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**Northern Australia statistical
compendium 2011 update**

Bureau of Infrastructure, Transport and Regional Economics

Northern Australia statistical compendium 2011 update

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Foreword

This publication builds on the *Northern Australia Statistical Compendium 2009*, which was a significant Australian Government publication that presented a tabulation of statistical data for regions north of the Tropic of Capricorn. The original publication provided information covering diverse subjects such as population, economic and social conditions, education, transport, infrastructure, climate and natural resources.

Whilst, the vast majority of the tables and charts in the 2009 publication still remain the latest information, this update builds on the original publication by providing new information, where it has become available. Hence, the publications should be viewed together as only sections of chapters have been updated.

The chapters that have had sections updated are:

- Chapter 1
- Chapter 2
- Chapter 3
- Chapter 4
- Chapter 5
- Chapter 6
- Chapter 8
- Chapter 9

This update project was led by Geoff Frost with Dr Karen Wade, Dr Jan Anderson-Muir and Susannah Brown also making important contributions to the report. Dr Gary Dolman provided executive supervision.

Gary Dolman
Head of Bureau
Bureau of Infrastructure, Transport and Regional Economics
July 2011

List of updates

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About this update

The *Northern Australia Statistical Compendium 2009* was a landmark Australian Government publication providing a tabulation of statistical data for the regions north of the Tropic of Capricorn. The publication provided information across a wide range of subjects such as population, economic, social, education, transport, infrastructure, climate and natural resources.

This update builds on the original publication by providing new information, where it has become available. The objective is to update the information available in the original *Compendium*. No new data sets have been added.

The vast majority of the tables and charts in the 2009 publication still remain the latest information available. These data have not been reproduced here and therefore to obtain the full range of up-to-date data, users should use both publications. To facilitate this, the structure of this supplement is based on extracts from the 2009 *Compendium* with the inclusion of the updated text and figures where applicable.

Referencing

The supplement provides updates over a number of chapters from the 2009 *Compendium*. Within the supplement the updates are based on the numbering presented in the 2009 *Compendium*, along with relevant page numbers.

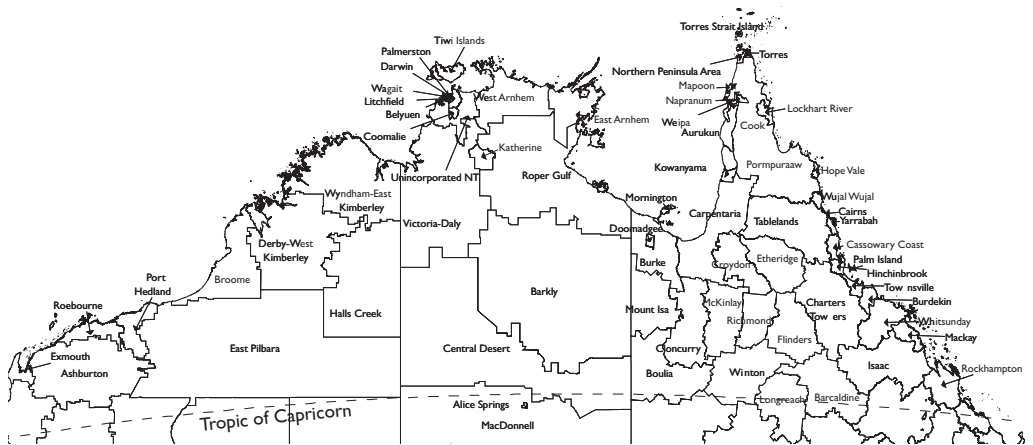
CHAPTER I

Introduction to Northern Australia

Local Government Areas (pages 4–5)

The current (2010) geography of LGAs within Northern Australia is shown in Map 1.2. LGAs represent the area of responsibility of a Local Government Council or an Aboriginal Council. Local government bodies perform a wide range of functions in the areas they administer; operating within the relevant state or territory legislation. The number of LGAs, as well as their boundaries and names, vary over time. LGAs may contain a number of Statistical Local Areas (SLAs).

MI.2 Northern Australia—Local Government Areas, 2010



Source: ABS (2010a)

Native title (pages 7–9)

On 3 June 1992, the High Court of Australia recognised that the Meriam people of the Torres Strait held native title over part of their traditional lands. This decision, commonly called Mabo, paved the way for Aboriginal and Torres Strait Islander people seeking to have their native title recognised under Australian law.

Native title is a set, or bundle, of rights and interests in relation to land or waters that has the following qualities: it is possessed under the traditional laws currently acknowledged, and the traditional customs currently observed, by the relevant Indigenous people. Those Indigenous people have a 'connection' with the area in question by traditional laws and customs. These interests are recognised and incorporated in the common law of Australia when determined and registered under the native title.

Native title:¹

- is recognised through a determination made by the Federal Court, High Court or by some state and territory courts
- cannot be recognised: if native title has been extinguished over a particular area because of things the government has done, or allowed others to do, that are inconsistent with native title; if the claimants fail to prove that they have maintained their traditional laws and customs; or if the common law of Australia does not have the capacity to recognise the rights claimed
- may vary from group-to-group because it gets its content from the traditional laws and customs of the particular group
- may exist alongside non-native title rights. This is sometimes called 'coexistence'. However, native title rights and interests are always subject to the rights of other people who share the same area. People with leases, licences or a right of public access continue to have those rights. Native title rights and interests must give way to people exercising those other rights.

As at September 2010, 144 determinations of native title were registered Australia-wide, with 105 determinations that native title exists and 39 that native title does not exist (see Table 1.1). This is an increase of 20 per cent over the 2009 figures. Queensland, the Northern Territory and Western Australia account for 91.2 per cent of Australia's positively determined native title cases. The majority of Australia's positive determinations of native title occur in Northern Australia. Queensland accounts for 50 per cent of total Australian positive determinants, while Western Australia accounts for 83 per cent of total Australian positive native title determinants by area.

1.1 Western Australia, Northern Territory and Queensland—native title cases

Category/state	Western Australia	Northern Territory	Queensland	Australia Total
Native title found to exist (sqkm)	835 509	24 737	53 749	1 003 169
Per cent of Total	83.3	2.5	5.4	100
Nat. Title exists in part of determination area	15	8	10	44
Nat. Title exists in entire determination area	11	6	42	61
Total number of cases determined positively	26	14	52	105
Determinations that Nat. Title does not exist	1	1	2	39
Total number of cases submitted	27	15	54	144

Source: National Native Title Tribunal (2010a).

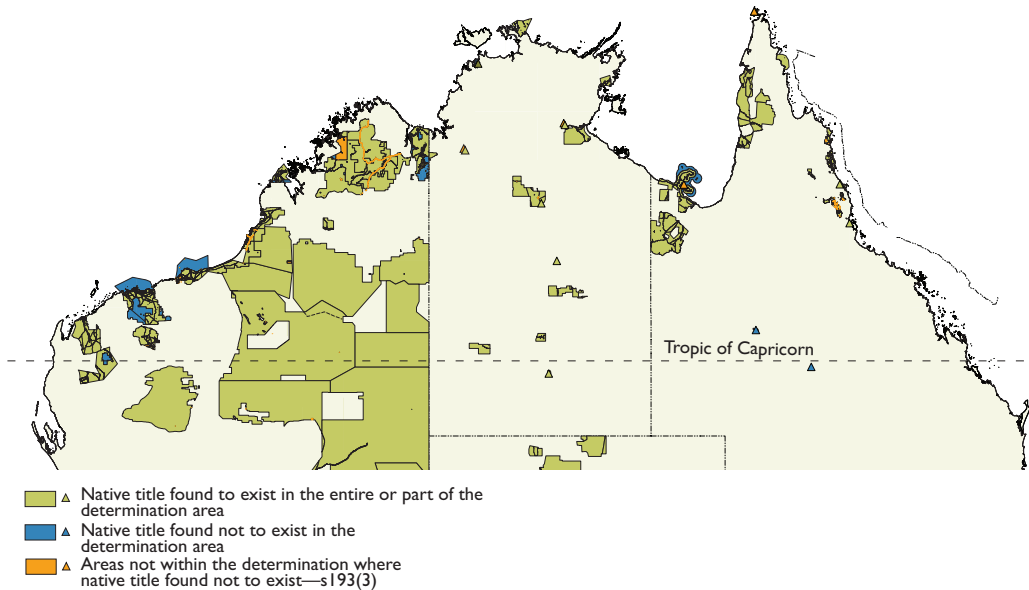
¹ Justice Brennan in *Mabo* described the nature of native title as a very complex legal concept: 'Native title has its origin in and is given its content by the traditional laws acknowledged by and the traditional customs observed by the indigenous inhabitants of a territory. The nature and incidents of native title must be ascertained as a matter of fact by reference to those laws and customs. The ascertainment may present a problem of considerable difficulty ...' (after Altman, J C, Buchanan G J and Larsen, L 2007).

The tabulated numbers and Map 1.5 do not illustrate where and how much of Australia covered by native title determinations is actually held by Indigenous Australians in a manner that could be considered equivalent to landholdings. The strongest form of native title is found in determinations that recognise claimants' right to possess, occupy, use and enjoy land to the exclusion of all others—that is, exclusive possession or possessory native title. These areas of exclusive possession native title are the closest equivalent to statutory freehold titles to land held by Indigenous Australians.

At present, the agencies entrusted with the native title determination and registration do not provide summary data on the number, area or location of exclusive possession native title determinations. However, some authors point out that determinations in Western Australia provide the best indication of the contribution of exclusive possession native title areas to the Indigenous estate (Altman et al 2007 p.14).

Since Mabo, there has been much debate about the nature of native title as it might relate to ownership of land. It has been argued widely in the literature that the High Court's decision in *Western Australia v Ward* (Ward) in 2002 confirmed the view of native title as a bundle of rights rather than an underlying title to land. Such a bundle could include rights to possess, occupy, use and/or enjoy an area as per the native title holders' traditional laws and customs—for example, a bundle may include rights to live or to camp on land, to mine ochre, to hunt, fish and gather food, or to conduct ceremonies or to visit important sites. A bundle of rights may be so extensive as to amount to a right of exclusive possession, which includes the right to control access to, and use of, an area. From this perspective native title determinations (even individual native title determinations) may include rights and interests in land that span the entire spectrum mentioned above, from a strong right of exclusive possession through to weaker partial native title rights of, for example, visitation or hunting (Altman et al 2007 p.15–17).

