

Fisheries

Forecasts

The gross value of production of Queensland's fisheries (including Commonwealth-managed fisheries) is forecast at \$265 million in 2007–08, which is 4% higher than 2006–07.

Wild-harvest fisheries

Forecasts for 2007–08 suggest that the value of Queensland-managed wild-harvest fisheries will be maintained at about \$190 million. This is due to the declining terms of trade for fishing businesses, difficulties in obtaining and retaining skilled labour and changes in management arrangements impacting on access arrangements in a range of fisheries.

In 2006–07, the GVP for Queensland-managed wild-harvest fisheries was about \$190 million, which is a slight increase on previous years due to rises in the prices being offered to commercial fishermen for tropical rock lobster, mud crab, blue swimmer crab and (live) coral trout. At the same time, harvest weight declined by about 14% compared to the previous two years.

Analysis

Overview

The Queensland-managed commercial fishing industry remains in a transition phase due to both internal and external factors and their effects on the fishing industry. The factors include:

- fuel price increases, which directly impact on the profitability of individual fishing businesses
- a lack of availability (and willingness) of labour to work in the commercial fishing industry
- the introduction of a series of fishery, marine park and other management arrangements designed to meet ecological and biodiversity objectives, and constrain where, when and how commercial fishers can operate their businesses
- unquantifiable, but generally negative, effects of drought and ephemeral short- and long-term effects of cyclones on fishery performance
- the strong Australian dollar, reducing both export prices and the price of imported seafood
- seafood imports into Australia set a low base price at which product can be sold.

The effect of these changes has caused some of the commercial fishing sectors to have less confidence in the future compared to previous years. At the same time, the number of establishments in the processing and wholesaling sector of the industry continues to decline.

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* requires that fisheries be accredited before the export of any harvested product. The Commonwealth Department of Environment and Heritage has given approvals to all twenty-six of Queensland's export-oriented fisheries.

The Commonwealth Government adjustment scheme for the Great Barrier Reef Marine Park (GBRMP) is almost completed. All sectors of the fishing industry have used the scheme, and the transition of the industry is ongoing. To date, in excess of \$150 million has been allocated for structural adjustment packages for fishing and related operations.

A new price series was implemented in July 2006 in conjunction with the Queensland Seafood Marketers Association. The organisation provides *typical* prices paid to commercial fishers at wharf for key species by grade for each quarter by region. As a result of this arrangement, and due to changes in the market compared to previous years, the price estimates used for crabs, tropical rock lobster and (live) coral trout have been increased substantially. Most of the other prices used for the 470 species landed have remained relatively static.

Prices offered to fishers are unlikely to change, unless the value of the Australian dollar changes. A weakening of the Australian dollar would increase the price paid for exported product relative to the price for imported product, and potentially increase the price offered to fishers for product consumed within Australia.

Trawl-caught species

There are three distinct sectors in the trawl fishery in Queensland waters—the East-Coast Trawl Fishery managed by Queensland, and the Torres Strait and Northern Prawn Fisheries not managed by Queensland. This section only considers the East-Coast Trawl Fishery, which stretches from Cape York to the New South Wales border.

It is expected that the trawl harvest of prawns in 2007–08 will continue to decline as boat numbers reduce from about 480 in 2004–05 to slightly more than 400 in 2007–08. This decline has not been offset by an increase in daily harvest of the trawl product. In addition, prices being offered for various species of prawn have not changed in the last few years, but for some species have declined slightly.

On the other hand, scallop harvest in 2007–08 is forecast to be less than the 2006–07 harvest due to two factors:

- the quality of the scallops (i.e. scallop size is smaller than previous years)
- the import of scallops from overseas, especially China, which is holding down the price being offered to fishers.

The reduction in the prawn harvest is not caused by the lack of availability of ‘trawl’ species; recent studies indicate that, from a biological perspective, the stocks of ‘trawl’ species are in robust health and are harvested at a sustainable level. For example, mean daily harvest of prawns by the otter trawl (T1) fleet remains consistent across the years at about 250 kg/day.

