

# Queensland forest and timber industry situation analysis

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## Foreword

Timber Queensland (TQ) represents the interests of Queensland's forest and timber industry to government, specifiers, timber traders and the wider community. TQ is seeking to build a proud, self-sufficient and expanding industry that delivers wood and timber products using world's best practice, as well as working to create and maintain a positive expanding market for these products in Queensland.

The Queensland Government is committed to getting Queensland back on track in economic performance, social development and responsible environmental management. To achieve this commitment the government intends to unlock the four pillars of the Queensland economy—agriculture, construction, resources and tourism—that drive economic growth, job creation and prosperity.

TQ and the Queensland Government—through the Department of Agriculture, Fisheries and Forestry (DAFF)—have undertaken to develop a forest and timber industry plan (the plan), which will establish a road map for the future of Queensland's forest and timber industry. Development of the plan is one of the initiatives in the Queensland Government's *Six month action plan: July–December 2012* to grow a four pillar economy.

A working group comprising TQ, key industry stakeholders and DAFF representatives has been formed to develop the plan and ensure broad stakeholder buy-in and ownership.

The working group has established the overarching vision of the plan:

**To drive the growth and sustainability of the forest and timber industry by maximising the use of Queensland-grown wood fibre to produce innovative wood and timber products for a range of cost-effective, energy-efficient and low-carbon footprint uses.**

Sustainable management and expansion of Queensland's plantation estate, and sensible commercial utilisation of native forests, will be encouraged to supply the forecast long-term demand growth for wood and timber products in a range of markets.

It will also establish a supportive environment to encourage investment in world's best practice and competitive plantation estates and timber processing facilities that will provide sustainable employment opportunities for a well-trained, career-focused workforce across a range of regional communities.

To realise the vision, the plan will seek to:

- sustain existing markets and drive new demand for timber and wood products by promoting application and use, and removing any unreasonable barriers to that use
- forecast Queensland demand for timber and wood products along the plan path (i.e. 2012–2040)
- facilitate commercial access to, and availability of, sufficient wood fibre to meet forecast Queensland demand for timber products
- encourage investment in primary and secondary processing facilities in both metropolitan and regional areas to provide long-term employment and career opportunities.

The release of this industry situation analysis marks the beginning of the plan development process.

We look forward to working with industry participants and government agencies to sustain, strengthen and grow the industry in Queensland, and thereby enhance the very valuable economic, social and environmental contribution that it already makes to Queensland's economy.



Rod McInnes  
Chief Executive Officer, Timber Queensland, and  
Chair, Forest and Timber Industry Plan Working Group



The Honourable John McVeigh MP  
Minister for Agriculture, Fisheries and  
Forestry

# Contents

<b>Foreword</b>	<b>i</b>
Introduction	<b>1</b>
Industry situation analysis summary	<b>3</b>
Industry overview	<b>3</b>
Timber product markets	<b>5</b>
Forest-growing sector	<b>10</b>
Timber processing and manufacturing	<b>22</b>
Sources	<b>26</b>

## Introduction

The release of this industry situation analysis marks the beginning of the process to develop a forest and timber industry plan (the plan).

This analysis summarises the current industry situation and identifies challenges and opportunities currently facing the industry. While other issues may be identified during development of the plan, this analysis is intended to inform the initial stakeholder consultation.

The plan development process involves five key stages.

### Stage 1: Preparing an industry situation analysis

For strategic planning it is important to have a sound understanding of the current industry situation. That is, the structure and operations of the industry, its products, its markets, its influences and challenges—and the trends in all these areas.

The industry situation analysis starts the plan development process, and provides the basis for interaction with industry players to identify key industry challenges and articulate a future vision and ‘road map’ for action.

### Stage 2: Initial stakeholder consultation and input

Comments on the situation analysis, identification of key industry challenges, and input and comment on the appropriate collective strategies and actions to address these challenges will be gathered from a broad cross-section of industry participants via:

- an industry survey open to input from all interested parties
- individual stakeholder discussions
- industry sector forums.

The draft consultation list included below identifies the key segments and main players in the Queensland industry, as well as other stakeholders that impact on, or are impacted by, the industry. Consultation will target the following broad groups:

- growers—plantation and native forests
- timber processors/fabricators/treaters
- harvest/haul sector
- builders/designers/merchants
- timber application and use industry associations
- training/skilling sector
- research and development organisations
- other land users—agriculture, grazing and mining
- environmental groups
- local government
- other state government agencies
- relevant Australian Government agencies.

To help develop the plan, stakeholder views will be sought about the key industry challenges identified in the situation analysis and any other challenges that stakeholders wish to identify. In particular, stakeholders will be asked to provide input and comment on collective strategies and actions that can be included in the plan to address industry challenges.

### Stage 3: Preparation of a draft plan

A draft plan will be developed by the working group from the input collected at Stage 2.

The draft plan will identify practical and pragmatic collective strategies and actions to respond to the key industry challenges and impediments. It will take into account the resources available within government and industry that can be marshalled to respond to these issues, as well as the policy direction and focus of the Queensland Government.

#### **Stage 4: Industry consultation on the draft plan**

The draft plan will be circulated to a broad industry audience for comment to ensure that industry stakeholders believe the plan addresses the right needs and priorities. This process should also build industry understanding of, support for and ownership of the plan.

#### **Stage 5: Finalise the plan and commence implementation**

A final plan will be prepared by late 2012 and provided to both industry and government for final comment and endorsement.

An action plan that will include responsibility for individual actions will be established to drive the initial phase of the implementation process, which will commence following industry and government endorsement.

Visit [www.timberqueensland.com.au](http://www.timberqueensland.com.au) to find out more about the consultation process and how to have your say.

## Industry situation analysis summary

The Queensland forest and timber industry is facing a number of significant challenges that are threatening its long-term sustainability. There is a growing awareness among industry participants (particularly representative bodies) that the industry cannot individually or collectively continue to adopt a business-as-usual approach.

The industry has experienced long-term structural change over the last 20 years as it has transitioned to a predominantly plantation-grown resource—decreasing access to native forests, and softwood products displacing a range of traditional native hardwood products. The volume of log timber sourced from plantations by the processing sector first exceeded the volume sourced from native forests in the mid 1990s.

The industry is currently facing extremely difficult local market conditions, as well as significant competition pressures from imported products driven by the global financial crisis and the high Australian dollar relative to major currencies. As a consequence, there has been a relatively high number of recent forest and timber industry business failures, closures and consolidations, particularly in the primary processing sector. These include the Boral Hancock ply mill and Hyne I-Beam plants, as well as a number of native hardwood and cypress processors.

The key current industry challenges include the following:

- There is a lack of a sound understanding or certainty about the size and nature of future timber markets in Queensland.
- Low profitability and return on investment across the industry is constraining new investment in the industry, particularly in the forest-growing (plantation) and processing sectors.
- The appreciating Australian dollar is negatively impacting on the competitiveness of Queensland-produced forest and timber products, resulting in some business failures. The industry is experiencing strong competition in local markets from imported forest and timber products, as well as reduced competitiveness in export markets.
- Ownership changes and business consolidation, particularly the 2010 sale of the Queensland Government's plantation estate, is changing the overall dynamics of the industry and increasing concentration of ownership.
- Sustained low-dwelling construction activity in Queensland is depressing the demand for timber products, particularly in the softwood segment.
- Substitute non-renewable building products (steel, concrete, aluminium etc.) are displacing timber in a number of traditional market segments.
- Declining and fragmented forest and timber research and development capability, particularly at a national level, is impeding the industry's capacity to innovate and to enhance productivity.
- A low level of public awareness and understanding of the industry, particularly about the environmental benefits of wood products, has resulted in relatively poor community support for the industry. Concerns about harvesting of native forests and the impacts of the rapid expansion of the plantation estate by the agribusiness-managed investment scheme sector remain significant challenges.
- The industry is experiencing difficulty in attracting and retaining professional and skilled labour, particularly in those regions that have a strong mining industry presence.
- Declining availability of reliable and timely industry data is impeding industry planning, government policy decisions and private business investment decisions.

## Industry overview

The growing, processing, manufacturing, wholesaling and retailing of timber and wood-based products is one of Queensland's oldest and most durable industries. The industry continues to play an important economic,

social and environmental role in Queensland, especially in rural and regional areas. The industry consists of a number of discrete sectors, each representing a distinct activity, but all linked via the supply of raw material (log timber) or via access to shared markets.

There is limited timely and reliable forest and timber industry data available. Data produced by the Australian Bureau of Statistics (ABS) and the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) has been utilised for this industry situation analysis.

Sales of Queensland's forest and timber industry goods and services were estimated to contribute around \$3.8 billion of economic activity to the Queensland economy in 2006–07 (latest data available, see Table 1). The wood product manufacturing segment (production of plywood, veneer, panel boards, laminated timber products, doors, structural frames, roof trusses, wooden containers, pallets and packing cases) accounted for about one-third of overall industry sales. The log sawmilling segment (including woodchip production) accounted for a further 20 per cent of total sales.

The pulp, paper and converted paper manufacturing segment is also a significant component of the overall industry value chain in Queensland; however, the segment is not integrally linked to the state's forest resources because of its reliance on recycled and imported inputs.