MI.5 Northern Australia determinations of native title, 2010



Note: Some or parts of some determinations may not yet be in effect or on the National Native Title Register. Some determinations are subject to appeal or in the appeal process. Small areas are symbolised. Conditional determination.

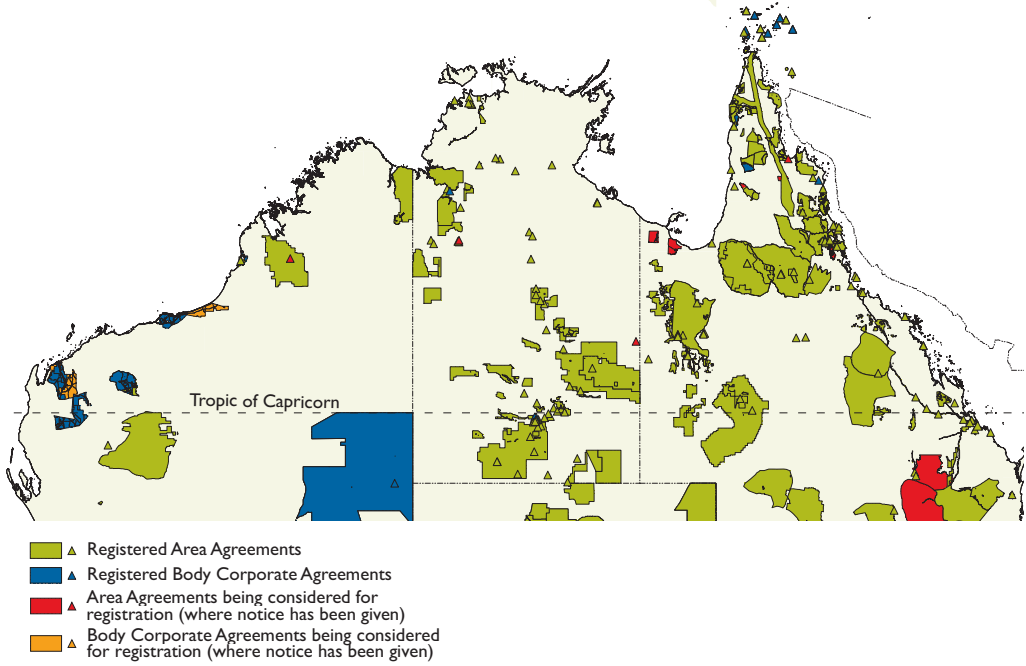
Source: National Native Title Tribunal (2010b).

Amendments to the Native Title Act in 1998 introduced Indigenous land use agreements (ILUA). This is an agreement between a native title group and others about the use and management of land and waters. When registered with the Tribunal, ILUAs bind all parties and all native title holders to the terms of the agreement. The advantage of an indigenous land use agreement is its flexibility. It can be tailored to suit the needs of those involved and their particular land use issues. It is also a faster way of resolving native title issues: on average, it takes about two years longer to pursue a native title claim through the courts than to negotiate a settlement.

ILUAs cover a wide variety of subjects and may be used as part of the negotiations leading to a consent determination of native title. Alternatively, they may be entirely separate from the determination process. As of September 2010, the National Native Title Tribunal had registered 434 ILUAs nationally, an increase of 17.6 per cent from May 2009. This included 226 in Queensland, 98 in the Northern Territory and 21 in Western Australia; increases of 13.0 per cent, 6.5 per cent and 75.0 per cent respectively on the 2009 figures (Map 1.6). These three states accounted for 79.2 per cent of total Australian Indigenous land use agreements in 2010.

Native title claimants and those recognised as native title holders have the right to negotiate about some future acts, such as the grant of a mining lease or proposed developments. Claimants only gain this right if their native title claim satisfies all of the registration test conditions.

M1.6 Northern Australia Indigenous land use agreements, 2010



Note: Areas shown represent the geographic extent of the agreement. Small areas symbolised. Only those agreements which have either been registered or notified since 31 December 2008 have a label on this map.

Source: National Native Title Tribunal (2010b).

CHAPTER 2

Population

2.1 Population and population growth rates (pages 15–16)

Table 2.1.1 shows that the population of Northern Australia in 2009 was in excess of a million people and represented 4.8 per cent of the total population of Australia. This represents an average annual population growth rate of 2.1 per cent between 2001 and 2009, which is substantially higher than the 1.6 per cent average annual growth rate for the nation.

The majority lived in northern Queensland, representing 16.7 per cent of the total population in that state. The second largest population in Northern Australia is that of the Northern Territory, which represents 1 per cent of the total population of Australia and nearly all of the population of the Northern Territory. In 2009, Western Australia's Pilbara and Kimberley regions combined population was only 0.4 per cent of the total population of Australia and 3.8 per cent of the population of that state.

Northern Australia is not intensively urbanised with only about half of the population living in cities and towns. There are only four cities with population of more than 50 000 people. These are Townsville with 168 402 inhabitants, Cairns (147 118), Darwin (124 760) and Mackay (83 680) in 2009 (ABS 2010b).

There is no update of population projections at the Statistical Local Area (SLA) level.

T2.1.1 Northern Australia—usual resident population numbers and growth rates, 2001–2009

Region	2001 population		2009 population			
	Actual	Percentage of total Australian usually resident population, 2001	Actual	Percentage of total Australian usually resident population, 2009	Population increase/decrease 2001–09	Average annual growth 2001–09 (per cent)
Northern Australia (WA)	74 392	0.38	84 961	0.39	10 569	1.67
Pilbara Region	41 767	0.22	49 952	0.23	8 185	2.26
Kimberley Region	32 625	0.17	35 009	0.16	2 384	0.89
Western Australia state total	1 901 156	9.79	2 245 054	10.23	343 898	2.10
Northern Australia (NT)	193 453	1.00	221 344	1.01	27 891	1.70
Darwin-East Arnhem Region	135 052	0.70	158 407	0.72	23 355	2.01
Katherine-Lower Top End Region	17 728	0.09	19 272	0.09	1 544	1.05
Barkly-Central NT Region	40 673	0.21	43 665	0.20	2 992	0.89
Northern Territory total	197 768	1.02	225 938	1.03	28 170	1.68
Northern Australia (QLD)	616 058	3.17	739 040	3.37	122 982	2.30
Mackay Region	160 465	0.83	201 720	0.92	41 255	2.90
Northern Region	190 266	0.98	227 340	1.04	37 074	2.25
Far North Region	224 163	1.15	269 650	1.23	45 487	2.34
North West Region	37 207	0.19	36 598	0.17	–609	–0.21
Longreach Region	3 957	0.02	3 732	0.02	–225	–0.73
Queensland state total	3 628 946	18.69	4 425 103	20.16	796 157	2.51
Northern Australia subtotal	883 903	4.55	1 045 345	4.76	161 442	2.12
Australia total	19 413 238		21 955 253		2 542 015	1.55

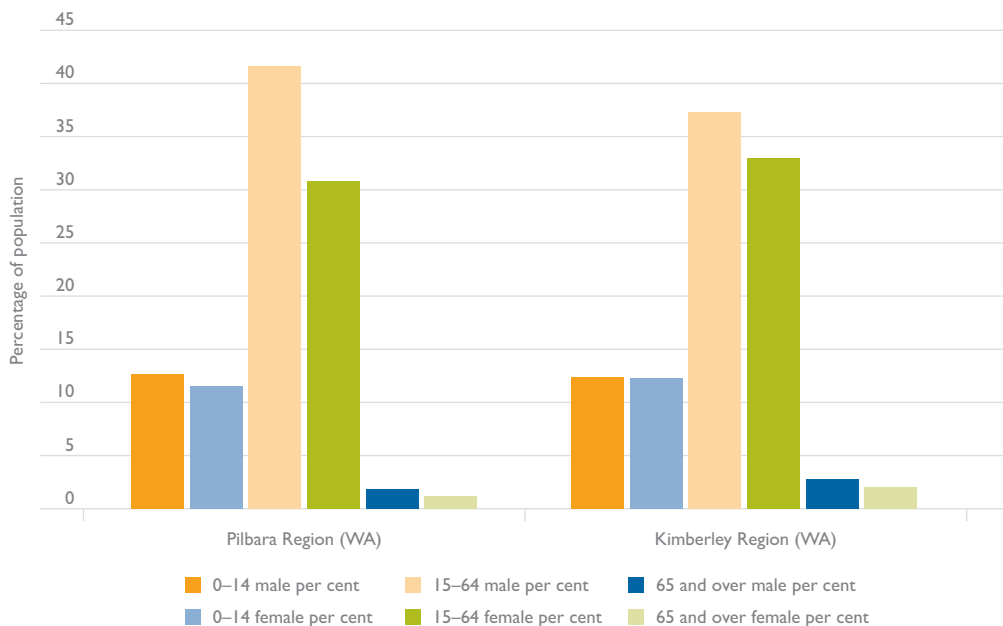
Source: ABS (2010b).

2.4 Population by age and sex (pages 24–30)

In the majority of the northern regions, the working-age male population outnumbers females in the same age group. In this respect the latest data mirrors the results of 2006. The highest proportion of working-age males was in the Pilbara and Kimberley regions of Western Australia, the Darwin-East Arnhem Region of the Northern Territory and North West and Mackay regions of Queensland.

