



Sources: Statistics New Zealand and MPI.

and remains the highest priced market for New Zealand's beef exports. The EU accounts for 3.6 percent by volume and 6.8 percent by value of New Zealand exports.

In the year ended December 2012, beef export volume to mainland China increased four-fold (to 10 500 tonnes). As this expands further it will provide an alternative to the Indonesian market, where beef import quotas have been applied since 2011.

Figure 4.3 shows trends in export volume by destination for 2003 to 2012. New Zealand exporters have become less reliant on the US and Canada, and have maintained their North Asian markets and diversified to other markets.

LAMB

Lamb exports are estimated to decline 16.4 percent to $1.93 billion in the year ending June 2013, reflecting a 20 percent decline in export price and a 4.8 percent increase in export volume – refer to Table 4.2. Lamb exports are forecast to decline by over $250 million in 2013/14 due to the 2013 drought, but then recover gradually over the outlook period.

PRICES

Export lamb prices in UKP during the December quarter 2012 were down 25 percent on the peak in December quarter 2011, due to depressed demand and cheaper alternative meats. New Zealand exporters redirected lamb away from the EU and this resulted in a record low EU quota fill for the year ended December 2012.

A further decline in export prices in UKP are expected out to the June quarter 2013, because of a carryover of UK domestic lambs from 2012 to 2013 and increased lambs processed in New Zealand. Export prices are forecast to start rising from the December quarter 2013, because of a drought-induced fall in lambs born in New Zealand.

Over the outlook period, sheep flocks in both the EU and New Zealand are expected to decrease but be offset to some extent by a moderate increase in Australia. New Zealand will remain reliant on advanced countries for the sale of higher priced lamb cuts. Growing incomes and demand for protein in emerging and developing countries are forecast to sustain demand for New Zealand's low- and mid-priced cuts. Consequently, lamb export prices in UKP are expected to increase over the outlook period. An assumed depreciation of the NZD against the UKP after December 2013 will see further increases for lamb export prices in NZD terms.

For farmers, the average lamb schedule price for year ending 30 June 2013 is estimated at $4.75 per kilogram, down over 25 percent from last year's record average. Over the outlook period, the schedule price is expected to average $4.97 per kilogram; while this is below the price spike in 2011 and 2012, it is still higher than the $4.08 per kilogram average for 2007 to 2010.

TABLE 4.2: SHEEP BREEDING NUMBERS, LAMB PRICES AND EXPORT VOLUMES AND VALUES, 2010 TO 2017

	ACTUAL				FORECAST			
YEAR TO 30 JUNE	2010	2011	2012	2013	2014	2015	2016	2017
Sheep breeding numbers[1] (million)	24.0	23.9	22.5	22.8	21.2	21.3	20.9	20.5
Lamb schedule price (cents/kg)	467	623	637	475 *	480	486	502	520
Export volume (000 tonnes)	308	262	254	266 *	238	251	250	249
Export value ($ million)	2 454	2 436	2 310	1 930 *	1 667	1 803	1 854	1 925

Note
1. Mated ewe and ewe hoggets are as at 1 July of the preceding year.
Symbol
* Estimate
Sources: Beef + Lamb New Zealand Economic Service, Statistics New Zealand and MPI.

PRODUCTION

Breeding ewe and ewe hogget numbers were up 1.3 percent as at 30 June 2012, because favourable autumn conditions increased mated ewe hogget numbers and conception rates. In addition, favourable spring conditions improved lamb survival with lambs tailed up 2.3 percent on the previous year. Total lamb production for the year ending June 2013 is estimated at 381 000 tonnes, up 4.7 percent on last year.

For the six months to December 2013, lamb production was up on the previous year due to increases in both slaughter numbers and carcass weights. Increases in carcass weights were particularly significant in the South Island. For New Zealand as a whole, carcass weights are estimated to be down only 0.13 kilograms to 18.35 kilograms for the year ending June 2013, while estimated slaughter numbers are up 5.5 percent.

The 2012/13 drought is expected to contribute to a 2.9 percent decrease in breeding ewe numbers and a 38 percent decrease in mated ewe hogget numbers as at 30 June 2013. Consequently, lamb production in the year ending June 2014 is forecast to fall 10.6 percent to 341 000 tonnes.

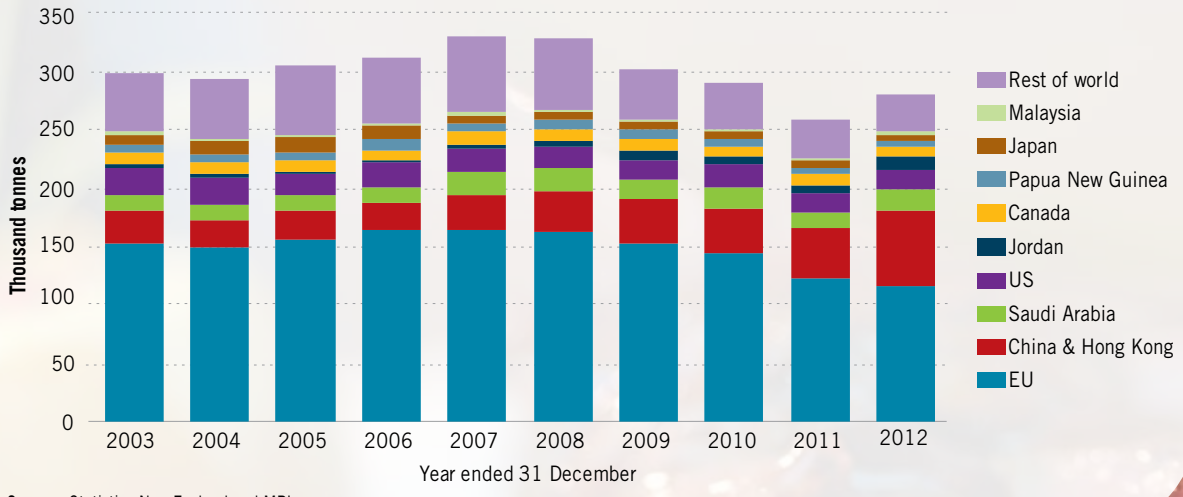
Over the outlook period, lambing percentages and lamb carcass weights are both expected to increase, but a continuing decrease in the breeding ewe and ewe hogget numbers will constrain lamb export volumes. Decreasing sheep numbers are the result of continuing expansion of dairy milking and support areas.

EXPORTS

Figure 4.4 shows trends in export volume by destination for 2003 to 2012. New Zealand exporters are becoming less reliant on the EU market as they diversify into other markets. In the year ended December 2012, the EU took 41 percent of New Zealand's lamb export by volume and 52 percent by value.

Between 2007 and 2012, export volumes increased to China, Hong Kong and Jordan but substantially decreased to the EU and the rest of the world. Over

FIGURE 4.4: LAMB EXPORTS BY DESTINATION, 2003 TO 2012



Sources: Statistics New Zealand and MPI.

this period, China's share of New Zealand's lamb export volume increased from 7.8 percent to 21 percent. China, however, takes predominantly lower value cuts. In 2012, the average export price to China was $4.60 per kilogram, compared to $8.41 to the EU.

Between 2003 and 2012, New Zealand lamb export volumes to emerging and developing countries as a share of total export volumes increased from 32 percent to 44 percent. This trend is expected to continue.

VENISON

Total venison export value for year ending June 2013 is estimated to fall 11.7 percent to $181 million, mainly reflecting a 12 percent decline in export price – refer to Table 4.3. Decreasing export volumes over the outlook period result in a projected $172 million export value by 2017.

After peaking in September 2011, venison export prices in euros per kilogram have been decreasing in a cyclical manner due to weakening demand in the EU. The seasonal peak during the historical hunting season in the half year to December 2013 is expected to be more muted than last year.

Export prices in euros per kilogram are forecast to rise slowly over the outlook period due to lower supplies from New Zealand and economic recovery in the EU. Schedule prices are expected to decrease out to June 2014 due to stronger exchange rates, but then increase as exchange rates are assumed to weaken.

Deer numbers continue to decline. Further declines are forecast over the outlook period which will result in lower production and lower export volume.

The EU accounted for 77 percent of New Zealand's venison export volume for year ended 31 December 2012, with Germany, the main market, taking 35 percent. The largest non-EU market was the US, taking 10.5 percent.

WOOL

New Zealand's wool export value for year ending 30 June 2013 is estimated at $633 million, down 16.3 percent on the previous year, largely due to a 19 percent decline in the average export price – refer to Table 4.4. By 2017, export value is projected to reach $707 million due to increasing world prices and an assumed exchange rate depreciation.

The export price of wool in February 2013 was USD3.98 per kilogram of product weight, a 40 percent decline from a record high of USD6.52 in December 2011. Export prices largely depend on China's increasing domestic demand and what happens in their export markets of finished woollen products in the EU, Japan and the US. To date, New Zealand wool has faced strong competition from synthetic-based carpets in these markets and this is expected to continue.

TABLE 4.3: TOTAL DEER, VENISON PRICES, EXPORT VOLUME AND VALUES, 2010 TO 2017

	ACTUAL				FORECAST			
YEAR TO 30 JUNE	2010	2011	2012	2013	2014	2015	2016	2017
Total deer[1] (million)	1.15	1.12	1.09	1.06	1.02	0.98	0.96	0.94
Venison schedule price – AP Stag (cents/kg)[2]	739	750	791	696 *	675	690	719	758
Venison export volume (000 tonnes)	15.0	15.6	15.2	15.0 *	13.8	13.1	12.6	12.3
Venison export value ($ million)	209	215	205	181 *	173	168	169	172

Notes
1. Opening numbers are as at 1 July of the preceding year.
2. Gross net of levies.

Symbol
* Estimate

Sources: Statistics New Zealand, NZX AgriFax and MPI.

Over the outlook period, export wool prices in USD are projected to rise slowly as global economic recovery picks up and world wool production remains fairly static. An assumed depreciation of the NZD against the USD from early 2014 onwards contributes to increasing New Zealand producer prices.

An estimated 2.9 percent decline in total sheep numbers and a drought-induced reduction in the amount of wool produced per sheep will result in a 10.3 percent decline in the volume of wool exports in the year ending 30 June 2014. A gradual decline in total sheep numbers over the outlook period will result in lower wool export volumes.

China and Hong Kong's share of total wool export volumes increased from 22 percent in the year ended December 2003, to 54 percent in 2012 – refer to Figure 4.5. Exports to other countries, with minor exceptions, decreased over the period.