**Table 1: Queensland forest and timber industry sales (2006–07)**

<b>Sector</b>	<b>Sales (A\$ million)</b>
Forestry and logging	171*
Log sawmilling and timber dressing	785
Wood product manufacturing	1 294
Pulp, paper and converted paper product manufacturing	1 008
Wooden furniture manufacturing	523
<b>Total</b>	<b>3 781</b>

\* 2009–10 gross value of production data sourced from ABARES  
Source: ABS 2006 and ABARES 2012

Table 2 provides employment information across sectors for 2011–12. The industry is estimated to employ almost 19,000 people across the full industry value chain.

**Table 2: Queensland forest and timber industry employment (2011–12)**

<b>Sector</b>	<b>Employment (FTE)</b>
Forestry and logging	1 700
Log sawmilling and timber dressing	1 900
Wood product manufacturing	5 300
Pulp, paper and converted paper product manufacturing	1 800
Wooden furniture manufacturing	7 980*
<b>Total</b>	<b>18,680</b>

Source: ABS 2012

\* Employment data for ANZSIC code = 2511 (Wooden Furniture and Upholstered Seat Manufacturing) are not available and therefore the Department of Agriculture, Fisheries and Forestry has estimated the employment attributed to this segment based on past trends.

The industry also indirectly impacts on many parts of the Queensland economy. The former Department of Primary Industries and Fisheries estimated that for every dollar of value-adding generated in the industry, an additional \$1.80 of value-adding is generated in the Queensland economy. For every additional full-time equivalent (FTE) job in the industry, an estimated 1.3 FTEs are created in the Queensland economy.

## Timber product markets

The Queensland forest and timber industry is a relatively small component of the international timber product market, competing with other producers of forest and timber products, as well as substitute products. Forest and timber products include basic materials that require limited processing, such as railway sleepers, landscape timbers, fence posts, sawdust, woodchips and firewood. The industry also produces highly transformed products where value has been added through complex processes, such as fabricated and structural wood products, paper products and wooden furniture.

The main drivers of demand for forest products include the residential or dwelling building cycle, demographic factors, economic conditions, government economic policy, development of new and alternative products and changing consumer preferences.

The forest and timber industry currently relies very heavily on the building and construction industry to provide a market for its output. Timber has a long history in Queensland housing, and the forest and timber industry continues to adapt and innovate with improved building systems that are quicker and cheaper to build, are more reliable and have better performance relative to traditional systems.

The market for forest and timber products is therefore vulnerable to competition from interstate and processed and semi-processed imported material, particularly from producers in Asia, New Zealand and Europe. Alternative building materials, such as aluminum, steel and concrete are also competing strongly in some market segments, and are increasingly displacing timber products in these segments. However, timber has some important environmental qualities that strongly differentiate it from these competitive materials—energy and carbon sink aspects.

Population projections indicate that the gap between Queensland's demand for, and local supply of, timber and wood-based products will increase. Queensland's population is forecast to grow by an additional 3.5 million by 2045. The average per capita consumption of timber and wood-based products in Australia at present is around 0.5 m<sup>3</sup> per annum. This suggests that another 1.75 million m<sup>3</sup> of sawn timber, wood-based panels and paper products will be required by 2045, assuming that consumption patterns remain the same.

Overseas imports are set to rise to meet the forecast demand growth for timber products in Queensland, and while there is a role for imports to maintain price pressure and supply unmet demand, the further expansion of imports comes at the expense of potential jobs and investment in Queensland regional communities. The recent highs in the Australian dollar have already seen expansion of timber importing and distribution facilities in Queensland—all within the context of a depressed domestic housing market. These facilities are a springboard for importers as market conditions improve, even if the Australian dollar declines in value.

Queensland is a net importer of manufactured wood products and the trade deficit in those products is also projected to continue to grow. China and other Asian economies are expected to have an increased capacity to manufacture and export wood products by 2040. Using ABS data, the Department of Agriculture, Fisheries and Forestry (DAFF) estimates that Queensland imported \$880 million of forest and timber industry products in 2010–11 (Table 3). Forest and timber industry imports to Queensland have increased by more than \$340 million (not accounting for inflationary impacts) over the last decade.

**Table 3: Queensland forest and wood industry imports (2010–11)**

Sector	Imports (\$A million)
Forestry and logging	9
Log sawmilling and timber dressing	158
Other wood product manufacturing	134
Pulp, paper, paper board and converted paper product manufacturing	299
Wooden furniture manufacturing	280
<b>Total</b>	<b>880</b>

Source: ABS 2011

About two-thirds of Queensland's forest and timber imports (\$579 million) in 2010–11 comprised paper and wooden furniture products. This reflects that fact that the Queensland industry has limited capability in paper product and manufacturing, and therefore limited scope to compete with imports. Domestic wooden furniture production capacity has also reportedly declined over the last 20 years.

### Sawn timber

ABARES produces data on sawn timber production and trade, making it possible to present a relatively comprehensive analysis of the Queensland market and trade in sawn timber products.

Sawn timber products essentially comprise the output of the log sawing and timber dressing segment of the Queensland forest and timber industry. These include a number of rough sawn timber products such as sleepers and palings, as well as dressed sawn timber products such as structural timber, floorboards and weatherboards. These products are extensively used in the construction of residential dwellings.

ABARES estimates that 773,000 m<sup>3</sup> of sawn timber was produced in Queensland in 2010–11. About 78 per cent of the sawn timber produced in Queensland is softwood species (not including native cypress).

About 192,000 m<sup>3</sup> of the sawn timber consumed in Queensland in 2010–11 was imported from overseas producers. About 80 per cent of these imports (161,000 m<sup>3</sup>) comprised coniferous sawn timber products (Figure 1). Hardwood sawn timber products accounted for the remainder (31,000 m<sup>3</sup>) of Queensland's imports of sawn timber products. Imports of coniferous sawn timber products have continued to increase over the last two years despite the very depressed local market conditions.

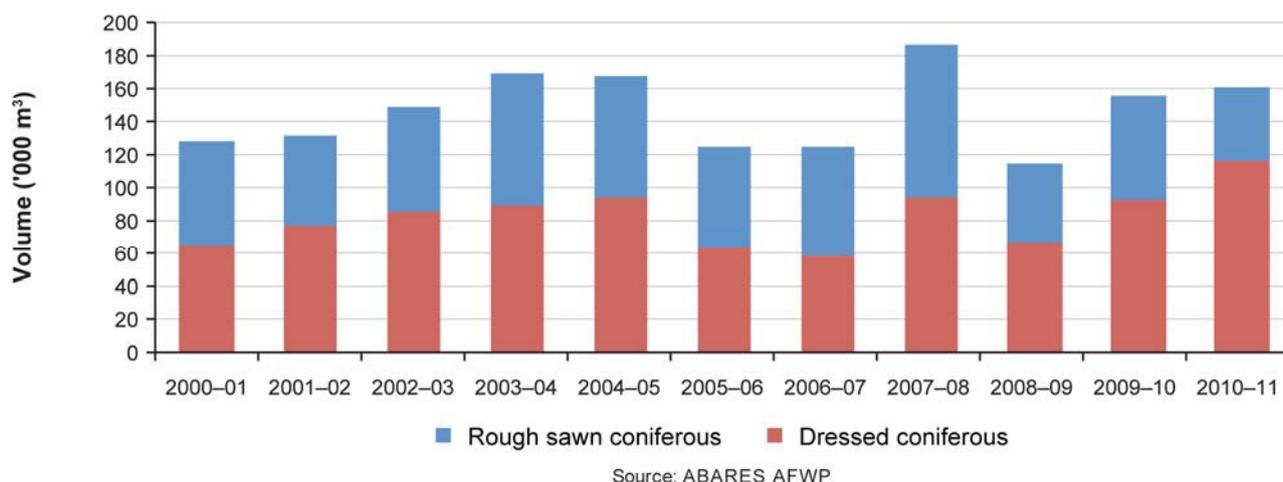


Figure 1: Queensland softwood imports

Queensland sawn timber producers are primarily focused on the domestic market, although over 10 per cent (80,000 m<sup>3</sup>) of Queensland's sawn timber production was exported in 2010–11. A reasonable proportion of these exports are high-value products such as clear hoop pine and hardwoods; however, the vast majority is low grade softwood framing and case-grade material that only have limited markets in Australia.

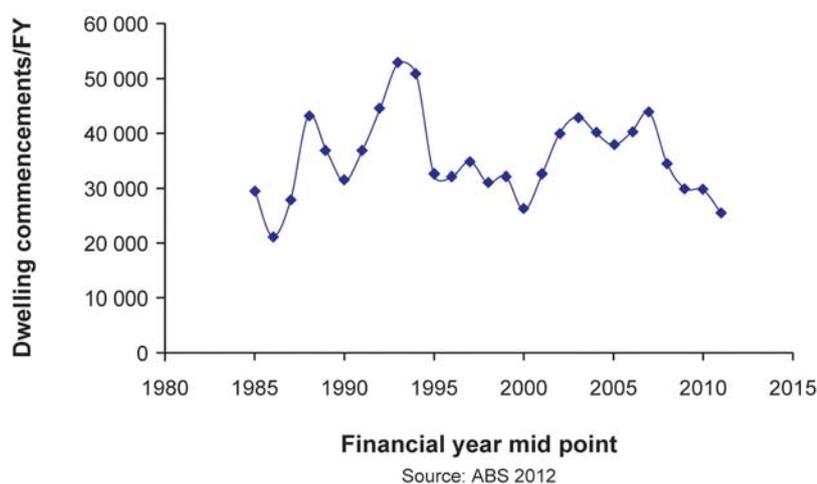
Total Queensland exports of sawn timber products (timber re-sawing and dressing) in 2010–11 were valued at about \$8 million. Queensland has a substantial net trade deficit in sawn timber products, with imports of sawn timber products valued at \$101 million in the same year (ABS 2010).