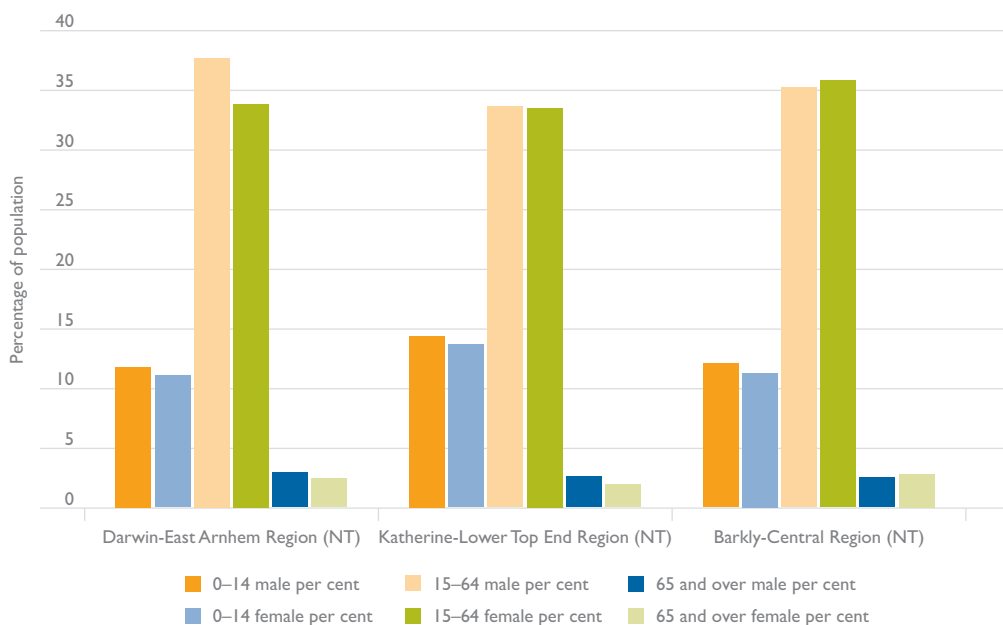
Conversely, the proportion of people aged over 65 years among both sexes was smallest in the northern regions of Western Australia (2.2 per cent male and 1.5 per cent female) and Northern Territory (2.8 per cent male and 2.5 per cent female), when compared to the totals for Australia (6.1 per cent male and 7.2 per cent female). In the northern regions of Queensland, the proportion of people aged over 65 years (at 5.1 per cent of males and 5.3 per cent of females) was also lower than Australia as a whole, although the proportions were not as low as in other areas in Northern Australia. Many of Queensland's northern regions are a destination for retired people.

F2.4.1 Northern Australia—population distribution by age group and sex, by region, 2009 (Western Australia)



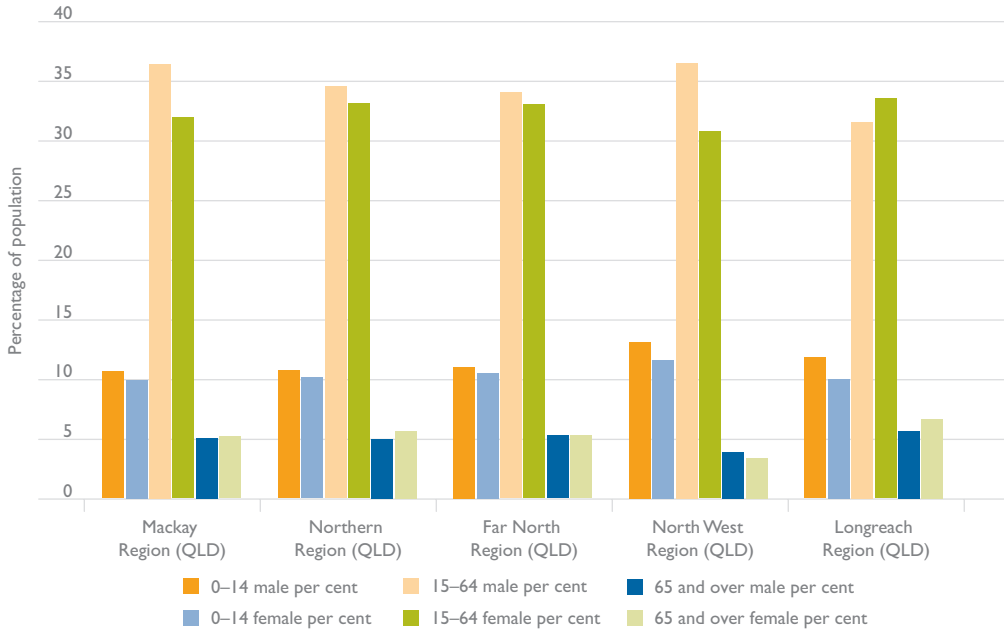
Note: This graph shows population profiles by selected age bracket by northern Australian region in Western Australia.
Source: ABS (2010c).

F2.4.2 Northern Australia—population distribution by age group and sex, by region, 2009 (Northern Territory)



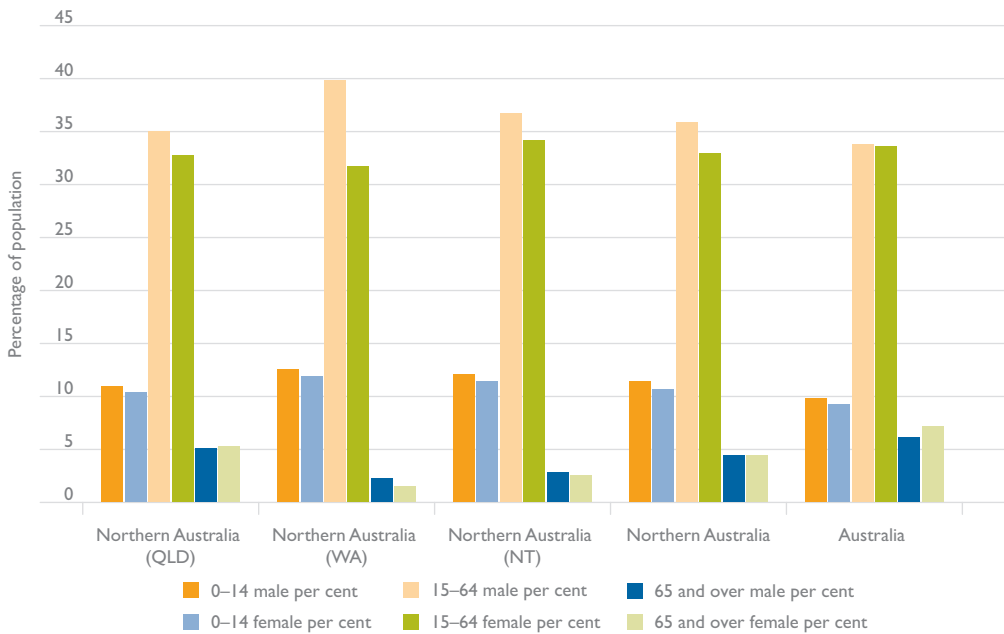
Note: This graph shows population profiles by selected age bracket by northern Australian region in the Northern Territory.
Source: ABS (2010c).

F2.4.3 Northern Australia—population distribution by age group and sex, by region, 2009 (Queensland)



Note: This graph shows population profiles by selected age bracket by northern Australian region in Queensland.
 Source: ABS (2010c).

F2.4.4 Northern Australia—population distribution by age group and sex, by region, 2009



Note: This graph shows population profiles by selected age bracket and gender for Northern Australia in comparison to Australia.
 Source: ABS (2010c).

The dominance of working-age adults in the population of certain Northern Australian regions partly reflects the out migration of people when they reach retirement age. Another contributor is the relatively low life expectancy among Indigenous males and females generally. As Table 2.4.1 illustrates, Indigenous life expectancy is lower for males and females compared to the national estimates over the period 2005–07. In contrast however, when compared to the life expectancy estimates presented for 1996–2001, both the indigenous and non-indigenous life expectancies have risen with indigenous estimates increasing markedly for all Northern Australian states, especially Queensland (Indigenous life expectancy estimates for Queensland males and females rose by 9.3 and 10.6 years comparing 1996–2001 and 2005–07 time periods).

T2.4.1 Life expectancy estimates—Indigenous population, selected states, 2005–07

Region	Life Expectancy Estimates (years)
Queensland	
Male	68.3
Female	73.6
Western Australia	
Male	65.0
Female	70.4
Northern Territory	
Male	61.5
Female	69.2
Australia (Indigenous persons)	
Male	67.2
Female	72.9
Australia (Total persons)	
Male	79.0
Female	83.7

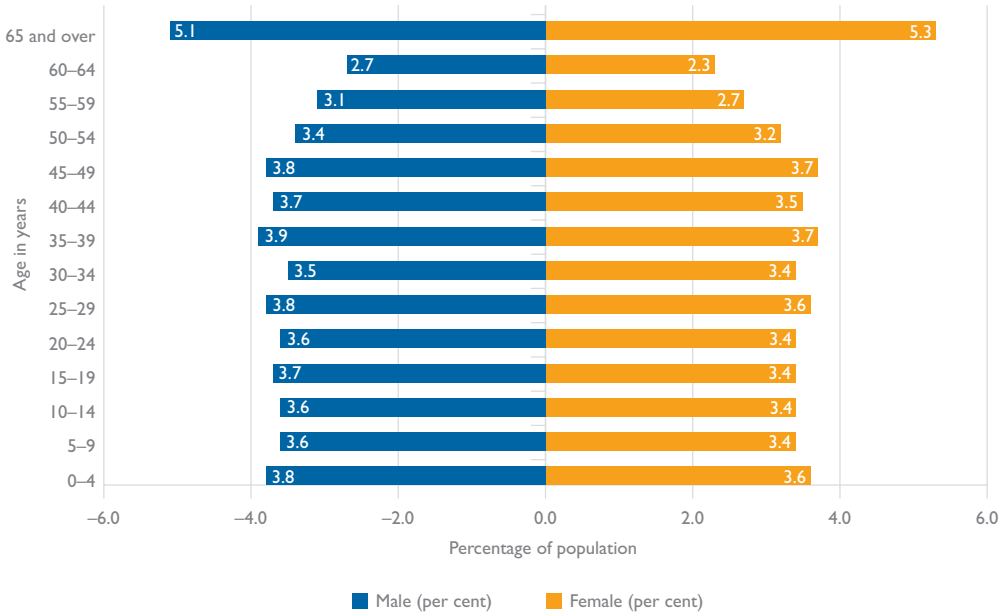
Note: Indigenous data is from the period 2005–07. Life expectancy refers to the average number of years a person of a given age and sex can expect to live if current age-sex specific death rates continue to apply throughout his or her lifetime. To measure life expectancy and mortality, data is required on the births and deaths of the total population. The accuracy of the estimates depends on the completeness of this data. Due to uncertainty about the estimates of these components for Aboriginal and Torres Strait Islander peoples, indirect experimental methods are used to calculate life expectancies for the Indigenous population. These experimental life expectancies should only be used as an indicative summary measure of the level of mortality of the Indigenous population. Caution should be exercised when undertaking analysis of Indigenous mortality and, in particular, trends in Indigenous mortality. Some of the issues affecting the reporting of Indigenous mortality include coverage of Indigenous deaths, unexplained changes in the number of people identified as Indigenous in different data collections and over time, the use of a standard Indigenous status question, and not stated Indigenous status.