TABLE 4.4: SHEEP NUMBERS, WOOL PRICES AND EXPORT VOLUMES AND VALUES, 2010 TO 2017

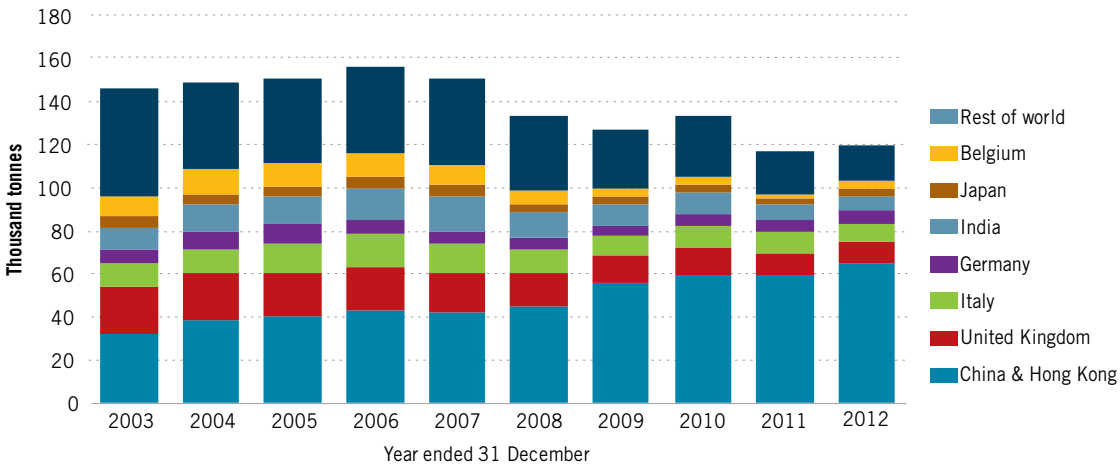
	ACTUAL				FORECAST			
YEAR TO 30 JUNE	2010	2011	2012	2013	2014	2015	2016	2017
Total sheep numbers[1] (million)	32.4	32.6	31.1	31.3	30.4	30.0	29.3	28.9
Average sale price (cents/kg)	421	602	663	538 *	543	559	595	648
Export volume (000 tonnes)	133	123	113	116 *	104	112	110	109
Export value ($ million)	547	711	756	633 *	573	635	661	707

Note
1. Opening numbers are as at 1 July of the preceding year.

Symbol
* Estimate

Sources: Statistics New Zealand, Beef + Lamb New Zealand Economic Service and MPI.

FIGURE 4.5: WOOL EXPORT VOLUMES BY DESTINATION, 2003 TO 2012



Sources: Statistics New Zealand, Beef + Lamb New Zealand Economic Service and MPI.

TOMORROW'S CUSTOMER

New Zealand's export markets are growing and becoming more diversified. This is due to demand changes and free trade agreements (FTAs).

New Zealand is currently negotiating a range of bilateral FTAs including with Korea, India and Russia-Belarus-Kazakhstan. We are also negotiating regional agreements, such as the Regional Comprehensive Economic Partnership (RCEP) with 16 countries including China, India and Korea and the Trans-Pacific Strategic Economic Partnership (TPP) that includes the US, Canada and Mexico. The addition of Japan to the TPP, which is in the final stages of acceding to the negotiations, will mean that members of TPP account for 40 percent of global GDP.

These partnerships and agreements provide new opportunities for New Zealand exporters. They also require investment, to better understand different customers, build good relationships on the ground, and invest in new products and marketing.

The Government's Primary Growth Partnership initiative is helping with programmes such as FarmIQ, led by Silver Fern Farms and Landcorp; Foodplus, led by ANZCO; and Marbled Grass-Fed Beef, led by Firstlight Foods and Brownrigg Agriculture. Also in the pipeline is the Red Meat Sector Collaboration for Sustainable Growth, which includes the majority of the red meat processing sector, Beef + Lamb NZ and several banks, all with a common interest in ensuring the long-term sustainable profitability of the red meat sector.

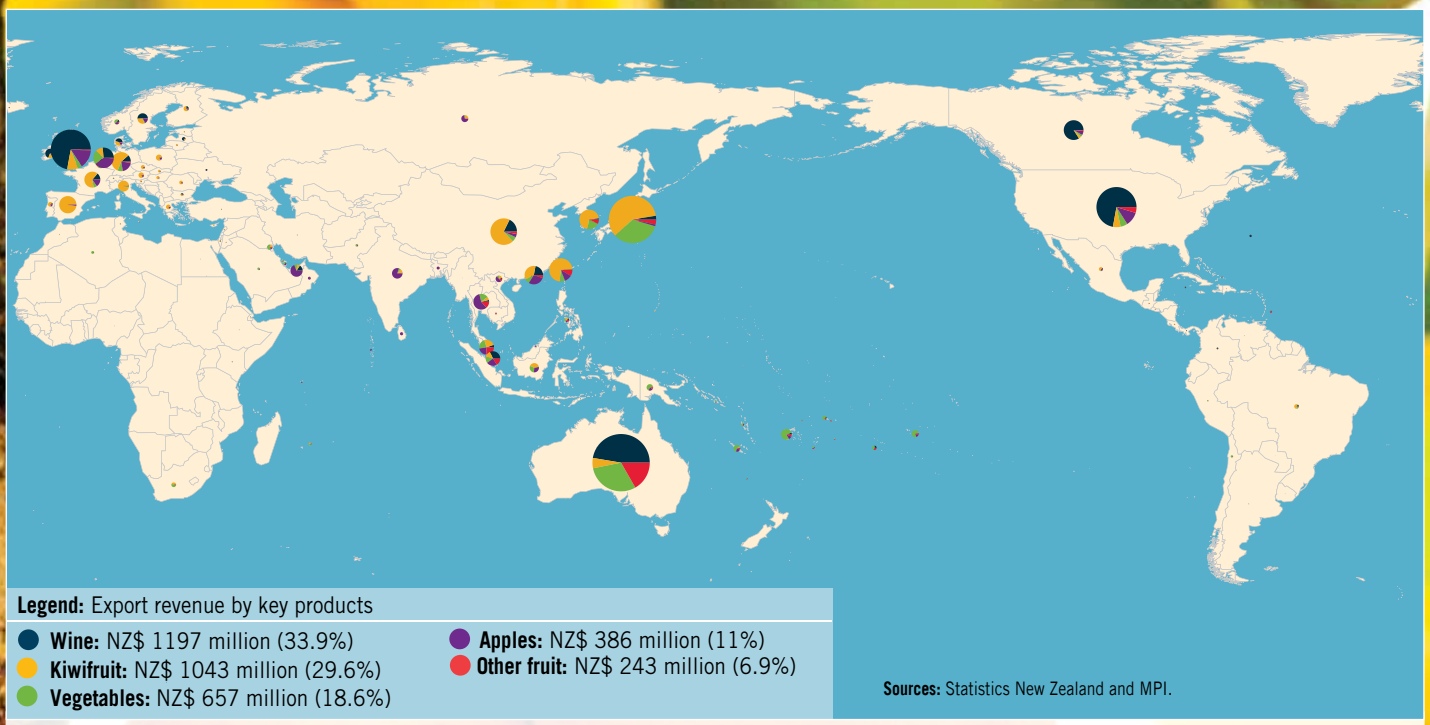
These programmes each have their own focus, but share a common purpose: Enabling businesses throughout the sector to be agile and responsive to diverse market demands. This will be achieved through the development of new high-value products, along with tools and systems that assess various aspects of performance from on-farm to in-market, including stock management, genetics, forage selection, and taste panel assessments.

A sector that is responsive to today's customer, and anticipates the needs of tomorrow's customer, requires what the *2011 Red Meat Sector Strategy* called "informed aligned behavioural change". The sector will find it difficult to realise its opportunities if its behaviour is not aligned, for example, if behaviour at the start or in the middle of the supply chain is pulling it in opposite directions.

Photo courtesy of Firstlight Foods Limited.

HORTICULTURE

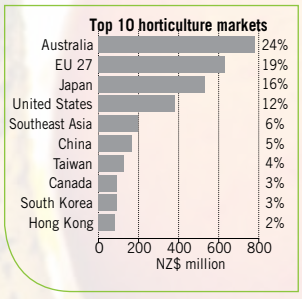
FIGURE 5.1: HORTICULTURE EXPORT REVENUE BY DESTINATION AND PRODUCT, YEAR ENDED MARCH 2013

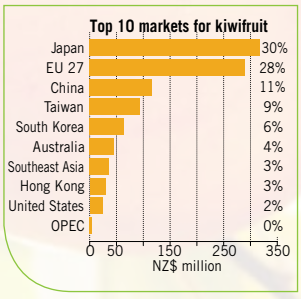


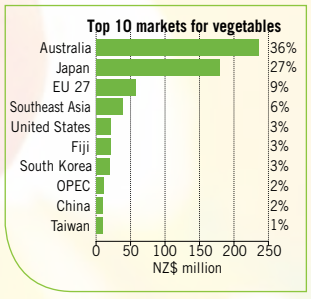
Legend: Export revenue by key products

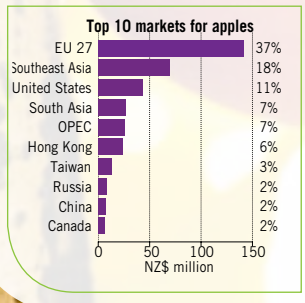
- **Wine:** NZ$ 1197 million (33.9%)
- **Kiwifruit:** NZ$ 1043 million (29.6%)
- **Vegetables:** NZ$ 657 million (18.6%)
- **Apples:** NZ$ 386 million (11%)
- **Other fruit:** NZ$ 243 million (6.9%)

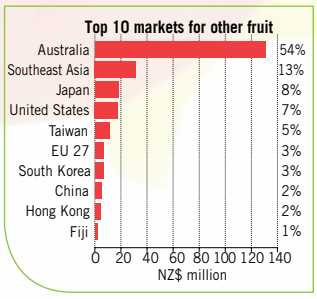
Sources: Statistics New Zealand and MPI.











New Zealand's horticultural exports earned $3.5 billion in the year ended 31 March 2013, similar to the previous year.Kiwifruit and wine exports each exceeded $1 billion with increases in export prices compensating for a reduction in export volumes. Export earnings in the short term will remain relatively static or decrease slightly, owing to lower exports of kiwifruit and a continuation of the high NZD.

Production and exports of gold kiwifruit in the year ending 31 March 2014 are expected to be significantly affected by the bacterial disease Psa. Exports of gold kiwifruit are likely to be down by around 43 percent compared with the previous year. Under a best-case scenario, export volumes of gold kiwifruit might return to pre-Psa levels within three years (year ending 31 March 2016) if the industry can successfully transition to new Psa-tolerant gold kiwifruit varieties. Production and exports of green kiwifruit, which is more tolerant of Psa, should remain relatively stable.