Line-caught species

The main line-fishing sector in Queensland is based on the Great Barrier Reef (GBR) and is known as the Reef Line Fishery. A second and much smaller fishery, the Rocky Reef Fishery south of the GBR, produces less than 10% of the Reef Line Fishery harvest, and will not be considered here. There is some crossover with Spanish mackerel harvest between the two fisheries, but with about 90% of the harvest typically caught in the Reef Line Fishery, it will be included in that sector.

The coral-trout quota will be close to filled in 2007–08. Catches of other reef species, such as Spanish mackerel and red-throat emperor and the ‘other species’ groups, appear to be more seriously affected by the economic and other factors currently operating in the Reef Line sector, especially the prices being offered for those species. The likelihood of filling these quotas in 2007–08 continues to be low, although more interest is being shown in Spanish mackerel harvest at this stage.

The Reef Line sector focuses on two different types of market. Coral trout is exported, with the live fish trade the main focus. Compared with other reef species, coral trout are a high value fish, especially in the live form, with fishers being paid seven to nine times the price compared with other species harvested from this fishery.

The other species harvested, including Spanish mackerel, red-throat emperor and the category ‘other species’ are almost completely for the domestic market. The domestic market requires most of the product to be in fillet form, which places it in direct competition with imports of similar product from overseas. Given the labour intensity of filleting, domestic operators are at a cost disadvantage compared with most overseas competitors.

The strong Australian dollar creates opportunities for our competitors to develop overseas niche live fish markets to their advantage and to import finfish into Australia. This competition reduces prices paid to domestic fishers and forces the processors to present the Australian product in a fillet form in order to compete with the overseas product with a similar level of convenience.

Net-caught species

Net fishing in Queensland has three main locations: Gulf of Carpentaria (GOC), GBRMP and the southern area. In 2007–08, production in the net fishery in the GBRMP is expected to remain at the current level of about 6000 tonnes. Overall, Queensland’s net fishery production for 2006–07 was almost 20% lower than the previous two years. Given there was minimal price increase offered to fishers compared to previous years, GVP also declined by about 20%.

Production from GOC in 2006–07 was about 20% below the previous two years, probably due to climatic factors. Assuming that next year is reasonably normal in terms of rainfall, production is expected to increase above the present level.

Performance of the GBRMP net fisheries in 2006–07 was slightly down compared to the previous two years. Net boat numbers continued to decline to around 320. Both mean daily catch and the number of days fished per boat remain within the normal range. Performance in 2007–08 is anticipated to decline further from the current level, due mainly to the level of prices being offered and as more boats limit their activity in the area.

Production from the southern net fishery in 2006–07 was also about 15% below the base indicator, largely due to a decline in the mullet harvest. There has been a halving of the price being offered for *winter* mullet, due to major increase in production of mullet roe in South America and China and their entry into Australia's overseas markets for roe. At this stage, some fishers are attempting to compensate by harvesting as much mullet as possible, which in turn has decreased price being offered for *meat* mullet. Given a return to reasonably normal seasons, production is expected to return to the base indicator level in 2006–07.

As most of the net-caught product is destined for the local and wider Australian market, imports of finfish from Africa, South-East Asia, USA and Europe limit the price offered to fishers for locally-caught fish. Imports of 'white' fish fillet into Australia set a base price for locally-caught product from the net fishery, as consumers substitute imports for local product when the price is lower. The need to present local product in fillet form also adds to costs and limits the potential to increase the price paid for Queensland-caught fish.

As stated last year, the reduction in the harvest of net species cannot be interpreted as a reason for concern for fish stocks. Recent studies indicate that, from a biological perspective, most of the species harvested by net fishers are in robust health and are being harvested at a sustainable level.

Earlier comments about the effect of the strong Australian dollar, fuel prices and access to labour apply equally in these fisheries. In addition, significant areas important for the netting of fish have been closed to fishing under various management arrangements.