Source: ABS (2008; 2009a).

Across Northern Australia, higher percentages of males and females within the working age of 15–65 were observed. This is reflected in the population pyramids in Figures 2.4.5, 2.4.6, 2.4.7 and 2.4.8 that indicate that compared to Australia's population (Figure 2.4.8) the age structure of Northern Australia is skewed towards youth. For example, in northern Western Australia, 8.9 per cent of the population were aged between 0–9 years (compared with 6.5 per cent of Australia's population). The Northern Region with the highest proportion of persons aged between 0–9 is the Katherine-Lower Top End Region in the Northern Territory at 10.1 per cent.

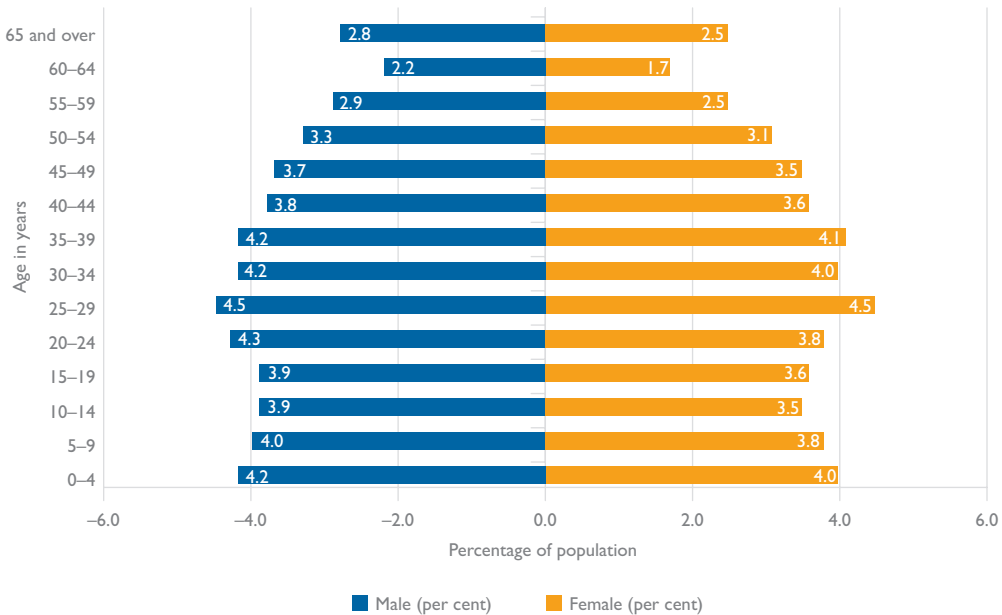
At the other end of the scale, very low percentages of females aged over 70 were seen in northern Western Australia (0.9 per cent) and the Northern Territory (1.4 per cent), compared to Australia (5.2 per cent). When comparing the age profile between 2006 and 2009 the general trend for all northern regions and Australia is the increase in the proportion of persons aged over 65 along with an overall consistent pyramid pattern for all regions.

F2.4.5 Northern Australia (Queensland)—population, by age and sex, 2009 (per cent)



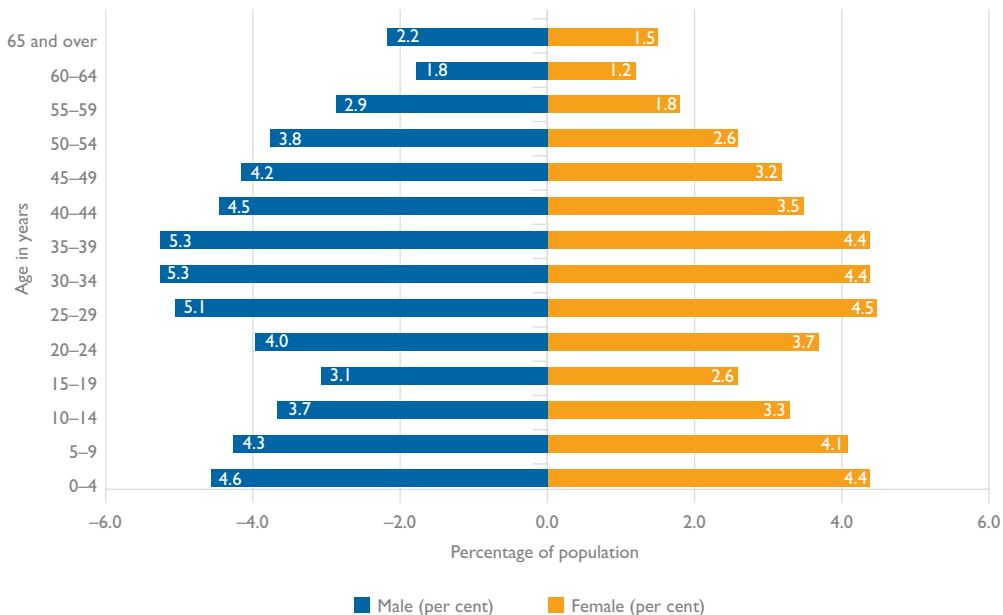
Source: ABS (2010c).

F2.4.6 Northern Australia (Northern Territory)—population, by age and sex, 2009 (per cent)



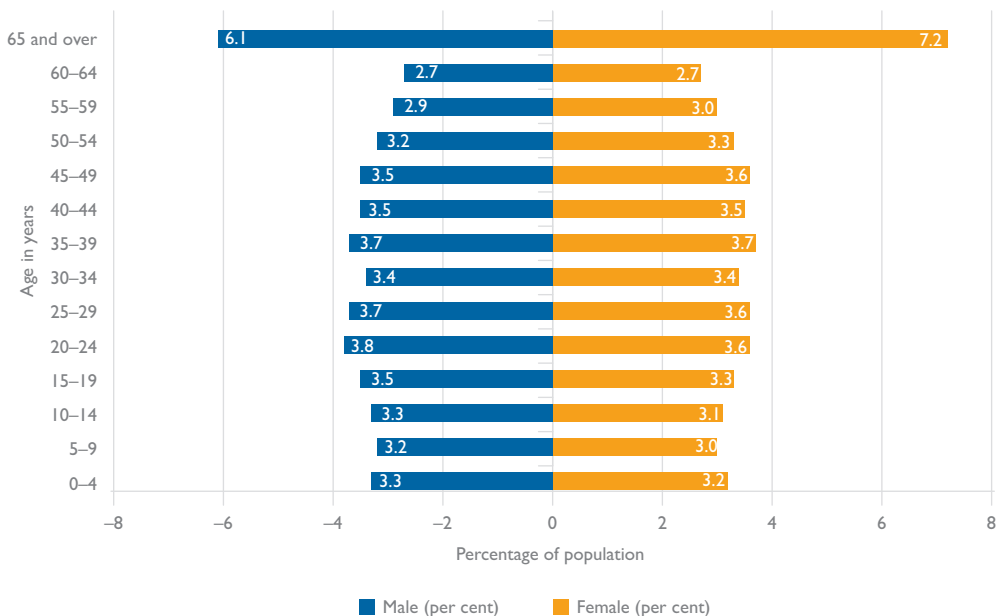
Source: ABS (2010c).

F2.4.7 Northern Australia (Western Australia)—population, by age and sex, 2009 (per cent)



Source: ABS (2010c).

F2.4.8 Australia—population, by age and sex, 2009 (per cent)



Note: These population pyramids compare population profiles, by age and gender, for northern Western Australia, northern Northern Territory, northern Queensland, and Australia, in 2009.

Source: ABS (2010c).

Figures 2.4.9 and 2.4.10 cannot be updated because indigenous age by sex profiles will not be available until the 2011 census.

CHAPTER 3

Economic activity

3.5 Taxpayers income: salaries, businesses, investment, superannuation and other income (pages 61–64)

The data in this section is taken from the Australian Bureau of Statistics' (ABS) Estimates of Personal Income for Small Areas, 2003–04 to 2006–07, which is an update from the 2001–02 to 2005–06 estimates presented previously. Unlike the previous sections on median and weekly incomes, which discussed the income of all adults as captured in the 2006 Census, this data has been collected from people required to submit tax returns to the Australian Tax Office (ATO) only.² It provides a more detailed picture of the types of income which taxpayers relied upon from region-to-region, showing whether incomes were from salaries, business returns, investments, superannuation, or other sources.

As can be seen in Table 3.5.1, in 2006–07, similar to the 2005–06 results, the majority of Northern Australian regions (except Far North Queensland and Longreach) had a significantly higher taxpayer dependence on wage and salary income amongst taxpayers than Australia as a whole (78.4 per cent of total taxable income). Northern Australia taxpayers also had a higher dependence on salaries and wages than those across Queensland (79.1 per cent) and Western Australia (77.3 per cent).

The Pilbara and North West Queensland regions, both with relatively high proportions of people employed in the mining industry, derive more than 89 per cent of taxpayer income from wages and salaries. Outside Darwin-East Arnhem in the north of the Northern Territory, more than 90 per cent of taxpayer income is also derived from wages and salaries. In these regions, in numerous small and remote communities and in the regional centre of Alice Springs, employment is concentrated in occupations supplying basic services to the local population in the retail, government and administration, and health and community sectors.