Good demand in a range of markets should help lift in-market prices for apples and wine in 2013, with NZD export prices expected to improve despite the stronger currency. Improved export prices, and increased export volumes due to good growing conditions, will mean higher export earnings for these two sectors this year.

Faced with a high NZD until the end of 2015, strategies to lift in-market prices and reduce production and supply chain costs are a priority to maintain profitability in the sector. Many horticultural exporters are seeking market development opportunities in Asia.

WINE

The medium-term outlook for New Zealand's wine industry is encouraging. The national vineyard planted area has stabilised, market development activities are becoming more co-ordinated, and new initiatives are underway to promote the sustainability credentials of New Zealand wine.

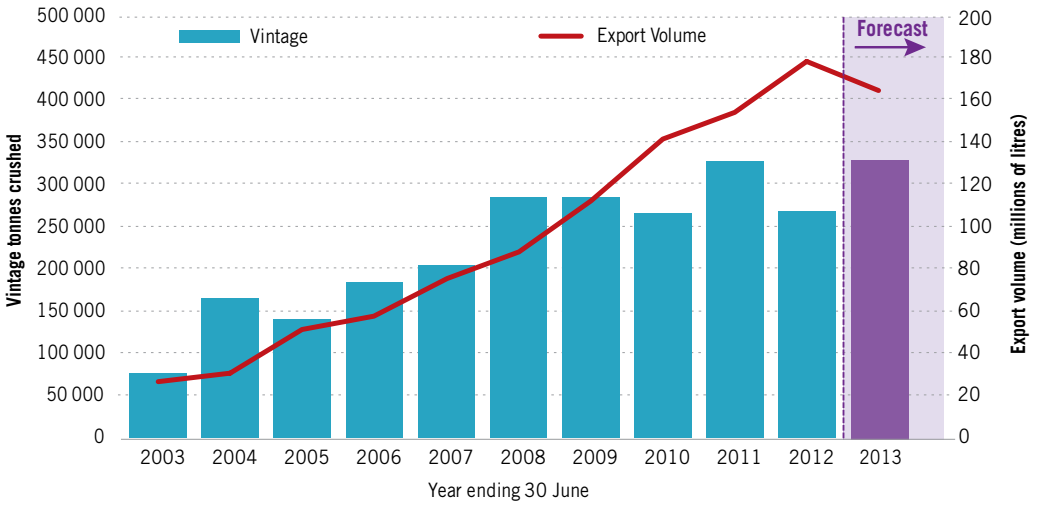
An example of successful co-ordinated market development is highlighted in the box story on page 37. It shows that collaboration through the World Wine Trade Group (WWTG) has enhanced New Zealand's trade access to the US and other key markets.

PRODUCTION

The wine industry has experienced dramatic growth in production and exports over the last 10 years, as Figure 5.2 demonstrates.

The year 2008 was a turning point, as the global financial crisis severely affected market confidence. Consequently, New Zealand wineries worked

FIGURE 5.2: NZ WINE VINTAGE AND EXPORTS, 2003 TO 2013



Sources: *NZ Winegrowers Annual Report 2012* and MPI.

closely with growers to manage fruit volumes in the following two years, allowing the gradual selling-down of previous years' excess wine inventory.

Favourable climatic conditions, especially in the predominant growing region of Marlborough, resulted in a record crop in 2011. Conversely, an unusually cool spring that affected fruit set in major growing regions, led to a major contraction in the 2012 vintage.

The 2013 grape crop is expected to reach 330 000 tonnes, similar in scale to the 2011 vintage of 328 000 tonnes.

The potential limitations of the cool spring and summer of 2011 on the 2013 crop has not materialised. Warm, dry weather with high sunshine hours throughout late spring and summer and into autumn created near perfect conditions for flowering, ripening and harvest in the main growing regions.

Given little or no new plantings in recent years, vintage size through to 2017 will be determined by yield per hectare.

EXPORTS

New Zealand is expected to export 165 million litres of wine, valued at nearly $1.2 billion, in the year ending 30 June 2013. This represents a 7.8 percent fall in export volumes compared with 2012. Export revenue, however, is expected to be similar due to an anticipated increase in the average price per litre to $7.20. The higher price per litre is the result of an increased proportion of bottled wine being exported.

Export volumes for the year ending 2014 are forecast to increase to 185 million litres, due to the near-perfect growing and harvest conditions across New Zealand for the 2013 vintage.

Export prices for wine are predicted to further improve over the forecast period, rising to almost $8.00 per litre in 2016 and 2017. This is due in part to work being done by the wine industry and New Zealand Trade and Enterprise to promote premium New Zealand wine in selected new and existing markets. The assumed depreciation of the NZD after 2015 should also help to lift export prices. Table 5.1 provides actual and forecast wine export volumes, prices and values from 2010 to 2017.

TABLE 5.1: WINE EXPORT VOLUMES, PRICES AND VALUES, 2010 TO 2017

	ACTUAL				FORECAST			
YEAR TO 30 JUNE	2010	2011	2012	2013*	2014	2015	2016	2017
Export volume (million litres)	142	155	179	165	185	190	190	190
FOB[1] price ($/litre)	7.3	7.1	6.6	7.2	7.3	7.6	7.9	7.9
Export value ($ million)	1 041	1 094	1 177	1 188	1 350	1 445	1 500	1 500

Note
1. Free on board is the value of goods delivered to the port of export and loaded onto a vessel for transportation out of the country of origin.
Symbol
* Estimate
Sources: Statistics New Zealand, New Zealand Winegrowers and MPI.

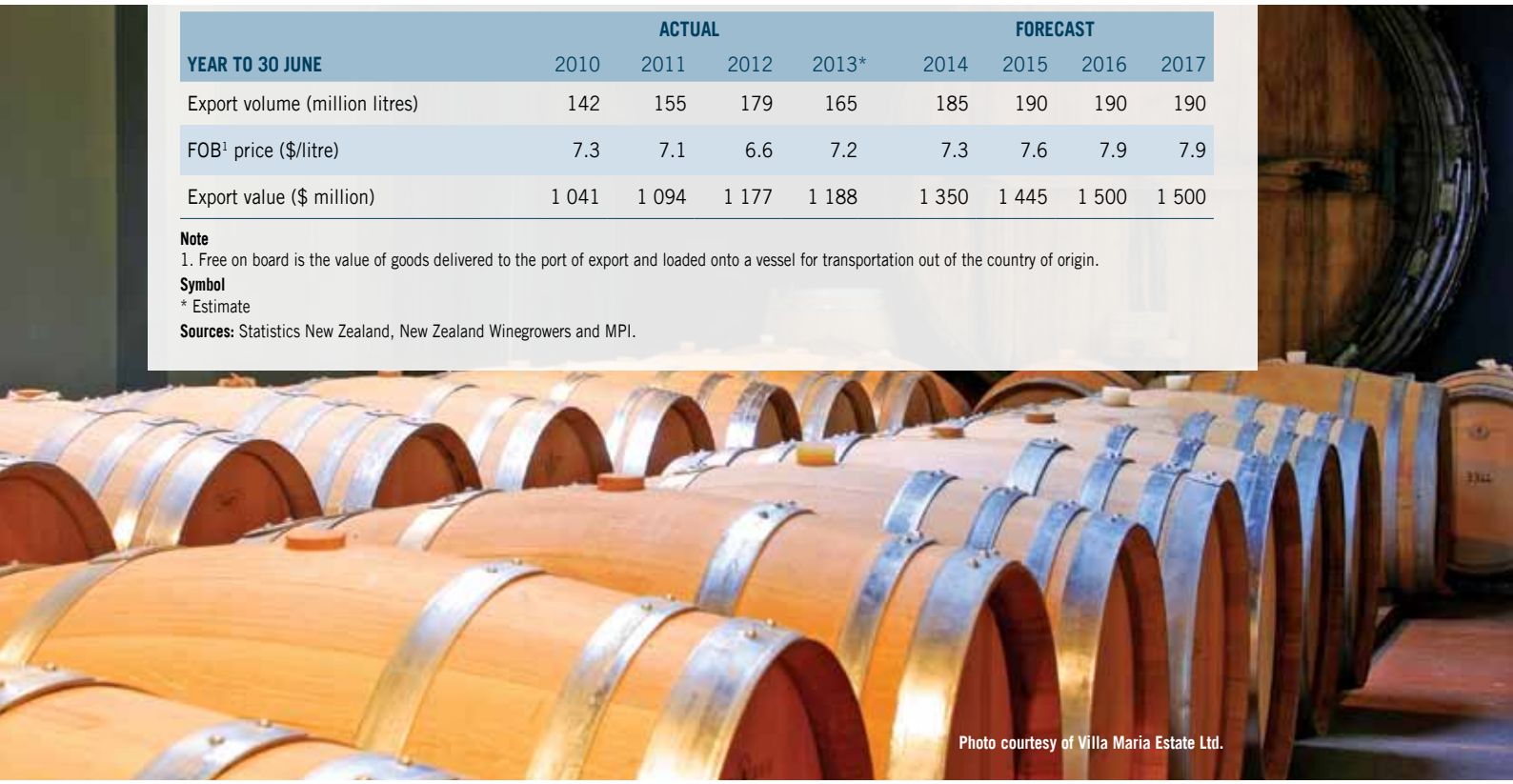


Photo courtesy of Villa Maria Estate Ltd.

AGREEMENT TO PAVE WAY FOR EASIER WINE TRADE

The World Wine Trade Group (WWTG) completed a new protocol on wine labelling in Auckland in November 2012. It was signed in Brussels last month by some WWTG participants including New Zealand, and it is expected that the other participants will sign within a year.

This treaty-level protocol requires that signatories allow the importation and sale of wine from other countries that have signed up to the protocol, provided that the wine meets a set of minimum standards (protocol standards are concerned with labelling for alcohol tolerance, variety, vintage and wine region, as well as meeting the exporting country's laws and regulations). The new protocol builds on the 2007 WWTG Agreement on Requirements for Wine Labelling.

As regulator of the New Zealand wine industry, MPI works closely with the Ministry of Foreign Affairs and Trade and wine industry representatives to represent New Zealand's position within this forum.

The protocol should provide New Zealand wine exporters with enhanced access to the US and greater certainty about regulations in other key markets. It will also set a useful benchmark for observer countries and other non-members. The protocol does not require any changes to New Zealand's regulations or legislation.