No data is available on the amount of sawn timber sold in the Queensland market from interstate producers, or the amount of Queensland production sold in interstate markets. However, anecdotal industry evidence suggests that although some Queensland timber is sold in the southern states, a significant volume of sawn timber produced in other states is sold in the Queensland market. Some of this demand is driven by a market preference for resin-free radiata pine grown in the southern states, rather than the southern pine produced in Queensland.

Taking a medium-term perspective, industry commentators maintain that the Queensland industry is resource constrained—there is more than adequate capacity to process the available volumes of plantation and native forest resource. However, more resource is required if the industry is to secure ongoing investment in innovative new wood products and efficient processing, which is required to compete against imports.

The market for timber products in Queensland is currently very depressed, mainly the result of a depressed local residential/dwelling construction sector. The residential housing construction market (both new houses and alterations and additions to existing houses) consumes most of the sawn timber produced locally, as well as engineered wood products such as laminated veneer lumber, I-beams and wood-based panels.

Over the last eight years, the Queensland dwelling construction sector accounted for 37,000 new starts per annum—ranging from a peak of 44,000 starts in 2003–04 and 2007–08, down to 27,000 starts in 2010–11 (Figure 2). The underlying requirement for housing is an estimate of the number of new dwellings that would normally be needed as a result of past growth in population and living standards, and of demolitions of existing housing stock.



**Figure 2: Queensland dwelling commencements 1985–2011**

The Housing Industry Association estimates the underlying requirement over this period has been between 40,000 and 50,000 dwellings. Such a large disparity indicates a pent-up demand for housing in Queensland, although this is clearly not apparent in the current market demand.

Many commentators suggest this is driven to a large extent by the growing divergence between underlying requirement, which is demographically driven, and actual demand, which is driven by other factors such as housing affordability and general economic conditions.

BIS Shrapnel seek to project new dwelling demand, taking into account affordability and other issues. They expect Queensland demand to increase from the current level of around 34,000 dwellings per year to around 42,000 dwellings in 2013–17, climbing to around 50,000 dwellings per year in 2023–27, approximately matching projected demand for Victoria and New South Wales at this time.

BIS Shrapnel also expect the proportion of medium and high-density dwellings compared with private houses to increase from the recent historical average of around 30 per cent to around 40 per cent. This reflects the increased cost of housing, reduced number of occupants per dwelling and downsizing associated with the aging population.

In addition to competition from imports, Queensland timber products are also open to competition from non-renewable substitutes such as steel, concrete and aluminium. Despite all of the favourable environmental characteristics of wood, the forest and wood industry has not been able to develop any significant demand-pull for its products based on these credentials. Sustainable, recyclable, renewable and carbon-positive are all product features that are well understood in the industry, but so far it has not been able to effectively market these features to its advantage.

## Market challenges and opportunities

The future market opportunities for timber and wood products in Queensland are significant. The projected population growth and associated housing demand has the potential to underpin a consistent increase in timber demand over the next 30 years, and timber and wood products have a clear opportunity to displace other building products that can't match their environmental credentials.

Despite the promising demand outlook, Queensland is part of an international market and imports will always play a critical, but at times, unpredictable role. Imports establish a floor price for domestic producers, so world demand and currency fluctuations ultimately impact domestic timber prices. The dramatic appreciation of the Australian dollar in recent years has significantly improved the viability of imports and reduced the viability of Australian exports. Despite the extremely poor performance of the building market in Queensland over the last three years, the high Australian dollar has seen imports continue to grow from pre-global financial crisis levels.

The future of the industry is reliant on continuing to diversify and innovate. The progressive development and marketing of engineered wood products has resulted in these products representing an increasing proportion of the timber market. Engineered wood products are frequently marketed as part of integrated timber-based building systems that are faster and easier to build, and have improved technical specifications and reliability relative to solid wood products.

One of the strongly emerging international timber trends is the increasing use of cross laminated timber (CLT), used predominantly for medium-rise residential and commercial properties. CLT is made by bonding together individual timber boards into layers oriented in alternate directions to produce a solid timber panel. Performance of CLT has been found to be superior to other timber products in terms of fire resistance, noise insulation and heat insulation.

CLT is now regularly used in Europe, with a growing application in North America. However, the product is only recently being utilised in Australia, with construction of a 10 storey CLT building in Melbourne's Docklands area (Lend Lease Forte building) and another 10 storey apartment building that will make extensive use of CLT in the renovation of an old brewery in Melbourne (Grocon building).

There is currently limited local CLT manufacturing capacity, with one plant (XLam NZ) recently commencing production in New Zealand. It is anticipated that CLT manufacturing capability will be established in Australia as demand increases. This timber product has the potential to make significant inroads into high-density residential and commercial building markets, in which timber has historically only been used in finishing applications.

Other prefabricated and panelised building systems are also expected to make inroads into the residential sector, with the potential to improve site safety, reduce construction times and reduce costs. One Brisbane-based manufacturer (PanelBuild) has already developed an extensive capacity to produce these building systems.

The storage of carbon in timber products presents a strong market opportunity, with around half the mass being carbon. Formal recognition of the carbon contained in harvested wood products would enable the timber industry to actively participate in the carbon market.

The carbon storage characteristics and environmental credentials of timber are superior to almost all other building products. However, reducing overall carbon emissions through innovative timber applications has not been supported with Commonwealth Government funding, similar to that made available to the car industry to move towards hybrid and low-emission vehicles.

Policies promoting the use of wood (or low-embodied energy building products) for government buildings to ensure that they take the greatest advantage of wood's unique structural properties and environmental credentials have been successfully implemented in a number of countries and states including France and British Columbia. They are also actively being considered in New Zealand, Japan, Canada and various states in the United States. Such policies not only take advantage of timber's unique properties and credentials, but also stimulate investment and growth in the forest and timber industry.

There are also significant new market opportunities for the industry to help address climate change through bioenergy. The industry generates a number of potential feedstock sources, including primary forest products, processing residue and end-of-life wood waste.

Integration of bioenergy systems into production facilities in Queensland is currently limited, with heat generation for timber drying being the major application. However, extension of this application to the generation of power makes commercial sense due to the co-location of both feedstock and energy demand at processing facilities.

The industry also has the capacity to supply feedstock to other users such as bioenergy facilities and coal-fired power stations, pellet manufacturers and second generation fuels. The lack of adequate resource mapping and uncertainty about regulatory regimes for carbon emissions are serious impediments to progress in this sector.

Despite comparative cost and technological advantages, the bioenergy sector has also had limited government support in comparison to other forms of bioenergy, such as solar, wind or geothermal. This appears to be largely a result of the cleaner image of these alternative sources, irrespective of the carbon intensity of the technology.

The decline of forest research and development capability, particularly at the national level, is impeding the industry's ability to capture new market opportunities. For example, the restructuring of the CSIRO in 2010 significantly reduced its capacity to deliver timber product research outcomes.

Queensland is one of the few remaining states with a relatively strong forestry research presence. The main provider of forestry research is the Forestry Science unit in DAFF's Agri-Science Queensland group. Forestry Science currently has a staff of 35 research scientists and technicians, with research facilities at Dutton Park, Salisbury and in regional areas. Forestry Science's program focus is on the development of the tropical and subtropical hardwood plantation sector. The University of the Sunshine Coast is also another active forestry research provider in the state. Queensland forestry research interests are also progressed in programs facilitated and/or funded through CSIRO and Forest and Wood Products Australia.

Current DAFF Forestry Science projects include projects under the Plantation Hardwoods Research Fund (PHRF), which include:

- investigating the development of protocols for managing stem borers in key hardwood plantation species
- determining the potential of solid timber and composite products
- determining the durability of specified solid timber products.

Other projects include:

- myrtle rust screening of hardwood plantation material for resistance and tolerance to myrtle rust
- investigating growth, adaption and carbon sequestration of trialed hardwood plantation species
- investigating the use of hardwood plantation stems as power poles.

The University of the Sunshine Coast also manages a PHRF project selecting propagation material with improved wood properties.

New domestic market opportunities maybe provided when the Commonwealth Government's Illegal Logging Prohibition Bill 2011 is passed and becomes operational. This legislation will restrict the importation and sale of illegally logged timber within Australia, which is estimated to be about 10 per cent or around \$400 million of Australia's annual imports of wood products. The withdrawal of these products from the Queensland market will open some new market opportunities for locally produced timber products, particularly for hardwood timbers.

## Forest-growing sector

Queensland's log timber annual softwood and hardwood harvest is around 2.5 million m<sup>3</sup> per year. Practically all of the annual harvest volume is processed by Queensland's primary timber processing sector.

Around 80 per cent of this comes from the state's privately owned timber softwood and hardwood timber plantation estate of around 240,000 hectares, with the remaining from a significant area of the state's native forests that is utilised for sustainable timber production.

### Timber plantations

Queensland has an estimated 242,000 hectares of timber plantation, consisting of 192,000 hectares of softwood and 53,500 hectares of hardwood. Details are provided in Table 4.