The northern regions of Queensland, other than the North West Region, have the highest levels of reliance upon business income as a proportion of total taxpayer income in Northern Australia. These levels are well above those for the state of Queensland and Australia as a whole.

² Like BITRE's *Regional Economic Growth Database*, this data does not cover some low income earners, including many pension recipients who are not required to submit tax returns. Information presented should be treated with particular caution in relation to Far North Queensland, Darwin-East Arnhem, Katherine-Lower Top End, and Barkly-Central NT. However, unlike the 2009 *Compendium* a number of the SLAs have data available for the Indigenous communities.

T3.5.1 Northern Australia—taxpayer income earned (percentage of region total) by income type by region, 2006–07

Region	Total wage and salary income (% of region total income)	Total own unincorporated business income (% of region total income)	Total investment income (% of region total income)	Total superannuation & annuity income (% of region total income)	Total other income (% of region total income)
Northern Australia (WA)	92.0	4.8	2.5	0.2	0.4
Pilbara Region	95.1	3.3	1.1	0.1	0.4
Kimberley Region	84.0	8.9	6.1	0.5	0.5
Western Australia state total	77.3	8.7	10.6	2.3	1.1
Northern Australia (NT)	88.9	5.2	3.6	2.0	0.4
Darwin-East Arnhem Region	88.3	5.6	3.5	2.1	0.4
Katherine-Lower Top End Region	90.2	3.3	5.2	1.1	0.2
Barkly-Central NT Region	91.5	3.3	3.3	1.6	0.3
Northern Territory total	88.9	5.1	3.6	2.0	0.4
Northern Australia (QLD)	81.3	8.6	7.7	1.9	0.6
Mackay Region	81.7	7.8	8.4	1.6	0.4
Northern Region	82.3	8.3	6.8	2.2	0.5
Far North Region	78.7	10.0	8.5	2.0	0.7
North West Region	89.7	5.7	3.0	0.6	1.0
Longreach Region	78.4	11.9	8.0	1.1	0.6
Queensland state total	79.1	7.2	9.9	2.9	0.9
Northern Australia subtotal	83.8	7.6	6.4	1.7	0.5
Australia total	78.4	6.6	10.7	3.3	1.0

Note: This table shows different income types as a percentage of the total taxpayer income (excluding government pensions and allowances) earned in each region.

Source: ABS (2009b).

T3.5.2 Northern Australia—average incomes (salaries, unincorporated businesses, investment, superannuation, other income) by income type, by taxable income earning group, by region, 2006–07

Region	Average wage & salary income (\$)	Average unincorporated business income (\$)	Average investment income (\$)	Average superannuation & annuity income	Average other income (excluding government pensions & allowances)
Northern Australia (WA)	54 378	21 160	2 851	19 028	3 718
Pilbara Region	61 180	19 091	1 308	17 458	3 508
Kimberley Region	40 868	23 633	6 499	20 515	4 314
Western Australia state total	43 226	23 436	8 763	23 898	5 195
Northern Australia (NT)	43 233	17 719	3 548	25 026	2 776
Darwin-East Arnhem Region	44 850	19 435	3 473	25 481	2 939
Katherine-Lower Top End Region	37 015	10 152	5 257	20 058	2 023
Barkly-Central NT Region	38 640	11 723	3 349	23 541	2 159
Northern Territory total	43 027	17 641	3 556	24 992	2 761
Northern Australia (QLD)	40 631	19 928	6 317	22 281	2 552
Mackay Region	45 351	19 767	7 189	22 852	1 996
Northern Region	40 735	22 832	5 618	20 800	2 079
Far North Region	35 941	18 700	6 599	23 764	3 026
North West Region	47 157	15 815	3 240	20 119	7 270
Longreach Region	35 523	14 380	4 781	20 465	1 878
Queensland state total	39 735	17 692	7 569	24 395	3 466
Northern Australia subtotal	42 218	19 668	5 601	22 786	2 641
Australia total	42 081	17 974	8 139	25 516	4 362

Note: This table shows average incomes (amongst taxpaying earners of each income type only) by income type, by region.

Source: ABS (2009b).

All regions of Northern Australia have relatively low levels of dependence on superannuation and annuities compared with Australia as a whole, particularly in Western Australia, where fewer older people live. Within Northern Australia the highest levels of reliance on superannuation and annuities are evident in Darwin-East Arnhem and Queensland, consistent with higher proportions of retirees living in larger population centres there.

Dependence on investment income was particularly low in the north of Western Australia, compared with the state of Western Australia and the nation as a whole. It was also significantly lower in the Northern Territory than across the whole of Australia. In the northern Queensland regions, investment income features more strongly; however, as a proportion of total taxpayer income, investment returns still typically play a smaller part than in Queensland and the rest of Australia.

In summary, the northern parts of Queensland, Northern Territory and Western Australia each had higher average salary incomes than the wider populations of their respective states, which is consistent with the findings from the analysis of the 2005–06 income estimates. The difference is most marked in Western Australia where the Northern Australia average wage and salary income component of the state is higher by \$11 152 than the state as a whole (see Table 3.5.2). Interestingly, these intra state differences are not reproduced at the national level

where overall Northern Australia incomes were very similar to those of Australia as whole. This apparent disparity reflected the higher incomes of New South Wales and Victoria.

There was a great deal of variation between regions within Northern Australia. The highest average salaries were earned in the Pilbara and North West regions, and were well above state and national averages. The lowest salary incomes were earned in Longreach and Far North regions in Queensland, and the Katherine-Lower Top End Region of the Northern Territory, and were significantly below state and national averages. The highest average business income (significantly above the Australian average) was recorded in the Kimberley Region and the lowest in Katherine-Lower Top End Region (significantly below). The change in the lowest business income between 2005–06 and 2006–07 from Longreach to the Katherine-Lower Top End Region highlights Longreach's relatively small population and a strong dependence on agriculture, which contributes to incomes fluctuating from year-to-year.

CHAPTER 4

Workforce

4.4 Labour force size over time (pages 79–83)

Data in this section has been taken from the Department of Education, Employment and Workplace Relations' (DEEWR) *Small Area Labour Markets* (SALM) estimates, and provides an illustration of growth in the size of the labour force between March 2008 and September 2010.³ During this period, Northern Australia as a whole, had a similar labour force growth pattern (but with significantly more fluctuations) to the whole of Australia. Overall growth in the labour force in Northern Australia (12.2 per cent) outstripped Australia (5.5 per cent) (see Table 4.4.1 and Figures 4.4.1 and 4.4.2). This was despite Northern Australia experiencing two quarters of decline in the March quarters of 2009 and 2010.

At the state level, Figures 4.4.3 to 4.4.5 show that the northern regions of Western Australia, Queensland and the Northern Territory also saw overall growth in employment numbers between March 2008 and September 2010. However, trend changes and short-term fluctuations are evident. The northern regions of Western Australia and the Northern Territory experienced declines in employment numbers in September 2008 which may reflect the Global Financial Crisis. Particularly hard hit was the Pilbara Region which has a strong mining presence and which experienced a workforce decline throughout 2008 before recovering strongly. Queensland's northern regions experienced declines in employment numbers in the beginning of 2009 which ended a period of strong growth and was followed by more subdued growth.

³ DEEWR undertook an update of the geography of SALM estimates by moving from the 2001 Australian Standard Geographic Classification (ASGC) to the 2006 ASGC. A consequence of this change was the break in the time series which results in the series being back-cast to March 2008. Hence, the data presented in this release is based on the quarterly data where previously the data was presented on yearly bases between 1998 and 2007. Caution should be used when comparing the estimates in this publication with the 2009 *Compendium*. To calculate labour force size (and unemployment rates), DEEWR uses concepts based on the ABS monthly Labour Force Survey, which samples only part of the population (DEEWR 2008 p.54). DEEWR qualifies its own calculations of unemployment rates and labour force sizes by pointing out that its original larger region calculations are based on survey estimates initially, and then allocated down to a smaller area scale.

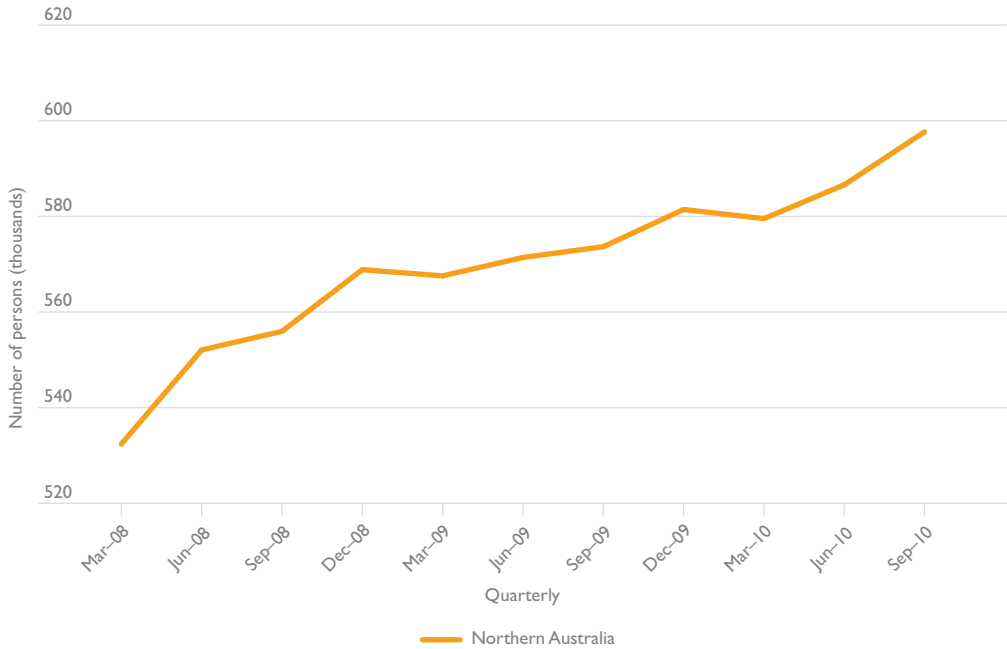
T4.4.1 Northern Australia—labour force (number) over time by region