The WWTG was formed in 1998 to promote better regulation and enhanced trade in wine. The group encompasses government and industry representatives from mostly "new world" wine producing countries. The current participants – Argentina, Australia, Canada, Chile, Georgia, New Zealand and the US – account for roughly a third of global wine production and exports, and a growing share of the global market for wine.

Since 1998, the WWTG has concluded two ground-breaking agreements on winemaking practices and labelling, and a memorandum of understanding on certification. This work has encouraged increased trade between participants, and other countries such as Brazil, Mexico and China have expressed an interest in eventually becoming full participants and signatories to the WWTG agreements.

KIWIFRUIT

New Zealand exported 9 percent fewer trays of kiwifruit in the year ended 31 March 2013, due to the progression of the bacterial disease Psa and seasonal factors. Higher in-market prices for kiwifruit held export revenue above $1 billion. Table 5.2 details kiwifruit export volumes, prices and values from 2010 to 2017.

Export volumes to Asia fell 4 percent to 46 million trays, meanwhile export volumes to Europe fell 10 percent to 44 million trays. Differences in the strength of consumer demand and varietal mix resulted in a significant difference in export revenue: $661 million (up 8 percent) from Asia and $290 million (down 16 percent) from Europe.

PSA TO REDUCE GOLD KIWIFRUIT EXPORTS

The bacterial vine-killing disease Psa, confirmed in New Zealand in November 2010, has spread to all kiwifruit growing regions of the North Island. As at May 2013, over 70 percent of kiwifruit orchards were known to have the bacterium present, up from 40 percent a year ago.

The main gold kiwifruit cultivar, Hort16A, is particularly susceptible to Psa. So far, over 1500 hectares (about 60 percent) of Hort16A have been removed because of the disease. This is expected to reduce export volumes of gold kiwifruit by around 43 percent, to 13 million trays, for the year ending 31 March 2014. This aligns with the mid-point of the scenarios modelled by MPI in its *Situation and Outlook for Primary Industries Update December 2012*.

Green kiwifruit orchards have also been infected with Psa, although they are proving to be more tolerant of the disease. Around 75 million trays of green kiwifruit are expected to be exported for the year ending 31 March 2014, a similar level to the previous year.

Warm, dry weather with high sunshine hours throughout summer and into autumn 2013 has led to fruit with higher dry matter, an indicator for fruit quality and taste.

PRODUCTION

The New Zealand kiwifruit industry has set in place a recovery pathway to replace the Hort16A cultivar with new gold kiwifruit varieties that are more tolerant of Psa, beginning with the transition to the G3 cultivar. G3 was commercialised in 2010 in small quantities, showing promising performance on-orchard, in the supply chain, and with consumers.

Over time, research and development programmes will identify new kiwifruit varieties that are both

TABLE 5.2: KIWIFRUIT EXPORT VOLUMES, PRICES AND VALUES, 2010 TO 2017

YEAR TO 31 MARCH		ACTUAL				FORECAST			
		2010[4]	2011	2012	2013	2014	2015	2016	2017
Export volume (million trays[1])	Green kiwifruit	80	78	83	78	75	72	69	69
	Gold kiwifruit	22	21	27	23	13	18	25	32
	Total	**102**	**100**	**111**	**101**	**88**	**90**	**95**	**101**
FOB[2] price ($/tray)	Green kiwifruit		7.9	7.7	8.1	8.0	8.2	8.6	9.0
	Gold kiwifruit		15.3	14.2	17.4	17.5	17.1	17.5	18.6
	Total	**10.3**	**9.5**	**9.3**	**10.3**	**9.4**	**10.0**	**10.9**	**12.0**
Export value ($million)	Green kiwifruit		622	639	632	598	589	592	621
	Gold kiwifruit		315	389	405	229	308	439	592
	Total[3]	**1 043**	**944**	**1 034**	**1 043**	**830**	**900**	**1 033**	**1 217**

Notes
1. One tray equals 3.6 kg.
2. Free on board is the value of the goods delivered to the port of export and loaded onto a vessel for transportation out of the country of origin.
3. Total may not round due to other kiwifruit categories.
4. Information on export volumes for gold kiwifruit in 2010 sourced from *Zespri Annual Report*.

Sources: Statistics New Zealand and MPI.

tolerant of Psa and meet key attributes, such as taste and storage, that will make them commercially successful.

The National Psa-V Pest Management Plan that came into force on 17 May 2013, will help slow the spread of Psa and minimise its impacts on kiwifruit production.

Most of the Hort16A in the Bay of Plenty is expected to succumb to Psa over the next few years, although the timing is uncertain. Growers with healthy Hort16A vines may choose to defer the transition and continue to produce Hort16A for as long as possible. The production of Hort16A also depends on the uptake and success of new orchard management tools and practices to counter the impact of Psa, as well as the ability of growers to finance these activities.

MPI's production and export forecasts for gold kiwifruit over the medium term have two key drivers: the rate of transition to the G3 cultivar, and the productivity impact from Psa. The productivity impact includes the failure rate of new grafts and ongoing impacts of Psa on the health of kiwifruit vines. G3 is more tolerant of Psa than the Hort16A cultivar, but is not resistant. MPI has developed two scenarios as shown in Figure 5.3. The mid-point of these two scenarios is used for the MPI forecast.

The low scenario for gold kiwifruit production is based on no Hort16A production in the Bay of Plenty in 2014 (year to March 2015), and no production in other regions by 2015. This scenario also assumes a 40 percent reduction in the productivity of G3 due to Psa.

The high scenario for gold kiwifruit production is based on no Hort16A production in the Bay of Plenty in 2016 (year to March 2017), and 20 percent production in other regions at the end of the forecast period. This scenario assumes a 10 percent reduction in the productivity of G3 due to Psa.

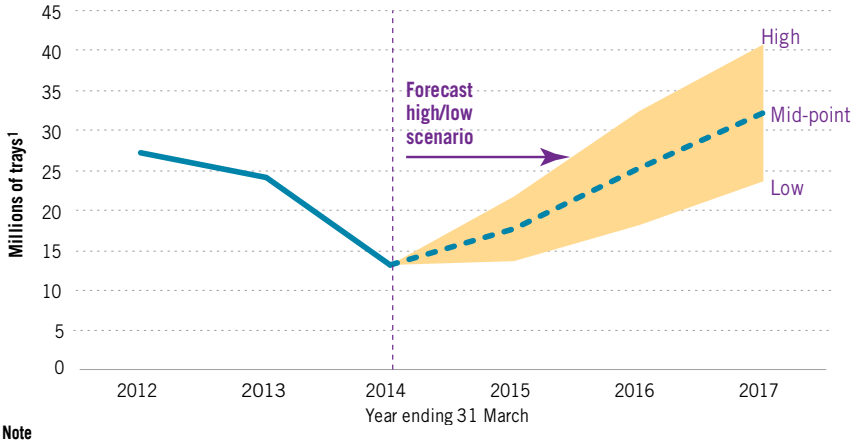
It is prudent to forecast kiwifruit production within the bands of a low and high scenario due to the large amount of uncertainty of Psa progression, grower transition to G3, and the productivity impact of Psa on G3.

EXPORTS

Kiwifruit export volumes in the year to 31 March 2014 are expected to fall 13 percent to 88 million trays and export returns are expected to fall 20 percent, to $830 million.

Export prices in the year to 31 March 2014 are expected to be lower than for the previous year because of exchange rate impacts. In the medium term, export prices are expected to strengthen for both green and gold kiwifruit, driven by changes in market composition and the forecast depreciation of the NZD after 2015.

FIGURE 5.3: GOLD KIWIFRUIT PRODUCTION FORECASTS, 2014 TO 2017



Note
1. One tray equals 3.6 kg.

Source: MPI.

PRIMARY SECTOR RECOVERY POLICY IN ACTION

Rural individuals and communities are primarily responsible for recovering from adverse climatic and natural disaster events and biosecurity incursions. There are times, however, when an event is beyond a rural community's capacity to cope, and Government assistance may be required to help rural communities recover more quickly.

In June 2012, the Government announced a new Primary Sector Recovery Policy, which brought in a new Biosecurity Recovery Framework alongside the existing Adverse Events Framework.

The new Biosecurity Recovery Framework guides what recovery assistance may be made available from the Government to farmers and growers seriously impacted by a new disease or pest incursion. Biosecurity incursions can now be assessed in a similar way to the impact of adverse climatic or natural disaster events.

The Government declared Psa-V as a medium-level biosecurity event under the Primary Sector Recovery Policy in December 2012. It is the first biosecurity event declared under the policy. The Government worked with kiwifruit industry representatives to ensure that the declaration was timed to give maximum possible benefit for growers.

In December 2012, a Psa Recovery Group was formed with representatives from the Bay of Plenty Rural Support Trust, New Zealand Kiwifruit Growers Incorporated and Kiwifruit Vine Health Incorporated. These organisations contracted to co-ordinate and deliver the package of approved measures under the policy.

The activities undertaken by the Psa Recovery Group will be determined by the governance and operational representatives involved. Based on their assessment of the existing and future anticipated demand for support services from growers and their communities, they will decide the delivery format and frequency of activities. The policy enables the kiwifruit industry, rural community and support agencies to influence the implementation of the recovery measures.

More detail on the frameworks outlined above, including recovery measures that may be made available and other useful information, is available on the MPI website at www.mpi.govt.nz/environment-natural-resources/funding-programmes/primary-sector-recovery.

Photo courtesy of Zespri International Limited.

There is uncertainty around the progression of Psa and the transition to new kiwifruit cultivars. MPI expects that export volumes should increase to pre-Psa levels towards the end of the forecast period as production from G3 comes on-stream. There remains significant growth potential for the New Zealand kiwifruit industry from 2017 onwards.

APPLES AND PEARS

The outlook is encouraging for the New Zealand apple and pear sector, with an increasing proportion of new varieties planted and potential for ongoing market expansion in Asia. Export earnings, however, will be tempered by the high NZD over much of the outlook period.

Market conditions for the 2013 season are generally positive. Early signals indicate good demand from markets in Europe and the Middle East. By April 2013, existing stocks in EU markets were much lower than in recent years because of lower production in Europe in 2012. Demand from most markets in Asia is strong, especially for the Pacific series of apple. Demand for New Zealand apples in Taiwan, mainly the Fuji variety, is weak due to competing supplies.

Total export earnings for apples and pears are expected to increase in the year ending 31 December 2013 as a result of increased export volumes and higher export prices. Export prices are forecast to remain stable and improve slightly over the forecast period. This is due to ongoing changes in the variety mix, further expansion into higher paying markets, and the assumed depreciation of the NZD after 2015. Table 5.3 shows apple and pear export volumes, prices and values – actual and forecast – from 2009 to 2016.