Pot-caught species

The GVP of the commercial harvest of mud-crab and blue swimmer-crab harvest in 2006–07 increased mainly as a result of a substantial increase in price being offered to fishers. At the same time, production of these species each declined by about 30% compared to previous years. This was the result of a decline in the number of boats harvesting these crabs and a reduction in the number of days fished per boat. Mean daily catch per boat remained the same. Most of these two species are sold on the Australian market. There appears to be no direct competition from imports into Australia. In 2007–08, it is anticipated that their production will not decline from the 2006–07 level, and that the current price being offered to fishers will be maintained.

The spanner-crab fishery is quota-managed, and it is expected to fill the quota of about 2000 tonnes in 2007–08. The quota for 2006–07 was essentially filled. Most of the spanner crabs are exported. This fishery generally produces to the available quota, driven by the price achieved for the product overseas. Increased fuel prices, and the resultant decrease in profitability, may cause some realignment of the level of quota among individual businesses in this fishery.



Aquaculture

Forecast

The gross value of production of aquaculture is forecast at an all-time high of \$75 million in 2007–08. This is the highest on record, and is 15% higher than 2006–07.

Analysis

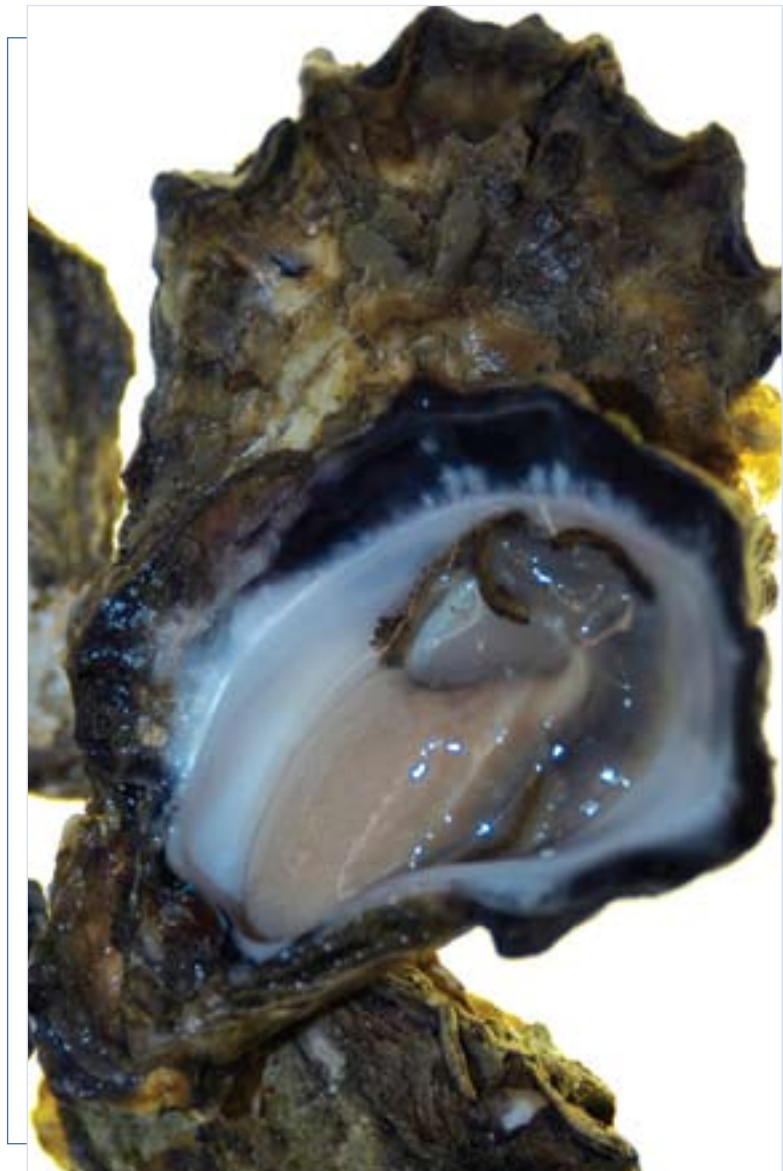
The value of aquaculture in Queensland has reached record levels, with further increases expected in both barramundi and marine prawn production.