**Table 4: Queensland's timber plantation estate (hectares) April 2012**

Region	Subtropical Queensland	Subtropical Queensland	Tropical Queensland	Tropical Queensland	Species totals
Primary product	Sawlog	Pulpwood	Sawlog	Pulpwood	
<b>Softwood species</b>					
Southern (American) pines	127,500		26,500		154,000
Araucaria species	42,000		2 500		44,500
<b>Hardwood species</b>					
Dunn's white gum		14,000			14,000
Spotted gums	8 500	2 000	500	500	11,500
Teak			4 000		4 000
Western white gum	4 000				4 000
Gympie messmate	2 250		250		2 500
African mahogany			1 000		1 000
Red mahogany			500		500
Sandalwood				500	500
Other or mixed species	1 750	1 500	1 750	500	5 500
<b>Totals</b>	<b>186,000</b>	<b>17,500</b>	<b>37,000</b>	<b>1 500</b>	<b>242,000</b>

Source: Department of Agriculture, Fisheries and Forestry, Queensland Government, 2012

The majority of the plantation estates are in the coastal, higher rainfall zones of south-east Queensland. These areas produce the majority of plantation logs feeding into the domestic processing sector. Other plantations have been established in central and northern regions of the state. Refer to Maps 1, 2 and 3 (overleaf) for the distribution of plantations by softwood, hardwood and fallow areas as at 2011. Note that most, if not all, the fallow areas are from the clear-felling of softwood plantation areas and are likely to be replanted with softwoods.

Figure 3 gives an indication of average annual hectares established across south-east Queensland from 1970 to 2010, and is derived from information provided by ABARES 2011 (Australian Plantation Statistics August 2011).

The source information gives total areas established by five-year periods, and the average yearly establishment points have been derived by annualising these numbers.

As at the end of 2010, the figure gives indicative establishment rates of around 3 500 hectares per year for exotic softwood and 500 hectares per year for hoop pine, with rapidly falling rates for the hardwood estate largely due to the failure of managed investment schemes.

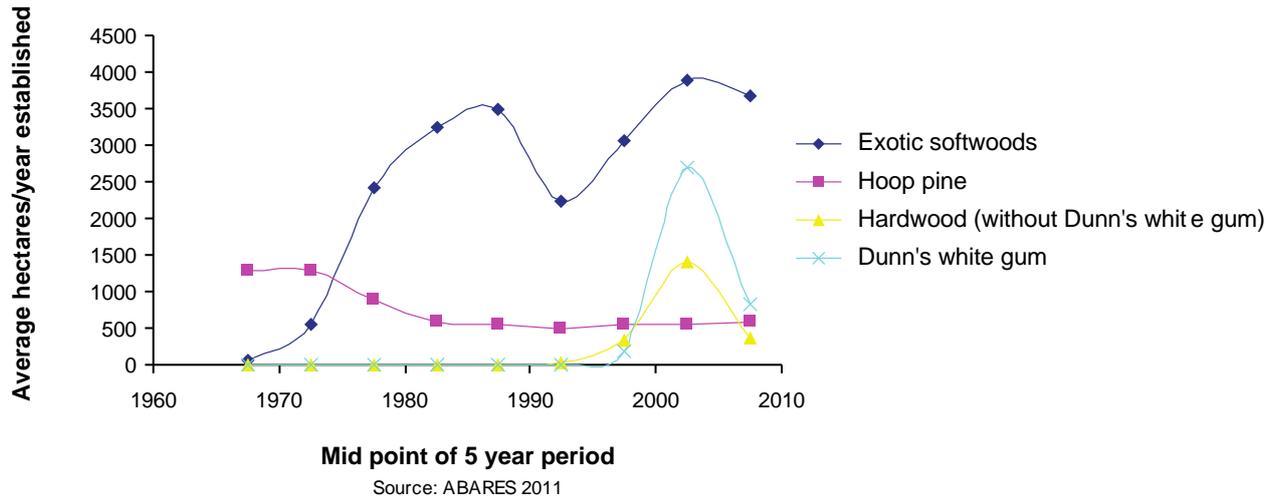
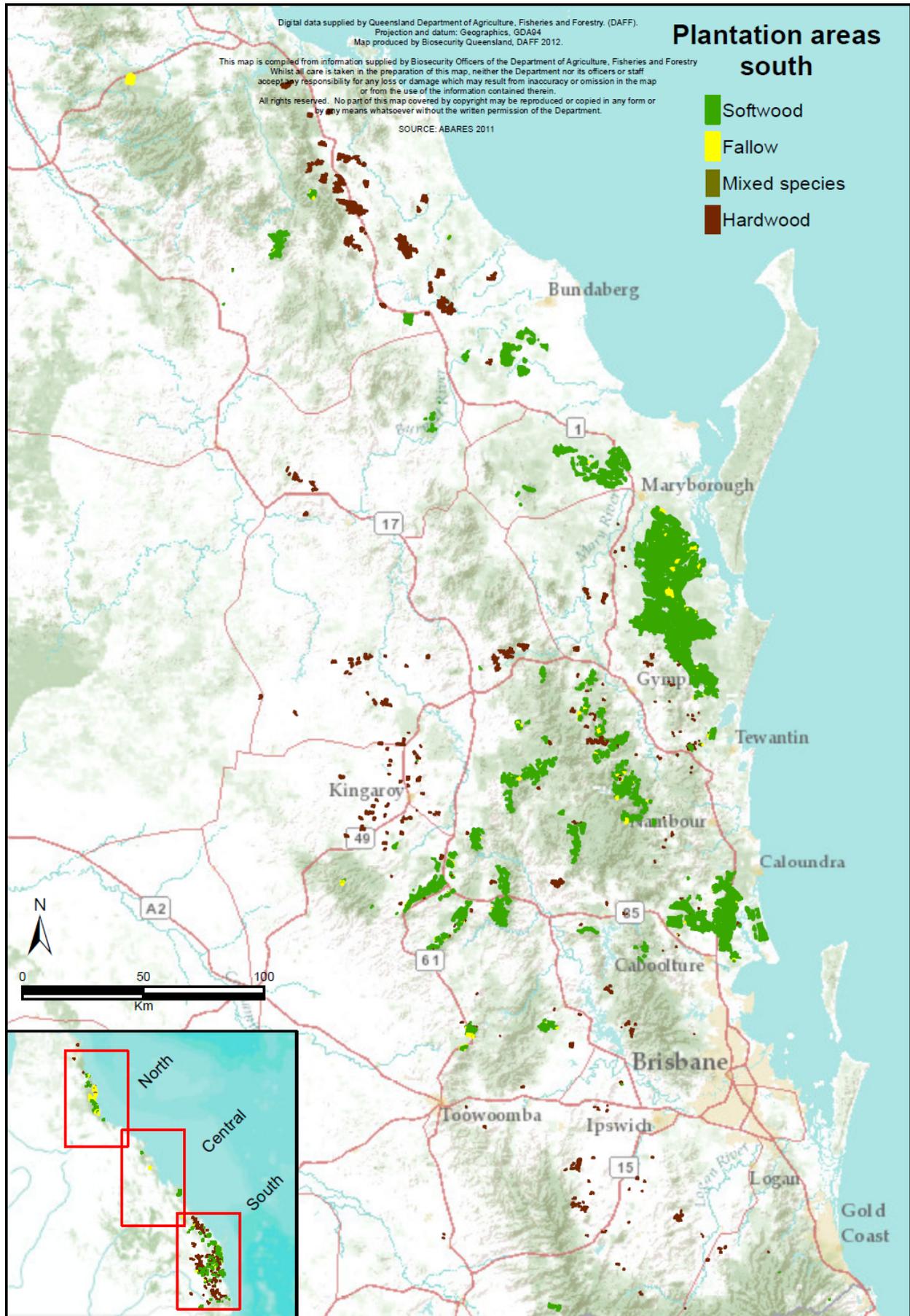
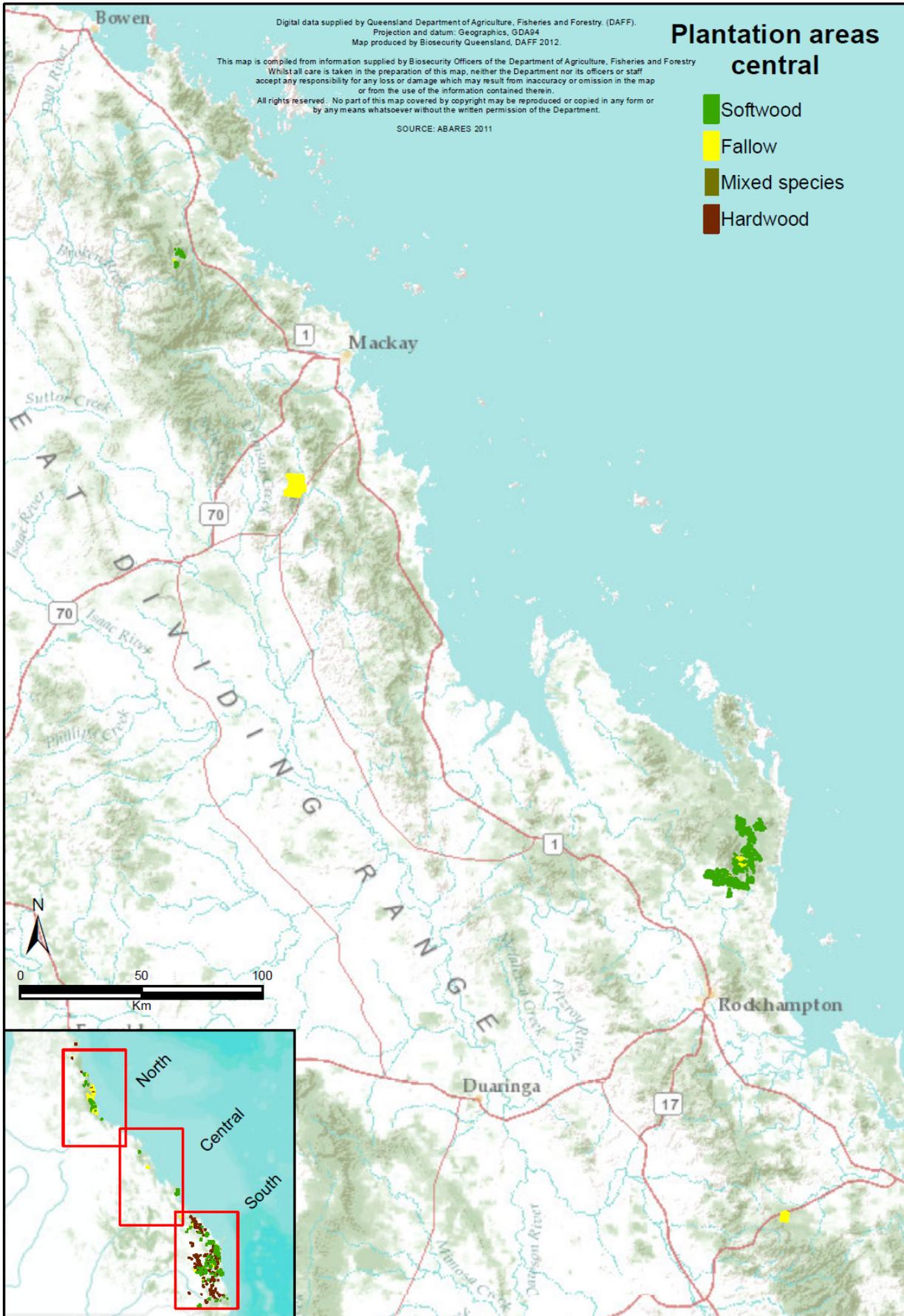
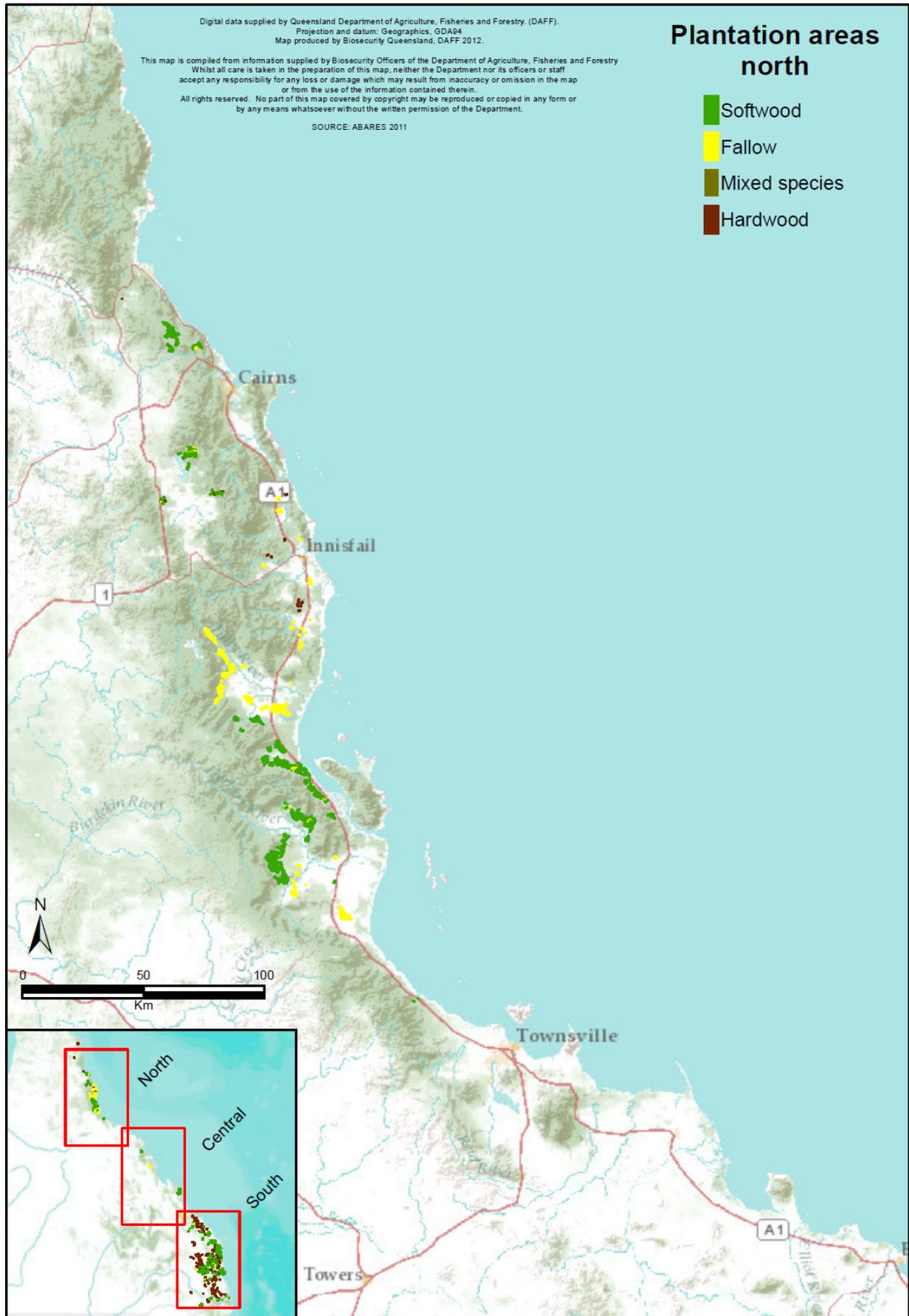