PRODUCTION

Apple and pear production in 2013 is expected to be up on the previous year. The increase is due to a combination of generally good growing conditions and recently planted orchards coming into full production. Dry, warm weather with high sunshine hours throughout late spring and summer and into autumn have led to good fruit quality.

Annual exports are predicted to stabilise at 16 to 17 million cartons over the forecast period with tree removals being compensated for by replacement plantings, recently planted orchards reaching maturity, and ongoing efforts by industry to maximise yields.

EXPORTS

New Zealand is expected to export around 16.75 million cartons of apples and pears in the year ending December 2013.

Market diversification into Asia continues – Asia's share of New Zealand apple exports increased from 16 percent in 2002, to 35 percent in 2012. Markets showing the most growth in recent years include Thailand, India, China and Hong Kong, and Japan – refer to Figure 5.4. Volumes into Europe fell to 50 percent from 62 percent over the same period.

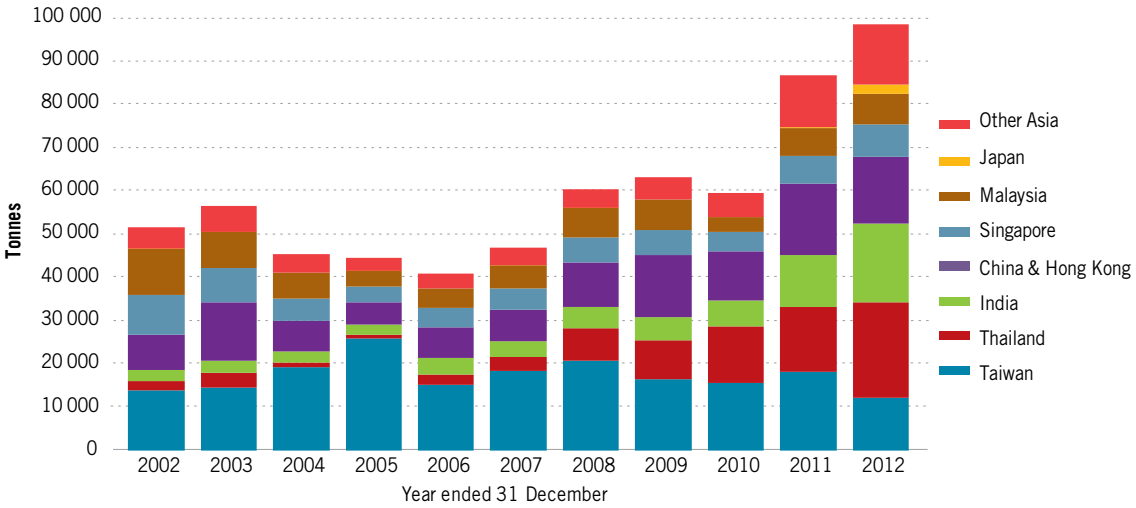
TABLE 5.3: APPLE AND PEAR EXPORT VOLUMES, PRICES AND VALUES, 2009 TO 2016

	ACTUAL				FORECAST			
YEAR TO 31 DECEMBER	2009	2010	2011	2012	2013	2014	2015	2016
Export volume (million cartons)[1]	17.1	14.7	16.9	16.0	16.75	16.75	17.0	17.0
FOB[2] price ($/carton)[3]	24.40	26.00	24.00	25.00	26.50	26.00	27.00	27.00
Export value ($ million)[3]	418	382	406	400	444	435	459	459

Notes
1. A carton is equivalent to 18.0 kgs.
2. Free on board is the value of goods delivered to the port of export and loaded onto the vessel for transportation out of the country of origin.
3. Official statistics for FOB prices and export values were modified for 2010, 2011 and 2012 as industry data and MPI Farm Monitoring data indicated that higher prices were achieved.

Sources: Statistics New Zealand and MPI.

FIGURE 5.4: APPLE EXPORT VOLUMES TO ASIA, 2002 TO 2012



Sources: Statistics New Zealand and MPI.

FRESH AND PROCESSED VEGETABLES

Warm, dry conditions over much of the growing season and at harvest have resulted in vegetable crops of good quality. Yields in some of the drought-hit regions of the North Island have been variable.

Total fresh and processed vegetable export values are estimated to reach $590 million for the year ending 31 December 2013 facilitated by higher export prices for onions and an expected increase in export volumes of processed vegetables, as indicated in Table 5.4.

FRESH VEGETABLES

Export volumes of fresh vegetables for the year ending 31 December 2013 are expected to be down slightly on the previous year.

Export volumes of squash are expected to be down by 10 percent on last year due to the dry conditions in the main producing regions of Hawke's Bay and Gisborne. Onion exports are likely to increase slightly with good quality resulting from dry conditions at harvest.

Market conditions for onions and squash, the dominant fresh vegetable export crops, are mixed. A reduction in competing supplies from other Southern Hemisphere producers should assist New Zealand onion exports to Europe. Recent initiatives to increase market demand are behind an expected 30 percent of New Zealand squash exports going to South Korea in 2013, up from 17 percent in recent years.

PROCESSED VEGETABLES

Exports of processed vegetables are forecast to increase by around 3 percent in the year ending 31 December 2013, to 200 000 tonnes.

The main increases will be for frozen and canned vegetables, as a result of the rationalisation of vegetable processing facilities in Australia and the subsequent transfer of production and increased processing capacity to the Hawke's Bay region during 2011. Further increases in export volumes are likely over the short- to medium-term, mainly to Australia and Asia, as this additional processing capacity is fully used.

TABLE 5.4: VEGETABLE EXPORTS, 2006 TO 2013

	ACTUAL							ESTIMATE
YEAR TO 31 DECEMBER	2006	2007	2008	2009	2010	2011	2012	2013
FRESH VEGETABLES								
Export volume (000 tonnes)	280	350	313	269	311	277	312	307
Export value ($ million)	210	262	236	229	257	267	214	220
PROCESSED VEGETABLES[1]								
Export volume (000 tonnes)	210	214	202	181	185	206	194	200
Export value ($ million)	302	306	322	329	328	385	364	370
TOTAL FRESH AND PROCESSED VEGETABLES								
Export value ($ million)	512	567	557	558	585	651	579	590

Note
1. Processed vegetables include frozen vegetables, dried vegetables, dry legumes, prepared and/or preserved vegetables, and vegetable juices.

Sources: Statistics New Zealand and MPI.

OUTLOOK

Significant growth opportunities for fresh vegetable exports are limited in the short- to medium-term due to high costs of production, competing supplies in overseas markets and significant market access issues to overcome.

An increase in irrigable land could facilitate an expansion in New Zealand's vegetable growing capacity and hence potential investment in vegetable processing capacity. The implementation of limits on water quality and quantity allocations is beginning following the introduction of the National Policy Statement for Freshwater Management in 2011. As a result, cropping systems or mixed livestock-cropping systems should become better able to compete with dairying for irrigable land.

FRESHWATER REFORMS AND THE PRIMARY SECTORS

Healthy freshwater resources support long-term wellbeing and economic prosperity. What happens on the land has significant impacts on both water quality and flow levels. Both the primary industries and the urban sector have a big part to play in improving how we use and manage freshwater resources.

In 2009, the Government determined greater direction was needed on how water should be managed. This included setting limits to manage both water quality and quantity, and improving water management decision-making processes. The Government requested advice on these matters from the Land and Water Forum – a collaborative group comprising primary sector representatives, environmental and recreational non-governmental organisations, iwi, and other organisations with an interest in freshwater management.

Following the release of the Land and Water Forum's recommendations, the Government published *Freshwater Reform 2013 and Beyond* in March. It proposed action in three areas to begin with, namely:

- Planning as a community – starting by introducing a collaborative planning option as an alternative to the current system under the Resource Management Act 1991.
- A National Objectives Framework that requires national minimum environmental states in rivers and lakes for ecosystem health and human contact.
- Managing within water quality and quantity limits – starting by requiring councils to better account for how all water in a region is used, including how much is taken and what is discharged into it.

The new direction for managing water has big implications for both the primary sectors and for urban New Zealand. Water quality and quantity objectives (and limits to help achieve those objectives) need to be in place for all water bodies by 2030. Many councils are well underway with limit setting. In some catchments there will need to be reductions in land-based discharges of nutrients (for example, nitrogen and phosphorous), sediment and pathogens to meet water quality limits.

Water management decisions that councils and communities make need to be well informed. This means objectives and limits, and time frames to meet them, need to be set with an understanding of the associated economic and environmental impacts. It is crucial that the primary sectors are involved in regional objective and limit-setting processes. This involvement also provides an opportunity for communities to understand the contribution that primary sectors make to their region.

Many primary sectors are already improving practices to reduce the environmental footprint of their activities. Societal expectations for improved performance are likely to remain high. Managing within limits should drive improved performance (for example, by encouraging more efficient use of water and greater precision in fertiliser application).

As part of setting and managing within water quality limits, primary sectors will increasingly need to provide credible evidence about the impacts they are having and demonstrate how they are managing such impacts. To assist, the Government is working with rural and urban-based sectors to develop good management practice "tool kits" across a range of industries.

Well-designed irrigation developments have an important part to play by promoting efficient water use and improved reliability of water supply. In turn, this helps increase the value that can be generated from the land. The Government is working on infrastructure for water storage and distribution through the Irrigation Acceleration Fund and the Crown Water Investment Company.

In addition, the Government has been working with some councils to improve the economic information underpinning decision-making on objectives and limits. The Government is looking to build on the success of this work by creating a more formal, enduring initiative to improve economic information to support water management decision-making.

ARABLE

The land area dedicated to growing main arable crops in New Zealand has expanded in the last 10 years, driven primarily by local demand for feed grains.

Grain production in the year ending June 2013 is forecast at around one million tonnes, buoyed by favourable weather in the South Island during 2012 and ideal 2013 harvest conditions – refer to Figure 6.1. The favourable climatic conditions are expected to result in excellent grain yields and quality.

WHEAT

World wheat production for 2012/13 is forecast by the Food and Agriculture Organization of the United Nations (FAO)[4] at 690 million tonnes, a 4 percent increase year-on-year and the second largest crop on record. This increase is primarily driven by higher European production, due to an expansion in area (due to high prices), and a return to average yields in Eastern Europe.

Since 2007, the area of New Zealand land dedicated to growing wheat has increased 35 percent to 54 800 hectares in 2012[5]. Over the same time period, wheat production increased 42 percent to 488 600 tonnes.