The increase in gross value forecast is mainly due to the continued strong expansion in the barramundi sector, with production increasing by 10% to 15% per year over the last three years. Prices are being maintained even with this expansion.

The marine prawn sector should increase on the relatively poor year in 2006–07, due to extended periods of cold weather in the last growing season and an increased ponded area predicted to be in production in 2007–08. There is continued strong demand for large Australian prawns, and prices are expected to firm before Christmas. The majority of imported prawns are smaller in size and are not affecting demand for the larger prawns.

Freshwater fish, such as Murray cod and silver and jade perch, are expected to continue to expand, while redclaw is expected to decline following a run of dry seasons.

Oyster production continues to decline with a marked decrease in the availability of spat, both locally and interstate, to allow oyster lease area to be stocked to anywhere near capacity.



Sustainable management of Queensland's fisheries



Sustainability is a major issue for fisheries businesses and regional, Indigenous and coastal communities in areas with little alternative employment opportunities. International, federal and state resource managers need reliable, on-going information about the size of the resource and the rate at which it is harvested. Ineffective monitoring jeopardises sustainability and threatens business and community profitability.

DPI&F's Fisheries Genetics Research Program provides a new package of methods for monitoring fisheries resources. The methods go significantly beyond the standard applications of DNA analyses, and can provide estimates of the numbers of breeding individuals in a population and other information that was previously thought to be unattainable, such as ages of individual fish.

This work puts Queensland and Australia at the forefront of scientific fisheries management. The Gene-tag research program has been exported to North America where at least two North American fish stocks (rock cod and sturgeon) are being monitored using this method. New research programs are planned for the:

- offshore snapper and shark fisheries in northern Australia
- Queensland's mud crab fishery
- Northern Australian bêche-de-mer fisheries
- Torres Strait's Spanish mackerel fishery.

DPI&F's Fisheries Genetics Program has secured highly competitive research funding over the last 10 years, and the research group is a sought-after collaborative partner.

Forestry

Readers should note that DPI&F has revised its estimates and forecasts of the gross value of the Queensland forest industry in this issue of *Prospects*.

Previously, the reported turnover of log sawmilling and timber dressing activity in Queensland (Australian and New Zealand Standard Industrial Classification 231, as defined and measured by the Australian Bureau of Statistics in their Survey of Manufacturing) was used in *Prospects* as an indicator of the gross value of forest industry activity in Queensland. Although these data provided a good estimate of total forest industry activity, they did not allow a breakdown of the forest growing and first-stage processing sectors of the Queensland forest industry. They also contained some elements of double counting.

Consequently, DPI&F is now using data produced by the Australian Bureau of Agricultural and Resource Economics (ABARE) in its Australian Wood and Forest Products Statistics publication about the value of log production (gross value of logs delivered to the mill door or wharf gate) to generate an estimate of the gross value of the forest growing sector in Queensland. This, together with estimates of the value added (that is, the value added to intermediate inputs) of the log sawmilling and timber dressing sector (or first-stage processing sector) derived from the ABS Survey of Manufacturing, provide a more accurate measure of total Queensland forest industry activity compared with the previous estimates.

Forecast

The total value of Queensland's forest industry is forecast at \$570 million in 2007–08, which is 5% higher than 2005–06.

The forest growing sector gross value is forecast at \$210 million in 2007–08, which accounts for about one-third of total forest industry, with the first-stage processing value forecast at \$360 million.