Figure 3: South-east Queensland plantations—average annual hectares established by five-year periods



Map 1: Plantation areas—southern Queensland





**Map 3: Plantation areas—northern Queensland**

## Exotic pine plantations

Exotic pine plantations are largely comprised of slash pine (*Pinus elliottii*) and Caribbean Pine (*Pinus caribaea* var. *hondurensis*), with some areas of the F1 hybrid of these two species.

The majority of the exotic pine estate is coastal areas of south-east Queensland, centred around Beerburrum and the Fraser Coast. There is a 12,000 hectare plantation estate in the Byfield area, and a 13,000 hectare estate was also established in north Queensland. Around 9 000 hectares of exotic softwood plantations near Ingham and Cardwell were severely damaged by Tropical Cyclone Yasi in 2011, and only around 4 000 of mixed exotic and araucaria softwood plantations near Atherton currently remain available for sawlog production in north Queensland.

Most of the exotic pine area is owned and managed by HQ Plantations on state plantation forest tenure. State plantation forest is a recent tenure created under the *Forest Act 1959* to accommodate the sale of the state-owned plantations in 2010 to HQ Plantations.

In recent years, around 2 million m<sup>3</sup> of log timber has been harvested annually from HQ Plantation's softwood plantations, including the araucaria plantations. In 2010, Forest and Wood Products Australia (FWPA) modelled the predicted volume of final crop log timber becoming available from the exotic pine estate in the Beerburrum and Fraser Coast areas (Figure 4). This modelling indicates that this key plantation estate has the potential to increase final crop production by a further 10–15 per cent by 2026.

Currently around 75,000 m<sup>3</sup> per year of exotic pine is being harvested from the plantations at HQ Plantation's Byfield estate in central Queensland. The log timber harvested from this estate is being processed in a large softwood plantation sawmill at Tuan in south-east Queensland.

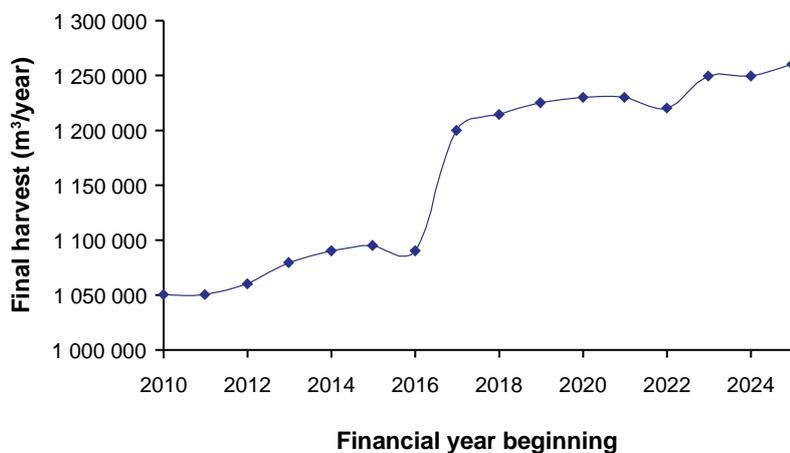


Figure adapted from FWPA 2010

Figure 4: Predicted volumes from Beerburrum/Fraser Coast exotic pine plantations

## Araucaria plantations

Araucaria (hoop pine) plantations consist largely of plantings of hoop pine (*Araucaria cunninghamii*), with smaller areas of bunya pine (*Araucaria bidwillii*). However, araucaria log timber is relatively costly to produce because of high management and harvesting inputs, largely as a result of the steep sites on which it has been established and high pruning costs. Crop rotation lengths are also very long at around 40 to 50 years.