Region	Mar-08	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-10	Sep-10
Northern Australia (WA)	44 374	42 380	40 605	40 451	41 473	42 203	43 400	45 146	45 941	46 472	48 222
Pilbara Region	27 340	26 121	24 994	24 932	25 543	25 989	26 722	27 784	28 296	28 661	29 726
Kimberley Region	17 034	16 259	15 611	15 519	15 930	16 214	16 678	17 362	17 645	17 811	18 496
Western Australia state total	1 187 638	1 191 065	1 217 265	1 232 012	1 236 180	1 244 484	1 238 393	1 244 833	1 259 582	1 261 062	1 282 202
Northern Australia (NT)	114 032	116 867	115 600	117 873	119 275	124 987	121 332	124 596	120 349	122 269	126 033
Darwin-East Arnhem Region	84 413	86 502	85 565	87 254	88 300	92 528	89 840	92 243	89 100	90 530	93 300
Katherine-Lower Top End Region	8 471	8 680	8 586	8 754	8 861	9 284	9 013	9 256	8 939	9 084	9 361
Barkly-Central NT Region	21 148	21 685	21 449	21 865	22 114	23 175	22 479	23 097	22 310	22 655	23 372
Northern Territory total	115 881	118 765	117 476	119 786	121 210	127 015	123 299	126 618	122 302	124 251	128 077
Northern Australia (QLD)	373 989	392 818	399 756	410 533	406 813	404 217	408 922	411 698	413 238	417 859	423 421
Mackay Region	106 073	104 773	104 455	108 459	112 201	109 342	110 596	108 700	106 455	106 832	111 053
Northern Region	112 558	122 255	127 614	131 351	126 237	126 560	125 948	131 016	133 863	134 854	138 435
Far North Region	134 184	143 225	144 300	146 584	144 847	144 891	148 986	147 908	148 526	151 633	148 669
North West Region	18 838	20 258	21 086	21 746	21 054	21 018	20 953	21 678	22 053	22 195	22 821
Longreach Region	2 336	2 307	2 301	2 393	2 474	2 406	2 439	2 396	2 341	2 345	2 443
Queensland state total	2 272 783	2 301 903	2 329 905	2 346 034	2 372 762	2 375 479	2 388 789	2 396 597	2 412 048	2 445 193	2 440 308
Northern Australia subtotal	532 395	552 065	555 961	568 857	567 561	571 407	573 654	581 440	579 528	586 600	597 676
Australia total	11 258 737	11 341 972	11 373 014	11 448 944	11 546 189	11 588 651	11 590 866	11 680 753	11 752 274	11 806 312	11 881 909

Note: This table shows growth in the size of the labour force (number of persons) by region over time.

Source: DEEWR (2010a).

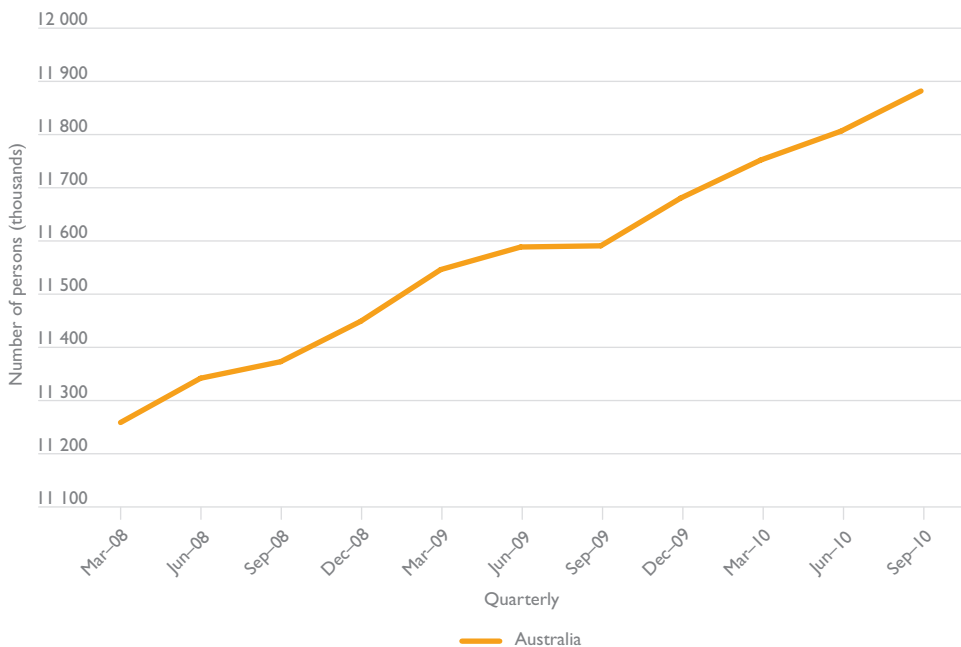
F4.4.1 Northern Australia—labour force (persons), March 2008 to September 2010



Note: This figure shows growth in the size of the labour force (number of persons) across the whole of Northern Australia between March 2008 and September 2010.

Source: DEEWR (2010a).

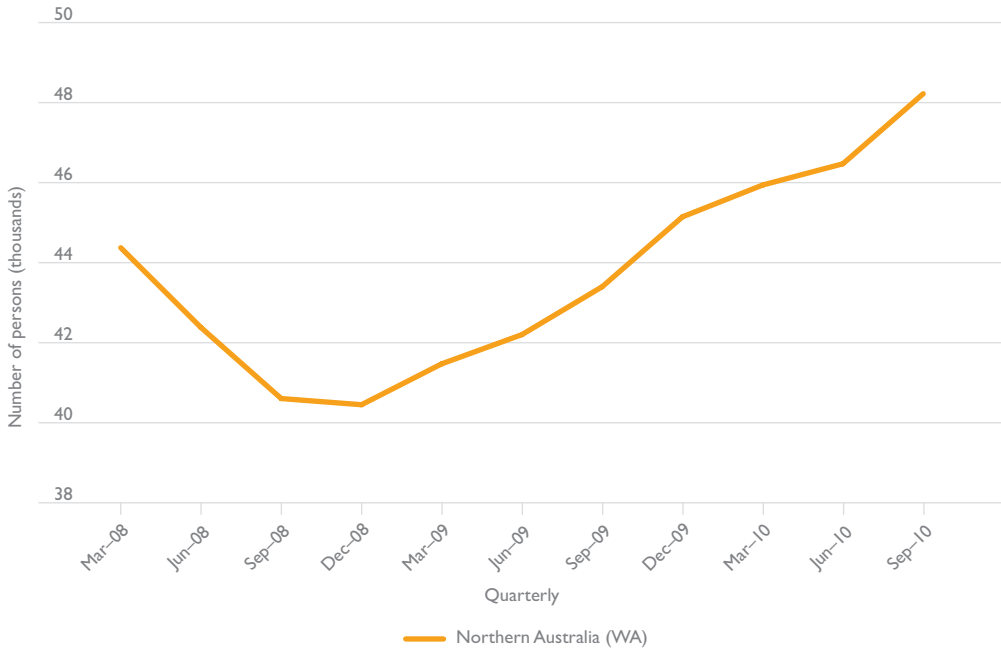
F4.4.2 Australia—labour force (persons), March 2008 to September 2010



Note: This figure shows growth in the size of the labour force (number of persons) across Australia between March 2008 and September 2010.

Source: DEEWR (2010a).

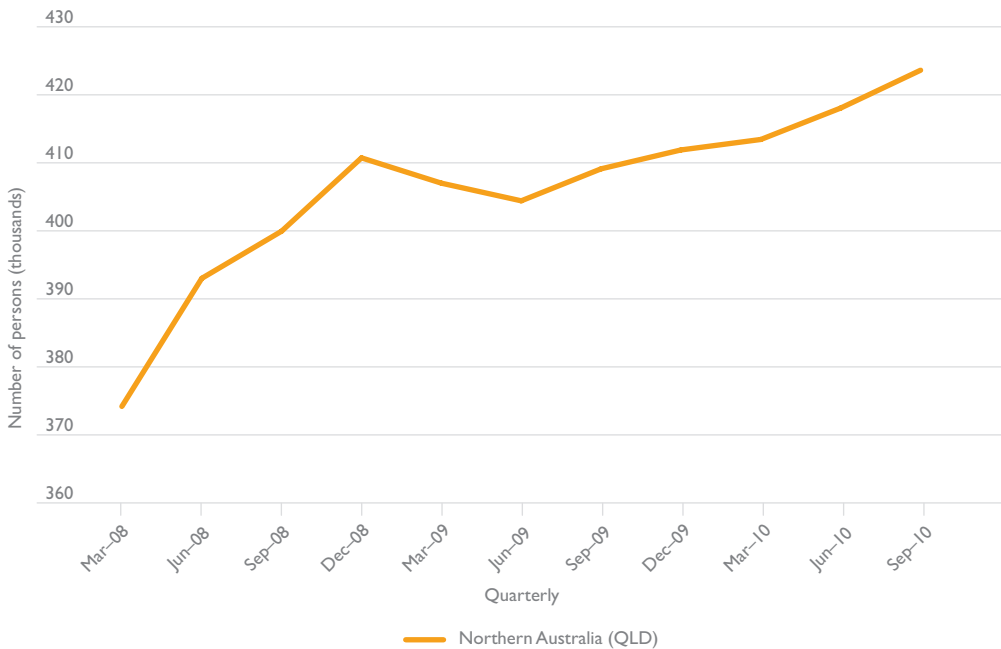
F4.4.3 Northern Australia (Western Australia)—labour force (persons), March 2008 to September 2010



Note: This figure shows growth in the size of the labour force (number of persons) across the north of Western Australia between March 2008 and September 2010.

Source: DEEWR (2010a).