Discussion

Building activity, in particular dwelling or residential building activity is the main underlying driver of the demand for sawn timber. Dwelling investment in Queensland recorded its fourth consecutive quarter of strong growth in the March quarter 2007, rising by almost 3%. Dwelling investment in Queensland has now risen by 12.2% over the last twelve months. The Queensland dwelling construction industry is clearly currently outperforming the rest of Australia, where dwelling investment rose by 1% in the March quarter and by 5.3% in annual terms.

The Queensland Treasury Office of Economic and Statistical Research (OESR) predicts that the Queensland dwelling sector will remain strong over the next twelve months as increasing wages, a tight labour market and continuing population growth will sustain high levels of new building activity in Queensland. Furthermore, low housing rental vacancy levels and improving yields for dwelling investment are also expected to reinforce growth in the Queensland dwelling sector over 2007–08.

Taking the above factors into account, OESR forecasts that new dwelling investment will grow by 4.25% in Queensland over 2007–08. Furthermore, market analyst BIS Shrapnel predicts a strong 9.6% increase in national building commencements over the same period. OESR also reports that the Queensland economy is forecast to grow by 5% during 2007–08, compared with 3.75% nationally. Queensland's population is also predicted to continue to grow strongly, with an estimated average increase of 78 500 people per year over the next decade. The strengthening dwelling investment on Australia's eastern seaboard, and the fact that the Queensland economy is forecast to continue to outperform the rest of Australia (with the exception of Western Australia), will therefore continue to underpin demand growth for Queensland forest products over the next 12 months.

Forestry Plantations Queensland (FPQ) was created as a statutory body (corporation sole) in May 2006 by the *Forestry Plantations Queensland Act 2006* as part of a number of reforms to the commercial management of Queensland's state-owned forest resources. FPQ is Queensland's principal forest grower, supplying more than 70% of the domestically produced log timber used each year by Queensland's forest industry. FPQ sold 1.98 million cubic metres of log timber during 2006–07 to the processing sector of the Queensland forest industry to produce a broad range of products.

The Department of Natural Resources and Water (NRW) Forest Products Group is a commercially-focused business unit that assumed responsibility for managing commercial native forest resources (native hardwoods and cypress pine, as well as quarry materials) in state-owned native forests, from April 2006, as part of the Queensland Government's forestry reform agenda outlined above. The NRW Forest Products Group is also a significant supplier of log timber to the Queensland forest industry, selling around 300 000 cubic metres of native hardwood and cypress log timber each year.

The supply of log timber from FPQ's plantations is committed under medium- to long-term sales agreements, and consequently resource availability will continue to limit the rate of further growth in the Queensland forest industry. The processing sector is continuing to maximise log recovery as well as ensuring that existing log timber resources are directed to higher-value uses. However, in the longer term, additional investment in plantation resources will be required in Queensland or the rising demand for log timber will have to be increasingly met from imports.

FPQ reports that while timber sales remained buoyant throughout 2006–07, forest product prices were impacted by strong competition from both interstate and international producers, as well as aggressive discounting in the structural timber market. FPQ also expects that plantation timber sales will continue to grow throughout 2007–08, although the administered pricing regimes incorporated in the organisation's long-term sales contracts, as well as competition price pressures in the timber products market, are expected to continue to impact on timber prices over 2007–08.

The privately-owned hardwood plantation segment of the Queensland forest industry has also rapidly expanded over the last seven years. DPI&F estimates that the privately-owned plantation estate in Queensland now exceeds 60 000 hectares, although further research needs to be undertaken in this area to generate more reliable data. Reflecting the national trend, the growth in the hardwood segment is being driven by investment through a number of plantation forestry managed investment schemes (MIS).

The Australian Agribusiness Group (AAG) reports that a total of \$190 million of investment funds was raised for agribusiness projects in Queensland in 2006–07, which is \$60 million more than the previous year. This funding generated a total of 11 900 hectares of new agribusiness projects in Queensland in 2006–07. Nationally, about 60% of the MIS funds raised in 2006–07 were directed towards forestry plantation projects, although it is likely that this percentage is even higher in Queensland. Recent Australian Government taxation policy initiatives designed to support new investment in MIS plantation forestry investment are likely to underpin further expansion of this segment in 2007–08.