## Hardwood plantations

Queensland's hardwood plantation estate is relatively immature and yet to produce a final crop. Over half (56 per cent) of the hardwood plantation estate is being managed by HQ Plantations for sawlog production. HQ Plantation's long-rotation hardwood estate is largely comprised of spotted gum (*Corymbia citriodora* subsp. *variegata*), with some Gympie messmate (*Eucalyptus cloeziana*) and western white gum (*Eucalyptus argophloia*). A number of other companies manage long-rotation hardwood estates comprising exotic species such as teak (*Tectona grandis*) and African mahogany (*Khaya senegalensis*).

Productivity information for hardwood plantations is limited. In 2010, that the spotted gum plantation estate being managed for sawlog production was estimated to be growing with a mean annual increment of around 8 m<sup>3</sup>/ha/year. The first final crop production from this estate will not occur until after 2025.

In 2004, the Queensland Government committed to the establishment of a total of 20,000 hectares of new native hardwood plantations as part of its South East Queensland Forests Agreement and Western Hardwoods/Statewide Forests Process initiatives. This estate will now be delivered by HQ Plantations as part of the 2010 sale arrangements with the Queensland Government. These arrangements require the new plantation estate to be finalised by 2025, meaning that annual planting rates under this program are around 400 hectares per year.

Queensland also has an estimated 19,000 hectares of hardwood plantations that are managed primarily for pulpwood production. This plantation estate is largely comprised of Dunns white gum (*Eucalyptus dunnii*) and was mostly established in the mid 2000s and funded by agribusiness managed investment scheme (MIS).

In central Queensland, around 15,000 hectares of mostly *E.dunnii* and *Eucalyptus grandis x camaldulensis* were established for pulpwood production. Growth rates of these plantations were or have been poor, aggravated by a prolonged drought from 2001 to 2009 and severe disease outbreaks in the *E.grandis x camaldulensis*. Most of the *E.grandis x camaldulensis* plantations have been written off, with the land being sold and converted to alternative land uses. Harvesting of the *E.dunnii* plantations is expected to commence in the near future.

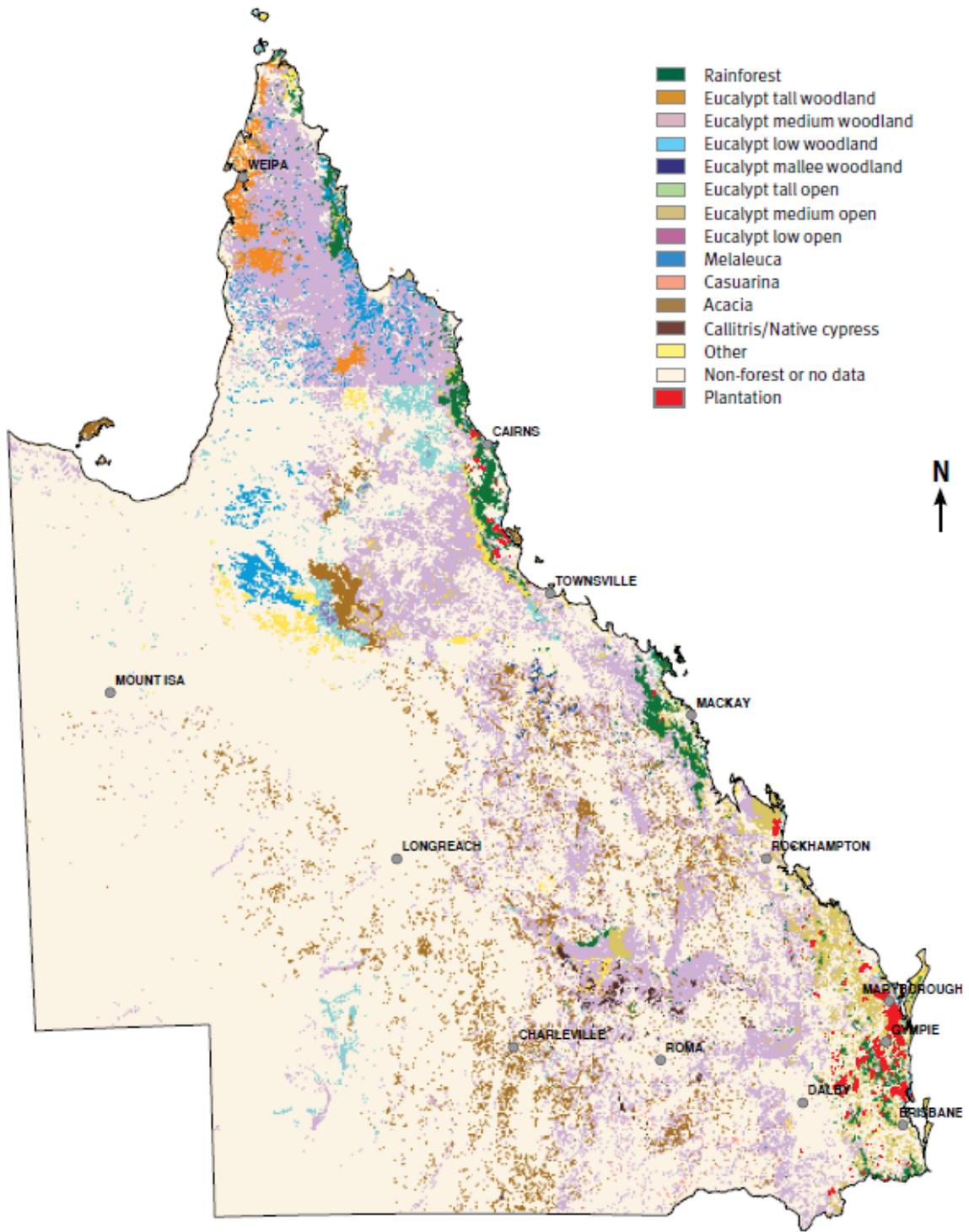
There are also numerous small (less than 30 hectare) single and mixed species timber plantations across the state (most within 200 km of the coast), which are mostly owned and managed by private landowners. While most of these plantations were established for timber production, the diversity of species, management regimes and owner intentions mean that the quantity, quality and timing of any timber supply from this resource is uncertain.

## Native forests

Queensland has in excess of 52 million hectares of native forests—around one-third of Australia's total native forests and the largest forested area of any Australian state or territory. However, the overwhelming majority of these native forests are considered to be 'sparse' forests and generally not suitable for commercial timber production. The remainder of the forest estate (approximately 5–10 million hectares) is relatively denser forests confined mostly to coastal areas and parts of southern inland Queensland (refer to Map 4 overleaf).

ABARES estimate that 395,000 m<sup>3</sup> of log timber supply, made up of approximately 70 per cent hardwood and approximately 30 per cent cypress (softwood), comes from both privately owned and state-owned native forests in Queensland (ABARES 2012). This estimate is consistent with commentary from industry sources suggesting that log supply amounts to around 50 per cent from state-owned native forests and 50 per cent from privately owned native forests. ABARES also note that for hardwood sawlogs the trend in recent years appears to be an increasing contribution from private forests in Queensland (ABARES 2012).

Native forest supplies to the timber processing sector have been declining since the early 1950s, following a peak in demand after the Second World War that saw harvesting levels reach an estimated 1.4 million m<sup>3</sup> per annum. Timber plantations overtook native forests as the dominant supplier of log timber to the Queensland timber processing sector for the first time in the mid 1990s.



Source: The Queensland Forest Industry, Department of Primary Industries and Fisheries 2004

**Map 4: Forest types in Queensland**

## State-owned native forests

Commercial state-owned forests exist on state forest, timber reserve and some leasehold tenures, with the majority of log timber harvested by the industry being sourced from state forests. There are currently 409 state forests in Queensland, covering about 3 million hectares of land. About 30,000 hectares of state forests are harvested each year on a selective basis.

The sale of log timber from state-owned native forests is managed by DAFF Forest Products, which reported a total sale of hardwood and cypress log timber in 2010–11 of 209,000 m<sup>3</sup>. Log timber includes hardwood and cypress sawlogs, hardwood poles, landscaping and fencing timbers, mining timber, girders, corbels, piles and sills, and sandalwood.

In the year 2009–10, total sales amounted to 232,813 m<sup>3</sup>, of which approximately 38 per cent consisted of hardwood sawlogs and 52 per cent of cypress sawlogs. The predominant species cut for hardwood sawlogs was spotted gum, with some broad-leaved iron bark, grey ironbark, blackbutt and minor volumes of other species. The predominant species cut for girders, piles and similar products were spotted gum and grey ironbark, and for hardwood poles the predominant species were spotted gum, broad-leaved red ironbark and grey ironbark.

Figure 3 shows the trend of state sales over a period of five years.