Indications for 2013/14 contracts show pricing for wheat has remained firm at $380 to $400 for feed wheat, while spot prices for milling wheat were $385 to $425 per tonne at the time of writing.

4 FAO, *Crop Prospects and Food Situation* (March 2013).

5 Statistics New Zealand, *Agricultural Production Statistics: June 2012 (final).*

BARLEY

The International Grains Council estimates world barley production in 2012/13 of 130 million tonnes, down 4 percent on the previous year.

New Zealand barley production increased by an annual average 6 percent in the five years to June 2012, to 438 800 tonnes. The number of hectares used to grow barley increased by an annual average 5.5 percent over the same period, to 65 700 hectares[6].

MAIZE

The International Grains Council estimates the world maize crop at 851 million tonnes in 2012/13, a 3 percent decline on the previous year due to drought conditions in a number of major growing areas.

A slightly higher planted area is expected in 2013/14, based on increases in the US, China and Mexico partially offset by declines in Argentina, Canada and Russia. Yields are expected to return to average after poor yields in 2012/13 in many regions. Growth in international maize stocks are expected to reduce the demand for feed wheat. A small increase in industrial usage (including biofuels) is expected to offset this.

According to the *2012 Agricultural Production Census*[7], the number of hectares and tonnage of maize grain grown in New Zealand increased by around 14 percent in the five years to June 2012, to 19 400 hectares and 211 200 tonnes, respectively.

EXPORT SEEDS

Seed exports were valued at a record $168 million last year, a 22 percent increase on the previous year.

New Zealand is currently considered to be one of the most expensive seed producing countries in the world due to the high NZD. Fortunately, the quality and integrity of the New Zealand seed industry is supporting demand.

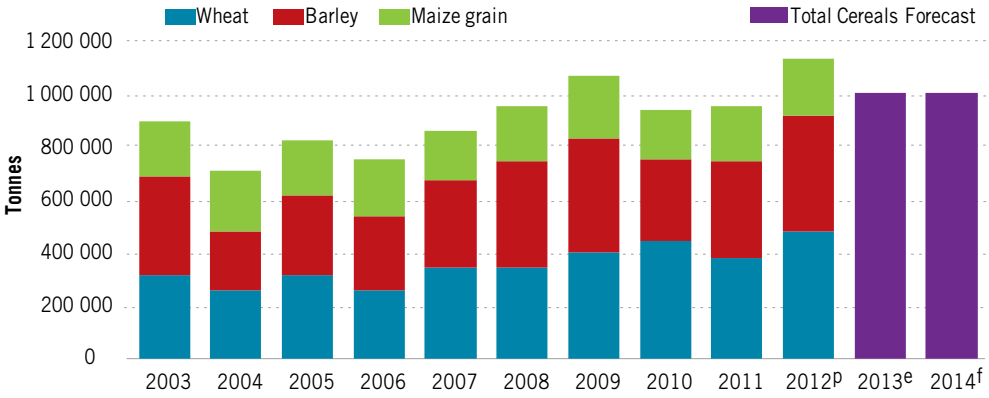
Small-seed producers in the US have substituted some areas with cereals, corn and soybean due to high prices, leading to competition for remaining land and increased prices offered to growers for small seeds.

Global small seed markets are probably healthier than they have been for several years. Global inventories have stabilised and demand has started to resume as economies start to improve.

6 Statistics New Zealand (2012), *Agricultural Production Statistics: June 2012 (final).*

7 Statistics New Zealand (2012), *Agricultural Production Statistics: June 2012 (final).*

FIGURE 6.1: NEW ZEALAND GRAIN PRODUCTION, JUNE YEAR 2003 TO 2014

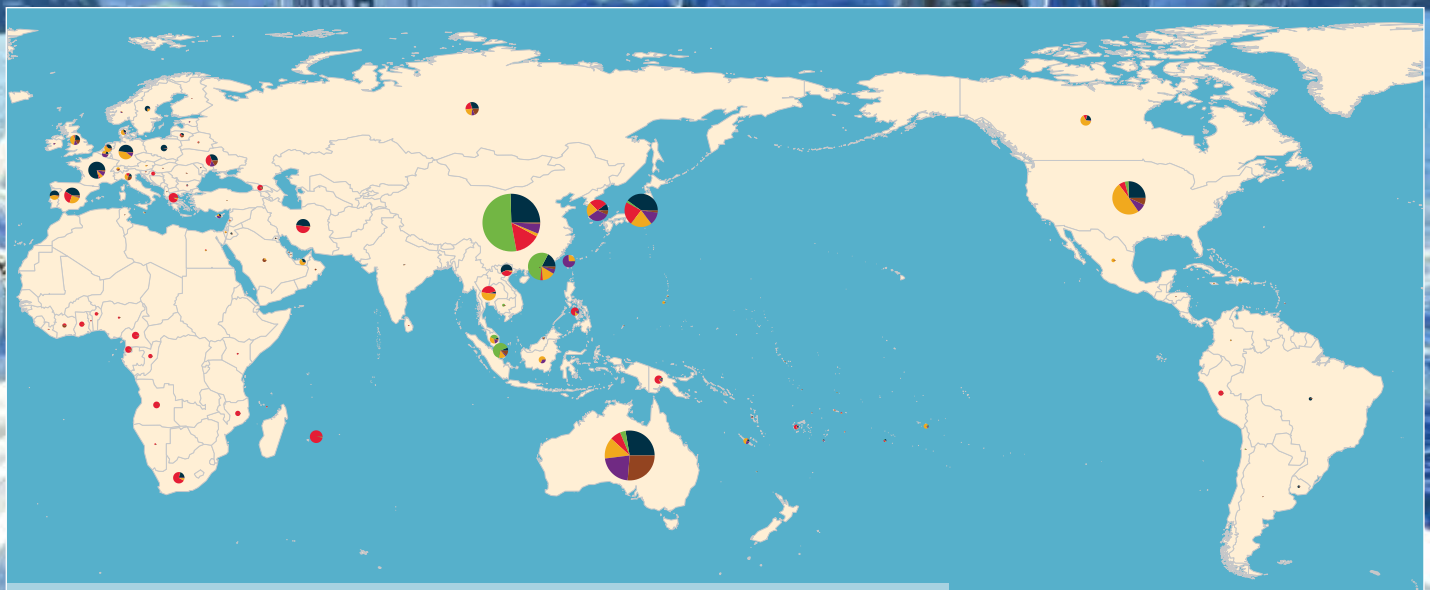


Symbols
p = provisional e = estimate f = forecast

Sources: Statistics New Zealand, Arable Industry Marketing Initiative and Macfarlane Rural Business Ltd.

SEAFOOD

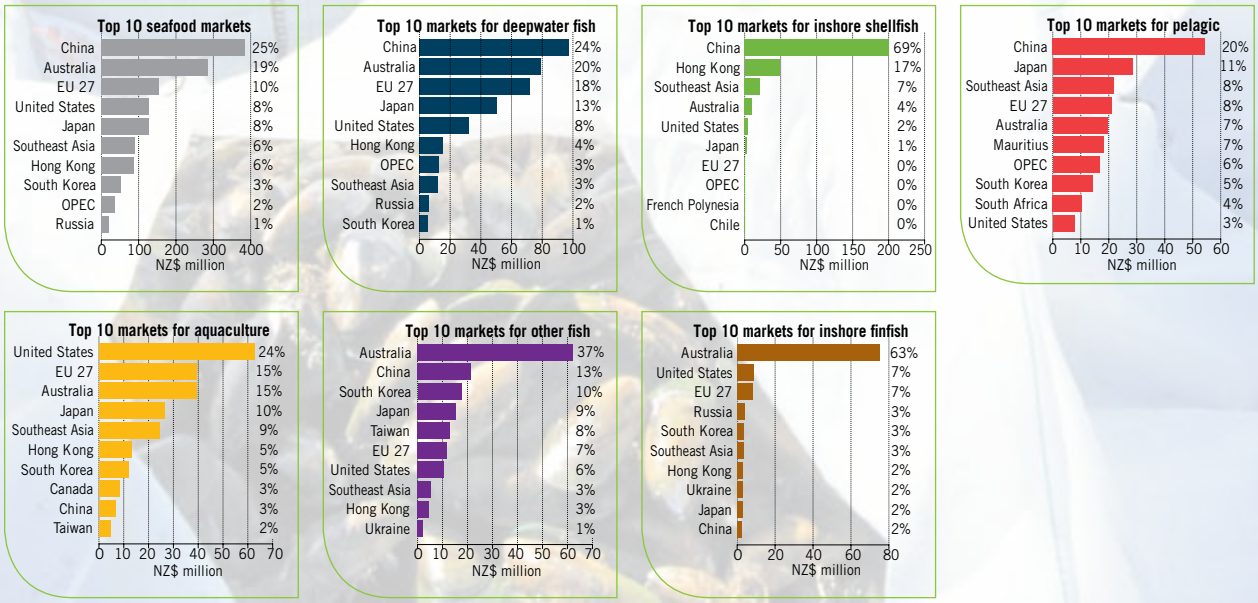
FIGURE 7.1: SEAFOOD EXPORT REVENUE BY DESTINATION AND PRODUCT, YEAR ENDED MARCH 2013



Legend: Export revenue by key products

- **Deepwater:** NZ$ 399 million (26.5%)
- **Inshore Shellfish:** NZ$ 290 million (19.3%)
- **Pelagic:** NZ$ 268 million (17.8%)
- **Aquaculture:** NZ$ 258 million (17.2%)
- **Other and freshwater:** NZ$ 170 million (11.3%)
- **Inshore Finfish:** NZ$ 119 million (7.9%)

Sources: Statistics New Zealand and MPI.



Fisheries resources provide economic, social and cultural benefits to all New Zealanders. Healthy fish stocks are fundamental to the realisation of these benefits.

The fisheries resource is managed to balance its various uses – whether commercial, customary or recreational – and to maximise the benefits available to New Zealanders.

The aquaculture sector involves the growing of shellfish and fish predominantly in marine farms (a small proportion of aquaculture operations in New Zealand are land or fresh-water based).

This analysis focuses on the commercial value of both the wild capture fish and aquaculture sectors. MPI acknowledges that both the customary and recreational fisheries have economic value attached to them, but this report does not try to value these sectors.

The medium-term outlook for the New Zealand seafood sector is reasonably subdued. Earnings for the June 2013 year are forecast to rise marginally to $1.51 billion and to increase modestly over the outlook period – refer to Table 7.1. Both export volumes and prices are expected to contribute to this increase. Prices are forecast to increase at a faster rate than volume, indicating greater value extraction from the fisheries resource and the relatively constrained ability to sustainably increase the amount of wild fish harvested.