DPI&F is working to encourage new investment in private plantation forestry projects in Queensland. Key strategies include promoting Queensland as a potential plantation region for investment and identifying potential trade opportunities, removing regulatory and technical impediments to private plantations, supporting the delivery of technical information and advice through Queensland's three Private Forestry Development Committees, and investing about \$4 million of state-sourced funds to undertake targeted research and development projects to improve the capacity of the forest industry in Queensland.



Biosciences build hardwood plantations



Queensland's subtropical and tropical hardwood plantation timber industry is poised for major expansion. This is due to the increased interest from Managed Investment Scheme (MIS) companies looking to invest in hardwood plantations as a result of the phasing-out of logging from native forests on state lands.

DPI&F's hardwood research has supported the industry to expand significantly in Queensland, with the current planted area 43 000 hectares (5% of the total Australian hardwood plantings). It is anticipated that a further 5000 to 10 000 hectares will be planted in 2007, depending upon the availability of planting material.

Advanced bioscience research being undertaken by DPI&F is looking at genetic variation in pathogen susceptibility, the development of molecular markers for wood quality traits, quantitative genetics to improve breeding selection, physiological-based plant growth modelling and genotype-by-environment interactions.

DPI&F released the first generation of improved *Corymbia* hardwood clones in 2006, with trees showing excellent growth across a wide range of sites, significant frost tolerance, increased pest and disease tolerance and good wood properties. The *Corymbia* clones have shown suitability to produce valuable products at both the thinnings (age 5 to 10 years) and the final crop (age 20 years) stages.

However, extreme shortages of planting material are severely hindering industry expansion. Research is urgently needed to further improve propagation technologies for the new hybrids, to make this material available for planting. The major economic benefit in the future will be derived from increasing the available quantities of improved hybrid planting stock for industry.

If industry has access to increased quantity and quality of planting stock, major short- and long-term economic benefits are predicted for Queensland, specifically in the Burnett and Wide Bay, Gladstone and Miriam Vale, Mackay and Innisfail regions. Increased plantations could create up to 130 new jobs in plantation regions and raise regional and economic output by \$14 million a year.

DPI&F is forging strong partnerships to broaden its capacity and to benefit from a greater knowledge base. Working with the University of the Sunshine Coast, DPI&F is supporting propagation and floral biology sciences and pest and disease research. Working with Southern Cross University, the department has sourced gene expression studies to identify wood quality markers. In 2006, DPI&F established the Subtropical Forest Health Alliance, bringing together industry, universities and research and development agencies into a coordinated platform.

Special feature—the economic effects of the equine influenza outbreak on Queensland’s economy

The Australian horse industry is an expansive and complex industry, with an extensive range of inputs and outputs. The diverse nature of the industry has made estimating its contribution to the Australian economy problematic, and hence the industry is not included in *Prospects* estimates.

A study for the Rural Industries Research and Development Corporation (RIRDC) by the Centre of International Economics (CIE) conducted in 2001 estimated that the contribution (in GDP terms) of the horse industry to the Australian economy is around \$6.3 billion per year, with this increasing to \$8 billion if the value of volunteer labour is included. Anecdotal information indicates that the Queensland industry accounts for around 20% of the national industry, thereby suggesting a direct economic contribution of the horse industry to the Queensland economy of around \$1.3 billion and \$1.6 billion if volunteer labour is included.

Table 5 summarises the major industry segments and their economic contribution.