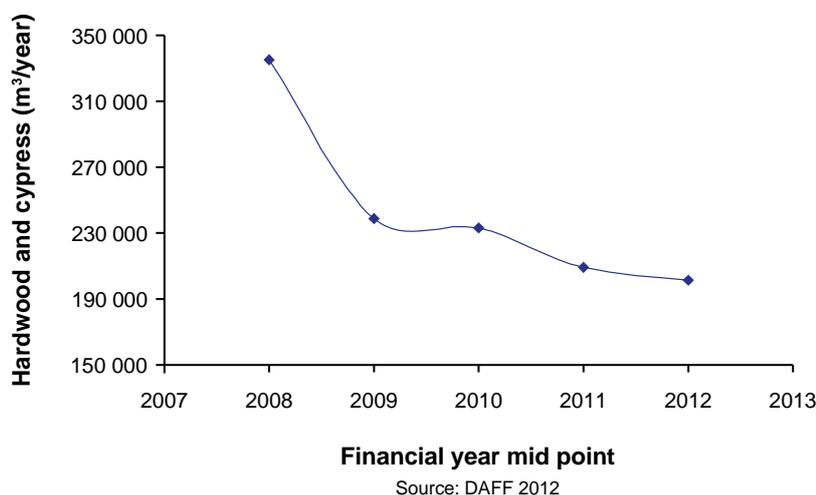


Figure 5: Log timber sales from state-owned land

## Private native forests

Private native forests will continue to play an important role in supplying the timber processing sector into the future. These forests provide a unique opportunity to enhance the supply of wood to the Queensland industry, delivering social, economic and environmental gains along the way.

Private native forests in Queensland are extensive, but generally very low yielding and often an integral part of a grazing enterprise. Selective harvesting practices are almost universally applied; however, a history of crop tree harvesting without follow up silvicultural treatment has tended to leave these forests in a relatively low productivity state. Excessive regrowth has further caused many stands to 'lock-up' (cease growing) and reduced understorey and grass cover, leading to increased erosion during Queensland's high intensity rainfall events.

Management of the extensive private native forests could be significantly improved through silvicultural treatment to improve forest condition and productivity, delivering both economic and environmental gains, and helping to diversify landholder incomes. There are further opportunities to increase the private native forest estate by active management of native regrowth, thereby increasing carbon stocks while maintaining the land in a 'productive' state that will generate ongoing income to landholders.

More active management of private native forests for timber production addresses a range of the impediments facing plantations. In particular, the forests are already there so establishment costs are minimised, the land doesn't need to be purchased, and its management does not generate the sort of social upheaval that can be associated with land use change to plantations. If done properly, it also delivers improved environmental outcomes.

Improving the knowledge of Queensland landholders about forest management is one of the key needs, and could pay significant dividends by delivering better environmental and economic outcomes and supporting both landholders and the processing sector that is reliant on this resource.

### **Forest resource challenges and opportunities**

The long period between outlays on establishment and returns from harvesting means that greenfield plantation investment has a very high risk profile and very uncertain returns given that the final crop sales will not occur for some decades.

Up until the 1990s, the only major investors in large-scale plantations in Australia were governments, who recognised the impending need for an alternative domestic source of log timber because of the inability of native forests to meet projected increasing demand for timber products and the increasing community concerns about the commercial utilisation of native forests, particularly in temperate Australia. Most of the plantation development was on land that was already owned by government, with land clearing being the major cost associated with the plantation development.

Agribusiness MIS companies were the major source of funding for new plantations in Queensland (and Australia) over the last decade. These schemes attracted 'retail investors' largely into short rotation hardwood plantations, or unproven but potentially lucrative high-value long-rotation plantations. Unfortunately the global financial crisis exposed some serious flaws in the operation of the MIS model, where future management liabilities were not adequately accounted for. Consequently, the overwhelming majority of agribusiness MIS-based companies have failed.

There has also been a recent influx of institutional investors in plantation forestry in Australia, with international timber investment company Hancock Natural Resource Group purchasing the former Queensland Government plantation estate in 2010. Institutional investors have also purchased some of the failed MIS plantation assets in Queensland over the last few years, and some are under new management on behalf of the original MIS investors. However, it is likely the MIS plantation estate in Queensland will continue to contract over the medium-term as the remaining plantations are liquidated or harvested and most likely not replanted.

Any future expansion of the plantation estate in Queensland will need to be driven by the private sector, with policy and other facilitation support from government. However, addressing the financial viability of greenfield plantation investment in Queensland is a very significant challenge.

Queensland does not have a competitive advantage in plantation growing relative to other Australian states and other countries because of the relatively lower growth rates for much of the plantation estate, both current and potential. FWPA (2011) noted that returns from investment in long-rotation plantations in Australia are relatively low, with indicative internal rate of return of 4.6 per cent for Australian softwood plantations and 3.3 per cent for hardwood plantations. The modelling used a mean annual increment (MAI) of 15 m<sup>3</sup>/ha/year to determine yield for the average softwood plantation across the country. MAI is a major determinant of the profitability of a plantation and the average MAI's for Queensland softwood plantations are likely to be lower than this. MAI's for Queensland long-rotation hardwood plantations are currently estimated to be around 8 m<sup>3</sup>/ha/year.

A recent report sponsored by FWPA (de Fegely, Stephens & Hansard 2011) investigates a range of options to support plantation investment, and highlights the need for policies to fundamentally address the financial viability of plantation investments by augmenting the high up-front costs and limited cash flows in the short to medium term.

It notes three key areas where there are opportunities to improve the overall profitability of long-rotation investments:

- lower costs (e.g. cheaper land access options)
- higher productivity (increased growth rates)
- additional sources of revenue (higher log prices or revenue from the externalities of forests such as carbon sequestration).

The report recommends that pursuit of these opportunities be facilitated by a partnership between government, industry, landholders and the community. It also identifies a range of criteria that would need to be adopted in any policy settings to ensure that they achieve a high level of community acceptance and do not unduly distort the market. These criteria include:

- low cost to the taxpayer
- minimal distortion to related markets and sectors
- commercially driven market-based outcomes
- a well-defined 'exit' strategy for government involvement to facilitate long-term commercial sustainability
- the ability to leverage sustained private sector investment
- capturing other benefits of plantations (e.g. carbon).

The report also noted that direct government investment to secure the carbon associated with timber plantations is one of the more promising opportunities for government to support expansion of the plantation estate.

Carbon sequestration by timber plantations is a significant opportunity for the timber-growing sector to help address climate change. Commercial plantation forestry was the major carbon-positive land-based activity over the last decade, sequestering 23 Mt of carbon dioxide in 2008, equivalent to 4 per cent of Australia's total emissions (Department of Climate Change and Energy Efficiency 2010). Production plantations, under the right framework, offer significant opportunity for the long-term sequestration of carbon and delivery of commercially viable abatement.

Overall, the Queensland industry is resource-constrained—there is more than adequate capacity to process the total projected volumes of plantation and native forest resource. Ongoing investment in innovative new timber products and efficient processing is essential if the industry is to even maintain its current competitiveness against imported forest and timber products.

While some investment comes as a result of targeting alternative and more profitable products or productivity improvements, efficiency gains are generally achieved through increased throughput and scale. Without an increasing supply of log timber (resource), increased throughput can only be achieved through industry rationalisation—resulting in fewer jobs and smaller socio-economic benefits.

TQ has estimated that at least 100,000 hectares of new sawlog plantations are required to meet Queensland's future timber demand from local sources. These need to be both hardwood and softwood plantations, and need to be long rotation in order to produce solid wood and engineered wood products.

From an industry policy perspective, new plantations should be located close to existing forest industry clusters to take advantage of existing industry infrastructure and ensure the highest capacity to pay. Queensland currently has some relatively 'stranded' sub-scale plantation resources that are not fully committed or the owners have had to accept lower log returns to attract industry. These estates were developed in an era when competitive scale for processors was much lower or the estates were intended to be expanded to sufficient scale to establish a processing industry. Over the long term, these resource owners will need to decide whether maintaining these sub-scale estates is economic or if other land uses may make a higher economic return.

The sustainable development of the industry in Queensland will require that it retains and enhances the general support of local communities. Recent expansion of the plantation estate in some regions has caused friction with other traditional industries and resulted in generally poor community acceptance of plantations. These conflicts have been particularly prevalent in north Queensland, where plantations have been established on former cane land.

The failure of most agribusiness MIS companies and recent cyclones in tropical north Queensland have caused new plantation establishment on traditional cane lands to cease. It is extremely unlikely that there will be any further expansion on this land.

The only known significant plantation expansion program currently in Queensland is that required under the sales agreement between the Queensland Government and HQ Plantations. This agreement requires that around a further 7000 hectares (of a total 20 000 hectare estate) of hardwood plantations be established by HQ Plantations by 2025.

Importantly, the processors of the hardwood plantation resource will need to use very different technologies and approaches to the current native forest sector. Large volumes of consistent resource from reasonably concentrated supply nodes will be essential to enable efficient transport systems and the high throughputs required to support new investment in this sector. However, hardwood processors have expressed concerns about the nature of the new hardwood plantation resource that is being grown to replace state hardwood supplies, including its capacity to find a place in the market alongside products sawn from the native forest resource.

The future of the native forest sector is reliant on long-term access to private and state-owned native forests. The Queensland Government, in the process of developing the forest and timber industry plan with industry, will consider issues of access by the industry to state forests. Private forest issues may also be raised during the plan development process.

Many of the productive state forests transferred to conservation tenures under previous government policies had been managed over the long term to maintain their conservation values while producing a timber resource for industry. In the event that some of these forests are made available to wood production, a key challenge for the native forest sector will be identifying how to best balance long-term wood supply with the demands of the current industry, while maintaining the inherent values of the forests and their long-term productivity.