Ninety percent of New Zealand's commercial seafood production is exported, and seafood export earnings account for around 3.5 percent of total merchandise trade.

Key markets for New Zealand seafood exports are China, Australia, the US, Japan and Hong Kong – refer to Figure 7.2. These markets account for two-thirds of New Zealand's seafood export earnings. In the year to December 2012, China was the seafood sector's biggest export market at $354.4 million, accounting for 22.5 percent of total earnings. China will continue to grow in importance over the medium term.

Wild capture fisheries accounted for around 83 percent of New Zealand's total fisheries export earnings. Wild capture fisheries comprise five species groups: deepwater, pelagic, inshore

TABLE 7.1: SEAFOOD EXPORT VOLUMES, PRICES AND VALUES, 2010 TO 2017[1]

	ACTUAL				FORECAST			
YEAR TO 30 JUNE	2010	2011	2012	2013 *	2014	2015	2016	2017
WILD CAPTURE								
Export volume (000 tonnes)	250	267	249	262	262	263	263	264
FOB price ($/kg)	4.6	4.7	4.9	4.8	4.8	4.9	5.2	5.5
Export value ($ millions)	1 148	1 249	1 221	1 253	1 266	1 298	1 363	1 460
AQUACULTURE								
Export volume (000 tonnes)	42	45	42	40	40	41	41	42
FOB price ($/kg)	6.0	6.6	6.6	6.5	6.5	6.7	7.2	7.7
Export value ($ millions)	250	298	279	259	262	274	295	325
TOTAL SEAFOOD SECTOR								
Export volume (000 tonnes)	291	312	292	301	302	303	304	306
FOB price ($/kg)	4.8	5.0	5.1	5.0	5.1	5.2	5.4	5.8
Export value ($ millions)	1 398	1 547	1 500	1 512	1 528	1 572	1 658	1 784

Note

1 The data contained in this table is not directly comparable to last year's *Situation and Outlook* report as the data source has changed from Seafood New Zealand to Statistics New Zealand.

Symbol

* Estimate

Sources: Statistics New Zealand and MPI.

shellfish, inshore finfish and other seafood products. Aquaculture accounts for the remaining 17 percent of export earnings. The aquaculture and inshore shellfish groups are composed of high value, lower volume species while the deepwater and pelagic groups are, generally, composed of higher volume but lower value species.

New Zealand's top export species by earnings in 2012 were rock lobster, mussels and hoki. These species are likely to remain New Zealand's top seafood export earners in the foreseeable future.

WILD CAPTURE FISHERIES

The export value of wild capture fisheries is expected to increase by 2.6 percent to $1.25 billion in the year to June 2013 and to continue to increase in the medium term. Wild capture fisheries export volume is expected to continue to increase modestly over the short- to medium-term by 0.2 percent per annum. This indicates increasing export value will be dependent on forecast increases in price.

The modest production increases will be from fish stocks that have completed rebuild programmes with catch limits lifted to increase use. There is little potential for further growth in wild capture production beyond this. Developing new and higher priced product forms and markets will be key in lifting export revenue.

Demand for high-end products is strong in Australia, the US and the EU, where consumers are willing and able to pay premium prices. In China, consumers are also becoming increasingly discerning and with rising incomes the commodity focus of this seafood market can be expected to change. Seafood products such as rock lobster and abalone, which are high-value species for New Zealand, are regarded as luxury products in China; and as incomes grow, demand for these products can be expected to grow.

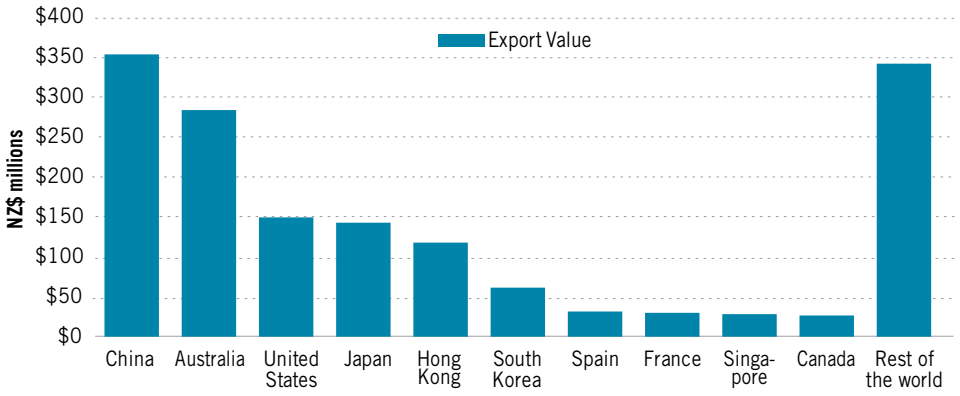
Nutraceuticals derived from fish and seafood is an area with growth potential. Global demand for high-value, naturally derived nutraceutical substances is expected to increase by 9 percent annually to $7.3 billion in 2015.

TRADE ACCESS ISSUES

The environmental impact of fishing has increasingly become one of the critical determinants of trade access for the New Zealand seafood sector. The EU, Australia and the US have particularly high levels of regulation aimed at preventing environmentally unsustainable or illegally caught products entering their markets. Together, these markets make up approximately 38 percent of New Zealand's seafood exports.

New Zealand has taken a proactive approach to ensure it can meet the requirements of regulatory developments. For example, in response to EU importation regulations to deter illegal unreported and unregulated fishing, New Zealand has established a catch certification system.

FIGURE 7.2: NEW ZEALAND'S TOP 10 SEAFOOD EXPORT MARKETS, DECEMBER YEAR 2012



Sources: Seafood New Zealand and MPI.

New Zealand's use of foreign charter vessels (FCVs) is another issue that is causing some concern among our trading partners (especially the EU). Chain of custody, labour practices and food safety are major concerns for some of our trade partners. The move to reflagging all FCVs to the New Zealand flag by 2016 should help provide assurances to our trade partners that New Zealand is taking these issues seriously.

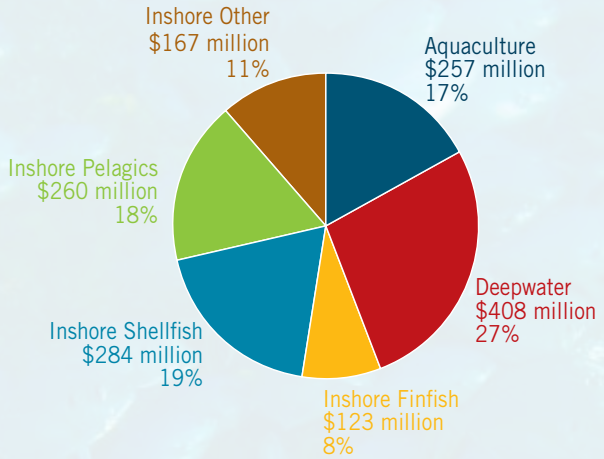
The seafood sector's ability to adapt to trade regulations will continue to be tested in the short- to medium-term. New Zealand will need to be strategic in responding to regulatory developments and refining fishing practices to maintain and enhance trade access and the opportunity for export growth.

ENVIRONMENTAL CERTIFICATION

New Zealand has a competitive advantage in premium seafood markets due to the country's reputation for environmental sustainability. The Quota Management System is considered a world leader in the sustainable management of wild fisheries. The New Zealand hoki, southern blue whiting, albacore troll and Ross Sea toothfish fisheries are among 199 fisheries worldwide to be certified as sustainable by the Marine Stewardship Council (MSC). Three other New Zealand fisheries are under assessment. Third party certification supports market recognition of New Zealand's sustainable fisheries management.

Third party certification, like that provided by MSC, is becoming a market maintenance exercise for fisheries that wish to continue to be stocked by the major retail chains in the premium export markets (the EU, the US and Australia). More major retail chains are partnering up with environmental non-government agency partners to create sustainable procurement plans that cover seafood. This has seen some major retail chains coming up with ambitious goals. Walmart (US) had a goal of procuring only MSC certified fish by 2012, but that goal has since been revised to 2015.

FIGURE 7.3: SEAFOOD EXPORT VALUE (NZ$) BY SPECIES, DECEMBER YEAR 2012



Sources: Statistics New Zealand and MPI.

Photo courtesy of T&J Enderby.

INNOVATION IN THE SEAFOOD SECTOR

Innovation is essential if New Zealand's seafood sector is to grow to its full potential. Innovation has the potential to add value through enabling better use of all fish parts, more precise catches, enhancing our reputation for environmental sustainability and developing new products appealing to premium markets.

Seafood Innovations Ltd is a research company that promotes industry-initiated research and development projects. The Ministry of Business, Innovation and Employment (MBIE) is a cornerstone investor in the company. This investment is used to co-fund projects with industry. The aim of these projects is to underpin the growth of the seafood export industry by increasing returns from the current seafood harvest through developing and commercialising innovative, consumer appealing, value-added seafood and marine products. Seafood Innovations Ltd has been established as a joint venture by Seafood New Zealand, and Plant & Food Research.

Developing non-traditional seafood products is an opportunity to use fish parts which might otherwise be wasted or turned into low-value products. High-value markets for products such as nutraceuticals, pharmaceuticals and nanofibre are expanding.

Revolution Fibres is an example of a company which is taking advantage of this opportunity. The global market for nanofibre products was estimated at US$102 million in 2011 and is projected to grow to US$2.2 billion by 2020. Revolution Fibres has developed the Komodo, an electro-spinning machine capable of the commercial-scale production of nanofibres. This will enable it to take material research completed by universities and crown research institutes (such as Plant & Food Research) to the market. Collagen extracted from discarded hoki fish skins is one of the sources the nanofibres are made from. Revolution Fibres received $447 085 in research and development funding from MBIE to develop the Komodo.

In 2012, the company won the Manufacturing and Mechanical Category of the 2012 New Zealand Engineering Excellence Awards for its electro-spinning technology. The New Zealand Engineering Excellence Awards are the premier awards for New Zealand's engineering professionals. This award recognises outstanding activities associated with the development of improved or new products, processes or services. Revolution Fibres was also the Supreme Winner at the 2012 New Zealand Innovators Awards. These awards celebrate and recognise great Kiwi innovations, inventors and organisations that have invested in developing new products, services and ventures.