F4.4.4 Northern Australia (Queensland)—labour force (persons), March 2008 to September 2010



Note: This figure shows growth in the size of the labour force (number of persons) across the northern regions of Queensland between March 2008 and September 2010.

Source: DEEWR (2010a).

F4.4.5 Northern Australia (Northern Territory)—labour force (persons), March 2008 to September 2010



Note: This figure shows growth in the size of the labour force (number of persons) across the northern regions of the Northern Territory between March 2008 and September 2010.

Source: DEEWR (2010a).

4.5 Unemployment rates over time (pages 84–86)

This section shows changing unemployment rates by region over time, based on the data from DEEWR. Like the rest of Australia, Northern Australia saw a jump in the unemployment rate in March 2009, with Northern Queensland experiencing the largest increase of 3.3 percentage points in the quarter (see Table 4.5.1). The region with the highest unemployment rate over the period is the Far North Region in Queensland with a peak of 12.4 per cent, which was substantially higher than the national rate of 5.8 per cent in the 2010 March quarter.

As highlighted in the 2009 *Compendium* also, the unemployment rates in the Kimberley Region remained consistently higher than those of the state and the nation (see Table 4.5.1 and Figure 4.5.1). Unemployment rates in the Pilbara, by contrast, remained consistently lower. However, the combined northern Western Australia region does have a similar unemployment rate and pattern to the national economy over the 11 quarters.

A feature of the unemployment rates for the Northern Territory regions is that at the end of the period covered all Northern Territory regions had lower unemployment rates than the national rate. Darwin-East Arnhem had the lowest unemployment rate in September 2010 of 2.0 per cent (see Table 4.5.1 and Figure 4.5.2). From March 2009 onwards the Northern Territory regions experienced a sustained decline in unemployment, in contrast to a national rate that generally maintained its level.

In Queensland the Northern regions follow a similar pattern to the national economy but with two regions, Longreach and the Far North Region, showing relatively low and high rates respectively (see Figure 4.5.3 and Table 4.5.1). Longreach consistently maintained a much lower unemployment rate over the period while the Far North Region rate climbed from 6.1 per cent in December 2008 to 10.7 per cent in March 2009 and remained consistently high compared to the national and state unemployment rates.

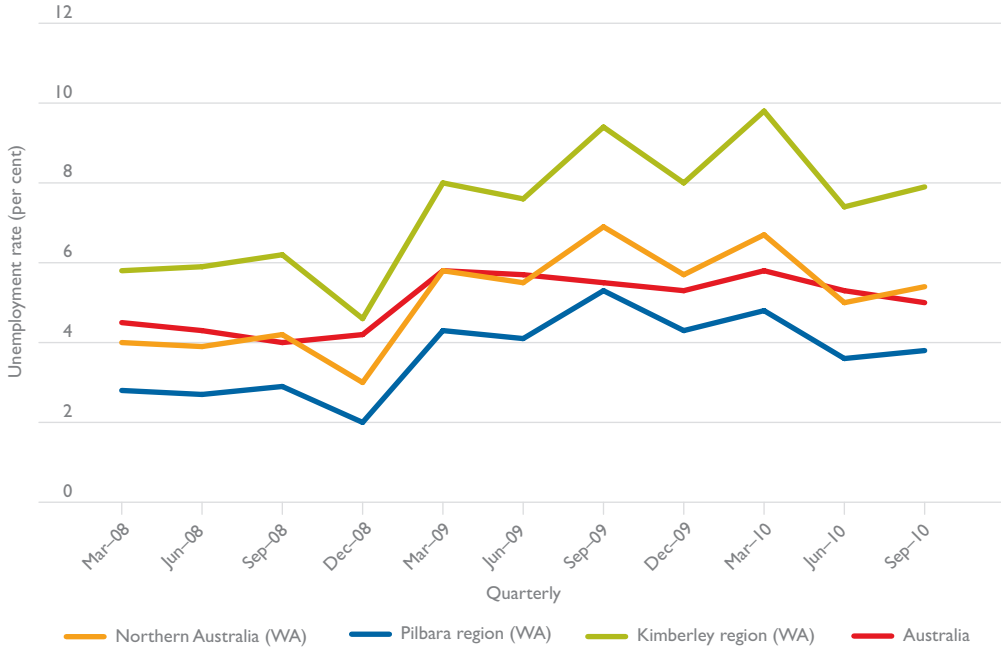
T4.5.1 Northern Australia—unemployment rates over time by region, March 2008 to September 2010

Regions	Mar-08	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-10	Sep-10
Northern Australia (WA)	4.0	3.9	4.2	3.0	5.8	5.5	6.9	5.7	6.7	5.0	5.4
Pilbara Region	2.8	2.7	2.9	2.0	4.3	4.1	5.3	4.3	4.8	3.6	3.8
Kimberley Region	5.8	5.9	6.2	4.6	8.0	7.6	9.4	8.0	9.8	7.4	7.9
Western Australia state total	3.4	3.4	2.8	2.6	4.6	5.1	5.5	4.6	5.5	4.3	4.4
Northern Australia (NT)	4.8	3.5	2.2	3.4	4.3	3.8	3.5	2.8	3.7	2.8	2.5
Darwin-East Arnhem Region	3.9	2.8	1.8	2.7	3.5	3.2	2.9	2.3	3.1	2.3	2.0
Katherine-Lower Top End Region	9.8	7.7	4.9	7.4	9.4	6.7	6.4	5.3	7.4	5.7	4.9
Barkly-Central NT Region	6.6	4.8	2.9	4.4	5.5	4.8	4.7	3.6	4.8	3.7	3.4
Northern Territory total	5.1	3.8	2.3	3.6	4.6	4.0	3.8	3.0	4.0	3.0	2.6
Northern Australia (QLD)	4.7	4.3	3.3	3.8	7.1	5.8	7.0	6.3	8.2	6.2	5.5
Mackay Region	3.7	4.0	2.9	2.5	5.3	4.4	4.3	4.5	5.3	4.3	3.3
Northern Region	4.3	3.0	1.8	2.3	4.8	3.2	3.5	3.9	5.9	3.9	3.8
Far North Region	5.7	5.7	5.0	6.1	10.7	9.4	12.3	9.7	12.4	9.7	8.6
North West Region	6.3	4.6	2.9	3.6	6.5	4.5	5.3	6.1	8.5	5.5	5.5
Longreach Region	2.3	1.8	2.0	1.6	3.2	2.5	2.5	3.1	3.5	2.8	2.1
Queensland state total	4.1	3.8	3.4	3.5	5.3	5.3	5.5	5.5	6.3	5.5	5.1
Northern Australia subtotal	4.7	4.1	3.1	3.6	6.4	5.4	6.3	5.5	7.2	5.4	4.8
Australia total	4.5	4.3	4.0	4.2	5.8	5.7	5.5	5.3	5.8	5.3	5.0

Note: This table shows estimated quarterly unemployment rates by region over time.

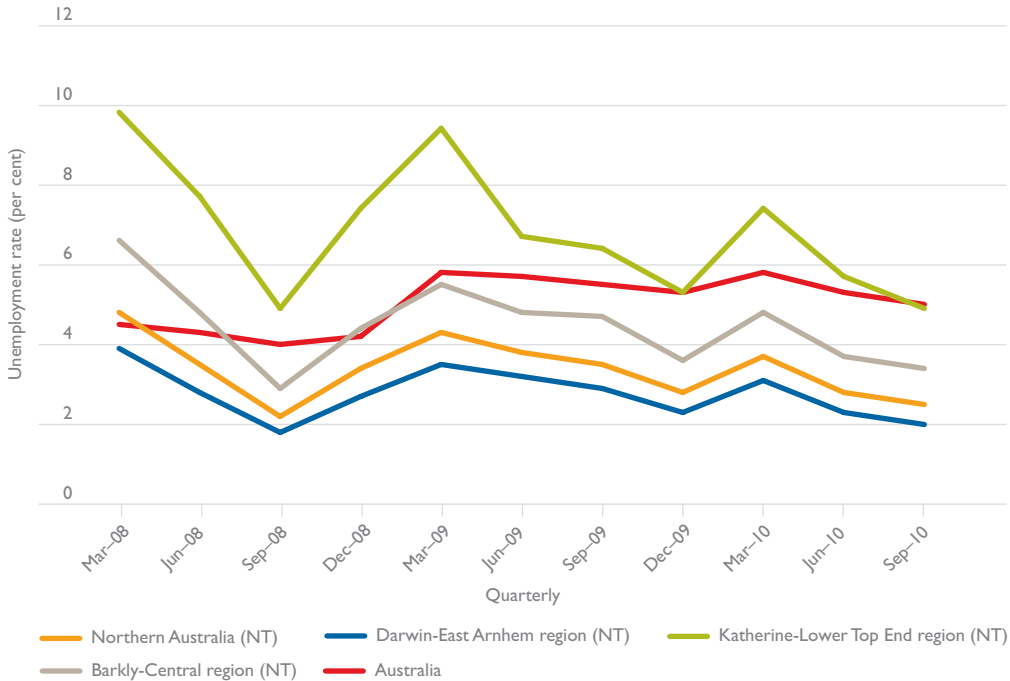
Source: DEEWR (2010a).