Investment in better silvicultural management of private native forests has been identified as a very real opportunity for private landholders to achieve returns that often equal or better those from grazing. Given the reliance of the hardwood sector on the private native forest resource, it is essential that these forests are maintained in a productive condition. A recent review of forest practices under the *Vegetation Management Act 1999* indicated that, despite good compliance with the Forest Practices Code, around 60 per cent of these forests would benefit from more effective silvicultural management.

## Timber processing and manufacturing

Queensland has a diverse timber processing and manufacturing sector that predominantly processes locally grown plantation softwoods, but also hardwoods and cypress pine from native forests. The sector, particularly the secondary processing sector, is also increasingly using imported sawn timber from overseas and interstate producers.

The sector includes primary processing activities that transform log timber into a range of products using sawing, veneering and chipping processes, as well as secondary processing or manufacturing activities that transform the output of the primary processing sector into a range of more complex timber-based and paper-based products.

The types of primary processing plants range from large-scale fixed location sawmills or other plants producing veneered products, woodchips or reconstituted timber and panel products, to small portable or 'mobile' sawmills that operate within the forest.

According to a recent ABARES national wood processing survey, there were 100 primary processing plants (including 93 sawmills) in Queensland in 2010–11 (refer to Table 5 below). This represents about 26 per cent of all primary processing plants in Australia.

The number of primary processing plants in Queensland (and Australia) has fallen significantly over the last decade or so. The former Department of Primary Industries and Fisheries reported that there were 222 licensed 'fixed location' sawmills (under the now repealed *Sawmills Licensing Act 1936*) in Queensland in 2001–02. Although this data should be interpreted cautiously given the differences in the data collection processes, they do provide a strong indication of a very significant decline in the number of sawmills in Queensland over the last decade.

Over half (54 per cent) of the primary processing plants in Queensland were hardwood sawmills, and a further 18 per cent native cypress pine sawmills. Over one-third of all hardwood sawmills were small operations processing less than 3000 m<sup>3</sup> per annum. Although ABARES did not produce capacity data for cypress pine sawmills, ABARES reports that most of these sawmills are 'small'.

### Plantation softwood processing

The plantation softwood sawmill segment is highly concentrated and integrated around a small number of large sawmills and a number of other processors predominately located in south-east Queensland. ABARES reports that there were 18 sawmills processing plantation softwood in Queensland in 2010–11 (ABARES 2012). Combined, these sawmills utilised 1.8 m<sup>3</sup> of log timber, the overwhelming majority of which was utilised by the three sawmills with a log timber intake in excess of 100,000 m<sup>3</sup> per year.

Plantation softwood sawmills are usually large, capital-intensive operations. They are located near the larger plantation estates to secure sufficient resources and typically produce high levels of output for a range of markets.

The intensively managed plantations contain genetically improved tree species that are designed to produce uniform, defect-free timber. Centrally located, highly automated large-scale or large-throughput fixed-location sawmills have been set up to process this log timber in the most efficient way in order to maximise competitiveness.

The sector produces a diverse range of products including sawn timber, reconstituted timber and panel products, and round wood products for construction and appearance uses, as well as fibre, veneers and woodchips for composite products including plywood, particleboard and medium-density fibreboard.

Many of these plantation softwood products are subsequently used in 'secondary' processing and manufacturing activities, which transform them into more complex timber- and fibre-based products such as pre-nailed wall frames, roof trusses, decorative timber products, wooden containers, paper products (that use mostly recycled paper products), kitchens and cabinets, and wooden furniture.

**Table 5: Queensland's primary processing sector**

Log timber intake capacity (m <sup>3</sup> /year)	Number of plants
<b>Hardwood</b>	
< 3000	19
3000 to < 15 000	27
15 000 to < 45 000	8
<b>Total hardwood</b>	<b>54</b>
<b>Total cypress pine</b>	<b>18</b>
<b>Softwood</b>	
< 3000	0
3000 to < 15 000	5
15 000 to < 45 000	6
45 000 to < 75 000	2
75 000 to < 100 000	0
> 100 000	3
Total softwood	18
<b>Post and pole</b>	<b>3</b>
<b>Wood-based panels</b>	<b>7</b>
<b>Total primary processing plants</b>	<b>100</b>

Source: ABARES 2012

### Hardwood processing

The hardwood sawmill segment utilises log timber from an estimated 2 million hectare 'productive' state and privately owned native forest estate. As outlined earlier in this report, the commercial hardwood plantation estate in Queensland is still relatively immature and yet to produce a final sawlog crop.

The sector mainly produces products for the domestic construction and appearance timber markets, with some exports. The geographic spread of the hardwood sawmilling sector reflects the nature of the resource, with most processors located in coastal Queensland or the south-east of the state. The high transport costs limit the economic distances that log inputs can be hauled and thus the maximum volume that can be processed in any one mill.

The much lower productivity of native hardwood forests compared with plantations means that hardwood sawmills, on average, process much lower log input volumes than their softwood counterparts. ABARES reports that there were 54 sawmills processing hardwood log timber in Queensland in 2010–11. However, only eight sawmills had an annual log timber intake of more than 15,000 m<sup>3</sup> per year. Combined, the hardwood sawmilling sector utilised 275,000 m<sup>3</sup> of log timber in 2010–11.

Hardwood timber products include house framing and trusses, cladding, internal and external joinery and flooring, domestic and commercial decking, fencing, landscaping, retaining walls, boat building and external construction. Round wood products include poles, piles, bridging and mining timbers. The timber also has application for engineered wood products such as finger-joints and laminated beams, plywood and furniture, although these products are generally not well developed in Queensland.

### Cypress pine processing

The smaller but important cypress pine sawmill segment is located in the more inland areas of southern Queensland. ABARES reports that there are 18 cypress pine sawmills in Queensland. The segment utilises around 150,000 m<sup>3</sup> of log timber intake each year, mostly from state-owned native forests.

The cypress sector produces a range of structural, appearance and utility products. While most cypress is sold on the Australian market, relatively large export markets were established in the United States and Japan prior to the global financial crisis. To date, the United States market has not recovered, and the cypress sector has suffered from high levels of domestic competition and depressed prices for a number of years.

Cypress pine had historically been sought after in the framing market due to its natural durability; however, the development of envelope treatments for exotic pine has resulted in direct competition in this market, with treated exotic pine benefiting from cheaper production costs and easier handling.

The high levels of competition, low domestic prices and the uncertainty of resource supply has resulted in limited investment in the cypress processing sector in recent years.

### **Timber processing challenges and opportunities**

Although the Queensland timber processing sector is complex and highly diverse, it does not have many 'world-scale' sawmills or processing plants. The capacity constraints of Queensland's 240,000 hectare plantation estate means that it cannot currently support much more than one world-scale competitive softwood sawmill, together with some smaller regionally based sawmills and a number of other processing plants producing a range of non-sawlog products.

The Hyne and Son Pty Ltd plantation softwood sawmill at Tuan is Queensland's largest sawmill and is capable of processing up to about 700,000 m<sup>3</sup> of log timber input per annum. ABARES reports that there are only two other sawmills in Queensland that utilise more than 100,000 m<sup>3</sup> of log timber per year.

The current tough market conditions, combined with uncertainty about future supply and pricing arrangements following the sale of the state's plantations to HQ Plantations, means that there has been limited investment in the softwood processing sector in recent years. A projected increase in volume from the current plantation estate combined with the closure of Boral's plywood mill after the 2010 Brisbane floods may provide an opportunity for some increase in processing capacity in south-east Queensland, particularly if targeted to the larger logs previously used for ply manufacture. In the interim, HQ Plantations is understood to be seeking alternative markets for their available logs, including exporting whole logs.

The emerging cross laminated timber (CLT) market represents an important opportunity for softwood processors to find alternative domestic markets for their lower grade output. CLT does not require high strength material for its manufacture and it is conceivable that, in time, domestic production of CLT will become a viable proposition, using some of the low-grade material that is currently exported.

The traditional residue markets of chipboard and medium-density fibreboard are also expected to come under increasing resource pressure over time. The development of Altus Renewables' densified fuel pellet facility in Maryborough seeks to supply high-quality fuel into the international renewable energy market. Although there are concerns about a current oversupply in this market, it is expected that biomass energy plants will play an important role in achieving long-term reduction in carbon dioxide emissions. This in turn will increase competition in the residues market.

The native hardwood and cypress primary processing sectors are dominated by small operations in comparison to the softwood sector. The last 15 years has seen the two major hardwood processors (Boral and Hyne) exit the sector, and two alternative processors emerge as the larger players (Parkside and DTM). The overall decline in the number of smaller primary processors in Queensland over the last decade has mostly been the result of consolidation and modernisation of the hardwood sector, as well as many sawmillers taking advantage of previous government exit initiatives.

The implication of consolidation means that the remaining businesses can achieve better economies of scale for product development, marketing and secondary processing—as well as the ability to meet the ever increasing demands of maintaining workplace health and safety and environmental requirements. It also improves the capacity for existing hardwood processors to develop the processing and marketing capability to handle the future hardwood plantation resource once it becomes available.

Improved trading conditions and resolution of long-term cypress supply arrangements is likely to see a significant shake-up in the cypress sector. While this may not be immediate, long-term hardwood supply agreements in south-east Queensland saw the consolidation of mills in the region over a 10-year period, and a similar outcome is conceivable for the cypress sector.

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