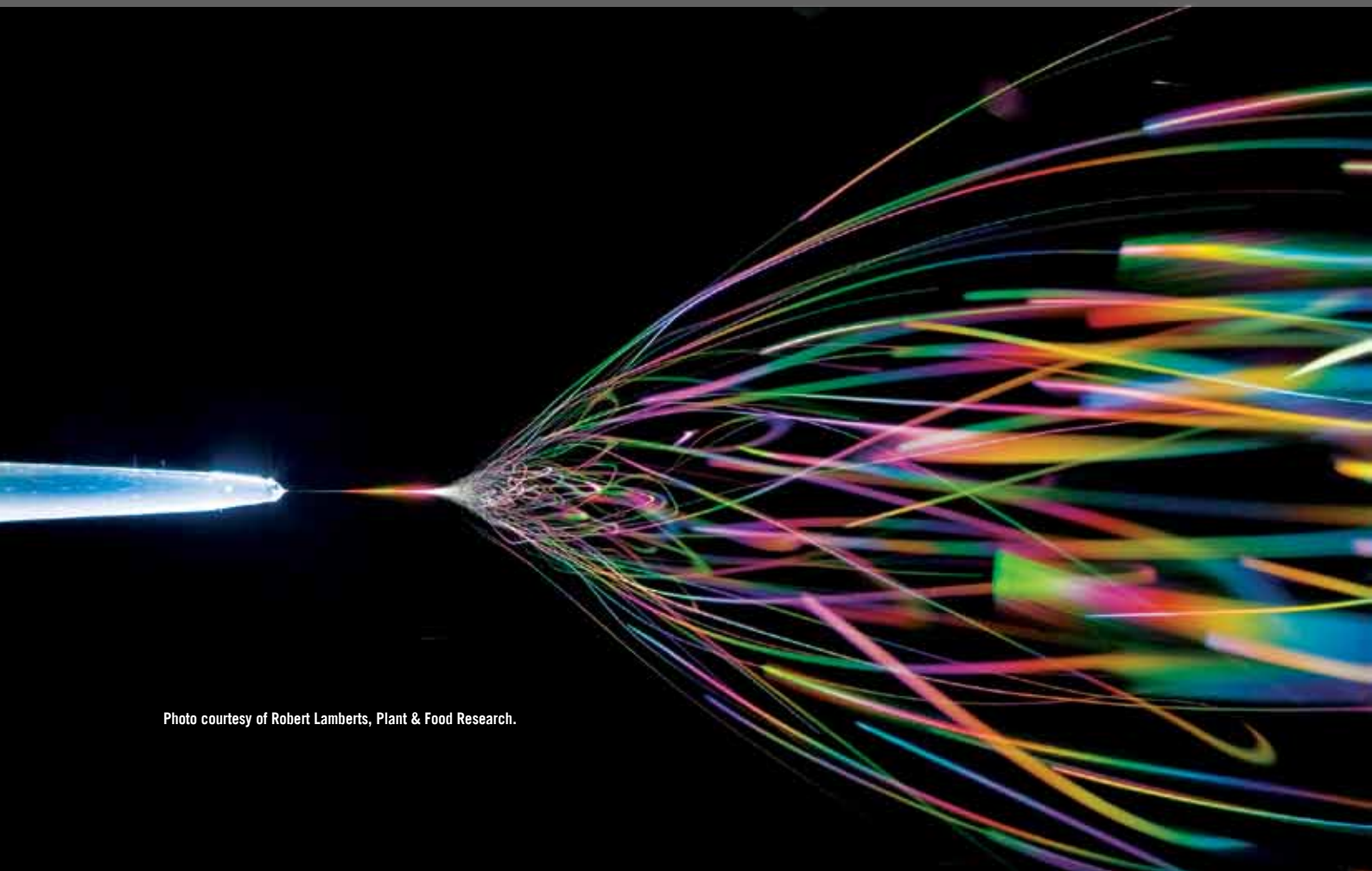
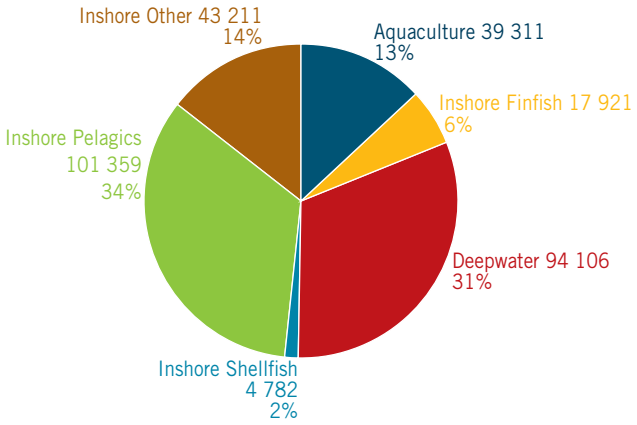


Photo courtesy of Robert Lamberts, Plant & Food Research.

FIGURE 7.4: SEAFOOD EXPORT VOLUME (TONNES) BY SPECIES, DECEMBER YEAR 2012



Sources: Statistics New Zealand and MPI.

New Zealand must be aware of not only government regulations in our premium export markets, but of consumer and retailer preferences. The consumers in our premium export markets are growing in sophistication and have a greater awareness of sustainability issues than in developing markets. Environmental certification will be an ongoing issue for companies exporting into these premium export markets and access to the shelves of major retailers may depend on it in the longer term.

AQUACULTURE

While aquaculture exports are estimated to decline by 7 percent to $259 million in the year to June 2013, they are forecast to increase by an annual average 6 percent over the outlook period.

Mussels, oysters and salmon are the three main species farmed in New Zealand – refer to Figure 7.5. Green-lipped mussels accounted for 74 percent of earnings in 2012. There are opportunities to expand the farming of existing species (including pāua and carp) and for new species to be realised commercially (including hāpuku, kingfish, geoduck and sea cucumber).

Greenshell mussel prices have rebounded and remained steady over the past 12 months. There was a decline in export volumes when comparing 2012 to 2011. This decrease was due to poor spat retention in Coromandel and a fall in productivity related to prevailing La Niña conditions and this summer's drought conditions.

Oyster disease issues in Northland, causing the loss of up to 80 percent of juvenile oysters on some farms in 2010, affected oyster harvests in 2011 – this impact continued into 2012. Lower production, however, was offset by higher export prices. This was due to a decrease in worldwide production of oysters similarly attributable to disease issues. Global production is expected to remain depressed over the short to medium term. In New Zealand, a selective breeding programme is delivering improved juvenile oyster survivability, supporting improved production.

Disrupted global salmon supply as a result of disease issues in some parts of the world, and supply chain disruption from natural disasters, has increased demand for New Zealand salmon since 2009. Salmon export earnings declined in the past 12 months, but much of this decline is likely to be due to stronger domestic demand and not a lack of international demand.

By 2022, over half of all seafood produced globally for human consumption will be farm produced[8]. This is a result of the limited global supply of fish from wild fisheries and increasing demand for seafood, particularly premium seafood.

8 Source: FAO, unpublished paper prepared for *OECD-FAO Agricultural Outlook, 2013-2022.*

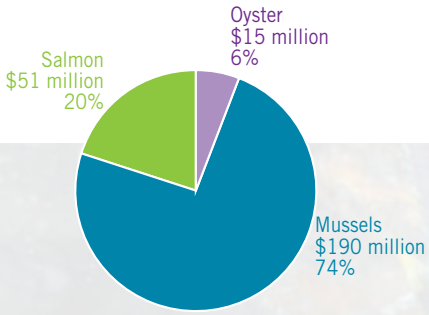
The aquaculture sector's growth opportunities are reflected in the aquaculture industry's goal of growing sales to $1 billion in value by 2025. The Government's Aquaculture Strategy[9] also presents an important step in establishing a whole of government pathway to enable the aquaculture sector to grow. The strategy focuses on the development of new space and extracting more value from existing space and production. The legal framework needed to support production growth in the sector was established through the aquaculture legislation passed on 19 August 2011.

New Zealand King Salmon Ltd (NZKS) submitted the first significant proposal to expand aquaculture activities under the legislation, seeking approval to establish nine new salmon farms in the Marlborough Sounds. Only four of the farms were approved; this has reduced our view on salmon farming growth from last year's forecast.

The NZKS decision was appealed by the Environmental Defence Society and Sustain Our Sounds. The appeals process adds uncertainty to the timing and scale of new salmon farming operations. Our current projections include an assumption that the preliminary decision to establish four new farms will be upheld, but that production from the new farms will be delayed by court action until 2016.

9 Refer to: www.fish.govt.nz/en-nz/Aquaculture/Aquaculture+strategy/default.htm.

FIGURE 7.5: AQUACULTURE EXPORT EARNINGS (NZ$), DECEMBER YEAR 2012



Source: Statistics New Zealand.

Photo courtesy of T&J Enderby.

INTERNATIONAL FISHERIES MANAGEMENT – THE ROLE OF MPI

With fish stocks in New Zealand generally being managed to full potential, the New Zealand industry must look beyond the boundary of our Exclusive Economic Zone (EEZ) for growth opportunities. So how can MPI leverage the strengths of our domestic regime to advance our interests beyond New Zealand's EEZ?

MPI and key industry companies recognise that the answer lies in improved management and governance over international fisheries. MPI works at the international and regional level to "raise the bar" with respect to all aspects of fisheries management. In doing so, we hope to not only improve the health of these fisheries, but also to provide a point of comparative advantage for New Zealand fishing vessels that are well placed to meet the high standards being developed.

Perhaps the best example of this approach is in the Ross Sea toothfish fishery managed by the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR). New Zealand makes significant contributions to CCAMLR science, monitoring, control and surveillance and fisheries management. New Zealand and the US are also proposing the establishment of a marine protected area in the Ross Sea that would create the largest high seas marine protected area in the world.

In the Pacific, MPI is working closely with Pacific Island countries on management approaches to tuna that recognise the significance of these resources to island countries. We use aerial and surface surveillance to protect the integrity of Pacific Island countries' EEZs and have worked in the Western and Central Pacific Fisheries Commission to take action against vessels fishing illegally around New Zealand's EEZ.

The gap that existed in the conservation and management of high seas areas of the South Pacific Ocean was closed with the creation of the South Pacific Regional Fisheries Management Organisation. New Zealand was instrumental in the creation of this organisation, which ensures both the long-term sustainability of fish stocks in the region and the protection of marine ecosystems.

At the multilateral level, MPI has played an active role in the development of frameworks to strengthen the management of fisheries, including through the FAO Port State Measures Agreement and the guidelines to assess Flag State performance.

These initiatives are all designed to create high standards for involvement in international fisheries and create a level playing field for the New Zealand fishing industry. MPI's involvement in international fisheries is focused on raising management standards, securing New Zealand's access to international fisheries and enhancing New Zealand's reputation as a source of well-managed fisheries products.

Photo courtesy of Craig Stevens, NIWA.

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