Table 5. Major industry segments and economic contribution

	Australia (\$b)	Queensland (\$b)	Queensland (\$m per week)
Breeding industry	0.9	0.2	3.4
Thoroughbred racing	0.8	0.2	2.9
Harness racing	0.2	0.0	0.9
Wagering	1.9	0.4	7.1
Horse maintenance costs	1.9	0.4	7.3
Events	0.4	0.1	1.4
Businesses	0.3	0.1	1.1
Education and R&D	0.0	0.0	0.1
Total	6.3	1.3	24.3

Source: CIE

The outbreak of equine influenza⁴ (EI) in Queensland, which caused the industry to come to a complete standstill, is estimated to have had a significant economic impact on the Queensland economy. The weekly direct impact is estimated at \$8.6 million—the sum of the forgone weekly contribution of the breeding industry (\$3.4 million), thoroughbred racing (\$2.9 million), harness racing (\$0.9 million) and events (\$1.4 million). The contribution of horse racing to the Australian economy estimated by the RIRDC report is well above the figure of around \$263 million suggested by Australian Bureau of Statistics figures for 2004–05. It is assumed that the wagering industry is not impacted due to substitution to trans-Tasman races, greyhounds, other forms of gambling and unaffected Australian race centres (although it is likely that these are not perfect substitutes). Horses still need to be fed and looked after, and therefore ‘horse maintenance costs’ are unlikely to be negatively affected (if anything, this segment could potentially be positively impacted). The remaining two industry segments (businesses, and education and R&D) are assumed to not be impacted by this outbreak.

It should be noted that this analysis does not take into account a range of factors including seasonality (particularly important for breeding where economic losses are likely to be greatest at the start of the breeding season), and assumes that the weekly *value* of those industry segments that are impacted are entirely impacted (it could be only a proportion is impacted). Nor does this analysis take into account externalities imposed on other agricultural activities (including cattle) as a result of the ban on horse movements. There are reports that cattle may be losing condition if they cannot be moved to better feed in some parts of Queensland.

In terms of direct employment impacts, casual employees are particularly hard hit. According to ABS statistics (Sports and Physical Recreation Services 8686.0 2004–05), casual employment makes up around two thirds of the 16 544 persons employed in the national industry in the horse and dog racing industry alone (this does not include other major horse industry sectors, i.e. breeding, horse maintenance, etc).

4 Equine influenza is a highly contagious viral disease of all horse species (including ponies, donkeys and mules). Most susceptible animals will show signs of the disease but will recover completely within a few weeks. Humans are not affected by this disease.

Notes

- Estimates of the gross values of Queensland agricultural production are calculated and published at the state level by the Australian Bureau of Statistics (ABS). Presently, ABS publishes estimates for most agricultural commodities twice a year. A preliminary estimate for a particular financial year is published approximately four months after the end of that year. The second (final estimate) is published approximately 12 months after the preliminary estimate.
- Estimates of the gross value of Queensland's fishery production are available from the Queensland Fishery Service, DPI&F.
- Estimates of the gross value of Queensland's forestry production are available from Forest Products Queensland.
- All estimates provided in this publication are in nominal dollar values unless otherwise stated.

Glossary

- *Crops*. Field and horticulture crops.
- *Fisheries*. Trawl and non-trawl fishing and aquaculture.
- *Forestry*. Log sawmilling and timber dressing
- *Gross value of commodities produced (GVP)*. GVP is a measure of economic output. In this publication, GVP relates to the output of primary industry commercial operations only. The GVP is the value of recorded production at wholesale prices realised in the market place (e.g. cattle sold at saleyards, sugarcane at the mill door, fruit and vegetables at the wholesale market), and is derived by multiplying the output from each primary industry by the average wholesale price paid to producers.
- *Value added production*. Value added is simply measured as the value of the output produced minus the costs of the intermediate inputs.
- *Livestock disposals*. Cattle, sheep, pigs, poultry and other live animals sold for slaughter, plus live exports minus live imports.
- *Livestock products*. Eggs, milk and wool.
- *Market place*. Generally, the metropolitan market in each state and territory. Where commodities are consumed locally, or where they become raw material for a secondary industry, these points are presumed to be the market places. Commodities exported overseas are generally valued at free-on-board prices.