F4.5.1 Northern Australia (Western Australia)—unemployment over time by region, March 2008 to September 2010



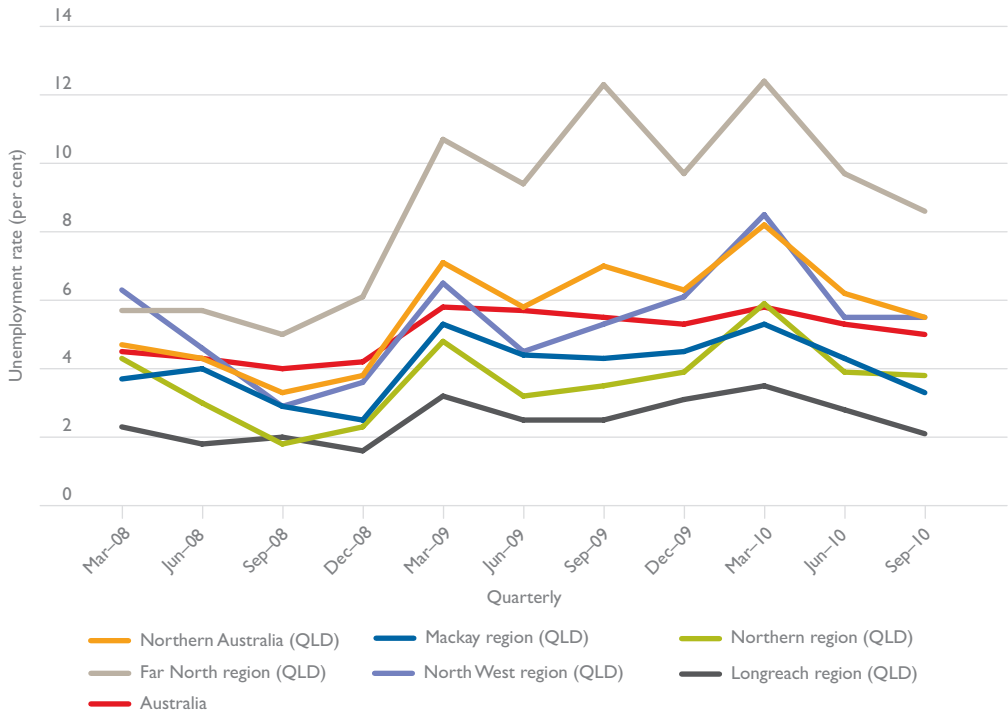
Note: This table shows estimated quarterly unemployment rates by region over time.
 Source: DEEWR (2010a).

F4.5.2 Northern Australia (Northern Territory)—unemployment rates over time by region, March 2008 to September 2010



Note: This table shows estimated quarterly unemployment rates by region over time.
 Source: DEEWR (2010a).

F4.5.3 Northern Australia (Queensland)—unemployment rates over time by region, March 2008 to September 2010



Note: This table shows estimated quarterly unemployment rates by region over time.
 Source: DEEWR (2010a).

CHAPTER 5

Day-to-day living

5.5 Universities (pages 110–112)

Table 5.5.1 has not been updated within this section.

Table 5.5.2 provides information on the number of students by broad course level at each university which has a campus in Northern Australia for 2009. These numbers are for the entire university, that is, they count all students enrolled at the university, whether or not they attend a Northern Australia campus. In the case of Central Queensland University, a number of students would not be from Northern Australia, as the university has also campuses in Sydney, Melbourne, Brisbane and the Gold Coast. In the case of Curtin University of Technology and the University of Notre Dame, the vast majority of these students would be located outside of northern Western Australia, in and around Perth, which is where the main campuses are situated. Universities located wholly outside Northern Australia but who have students in northern Queensland, Western Australia and the Northern Territory who are studying by correspondence or who have travelled to a southern campus to study, are not considered in this table, as no data was available.

A feature of the change in student numbers between 2007 (from the 2009 *Compendium*) and 2009 is the general increase in postgraduate and undergraduate students, with the one exception being Central Queensland University which experienced a fall in both postgraduate and undergraduate student numbers.

T5.5.2 Universities with a campus in Northern Australia—all students by higher education provider and broad level of course, full year 2009 and 2007 estimates in brackets

Region	Main Campus in Northern Australia	Doctorate by Research	Doctorate by Course-work	Master's by Research	Master's by Course-work	Other Post-graduate	SUB-TOTAL Post-graduate	Bachelor	Associate Degree	Other Under-graduate	SUB-TOTAL Under-graduate	Enabling Courses	Non-award Courses	TOTAL
North Australia (NT)														
Batchelor Institute of Indigenous Tertiary Education	Yes	5		12		26	43	334		16	350	278		671
				(8)		(23)	(31)	(172)		(254)	(426)	(269)		(726)
Charles Darwin University	Yes	188	22	36	349	813	1 408	4 723	30	98	4 851	712	43	7 014
		(176)	(13)	(29)	(370)	(526)	(1 114)	(4 061)	(32)	(22)	(4 115)	(631)	(13)	(5 873)
North Australia (QLD)														
Central Queensland University	Yes	217	7	48	3 983	2 354	6 609	9 972	82	601	10 655	1 674	282	19 220
		(225)	(37)	(63)	(5 709)	(1 689)	(7 723)	(11 707)	(71)	(346)	(12 124)	(1 028)	(177)	(21 052)
James Cook University	Yes	673	74	99	2 732	828	4 406	12 095		347	12 442	125	650	17 623
		(592)	(72)	(107)	(1 949)	(776)	(3 496)	(11 304)		(98)	(11 402)	(64)	(613)	(15 575)
North Australia (WA)														
Curtin University of Technology	No	1 616	2	354	5 238	2 754	9 964	32 058	287	175	32 520	287	642	43 413
		(1 431)	(1)	(312)	(4 644)	(2 645)	(9 033)	(29 531)	(271)	(221)	(30 023)	(256)	(1 062)	(40 374)
The University of Notre Dame	No	43		16	428	346	833	6 563		27	6 590	499	395	8 317
		(40)		(9)	(453)	(251)	(753)	(4 916)		(89)	(5 005)	(144)	(322)	(6 224)

Note: As data was not available for individual campuses, these numbers are for the entire university. That is, they represent all students enrolled at the university, not just students within Northern Australia. Consequently, subtotals for each of the Northern Australia states have not been provided, as it would be misleading to suggest that all students who are enrolled at the Central Queensland University, for example, are from northern Queensland.

Source: DEEWR (2010b).

CHAPTER 6

Transport (pages 129–130)

This chapter provides an update of key characteristics of the transport system in Northern Australia, focusing on exports and imports via sea ports and coastal shipping, illustrating their sizes and growth rates; basic sea ports features; air passenger transport; railways and their main transport tasks; road transport; and the main technical characteristics of roads. Wherever possible, Northern Australia's transport characteristics are compared with those of Australia.

Data estimates for sea ports for this update have changed from the previous publication as the scope and methodology used in the collection of international freight data has been revised.⁴ Hence, no comparison is made between the 2009 *Compendium* and the 2010 update.

In 2009–10, Northern Australian exports represented 73.9 per cent of total tonnage of Australian exports via sea ports, which has steadily increased from 2005–06. The Pilbara Region in Western Australia was the largest source of tonnage exported from Northern Australia, followed by the Mackay and Gladstone regions of Queensland.

Import tonnages via Northern Australian ports are only a small fraction of those exported via these ports, with Darwin-East Arnhem in the Northern Territory and the Northern Region of Queensland being the largest importing regions in Northern Australia.

The value of exports via maritime ports of Northern Australia represented 53.7 per cent of the Australian total value in 2009–10 with the largest increase occurring between 2007–08 and 2008–09. Coastal shipping originating in Northern Australia represented 47.3 per cent of the Australian total tonnage loaded in 2008–09 and 30.9 per cent of the total unloaded tonnage in Australia.

Regular passenger transport, charter and other aviation services are used relatively more frequently in Northern Australia than in the rest of Australia due to large distances and specific employment practices, such as 'fly-in, fly-out' staff rotation. Residents of Northern Australia fly more frequently to other domestic destinations than Australians living outside of this region.

Domestic aviation uses more capacity per capita, as measured by aircraft movements, to service relatively sparsely populated and distant destinations in Northern Australia than in the rest of the country.

A large and important role is played by charter and owner-operated general aviation in provision of specialised aerial passenger and air freight services to that region; however, information on these services is not being collected and published in a systematic way.

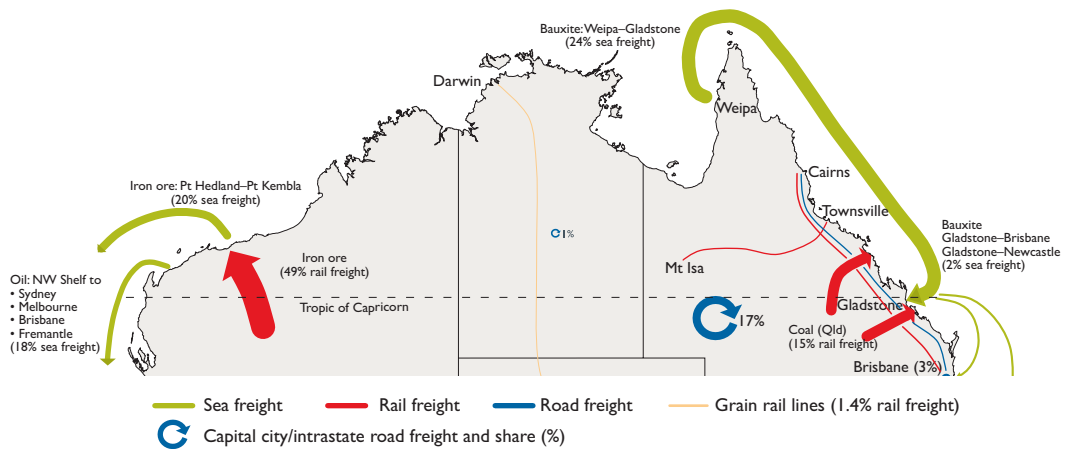
⁴ For a more detailed discussion on the changes to the international freight data refer to BITRE (2010a).

Railways in the Pilbara Region of Western Australia are not interconnected with the rest of the continent and carry very large tonnages of iron ore for exports via sea ports. Standard gauge railways of the Northern Territory and Queensland's Northern Region are interconnected with the southern states and carry coal and other commodities for exports via ports.

The unsealed road network in Northern Australia is linked to the rest of Australia via sealed and mostly all-season roads.

Northern Australia's maritime, rail, road and aviation transport systems are vital parts of the Australian exports of goods and domestic supply networks. A stylised Map 6.1 illustrates major flows of goods by sea transport, rail freight and road haulage. There are three major flows of commodities which dominate the transport systems in Northern Australia: rail transport of iron ore to ports for loading on ships in the Western Australian Pilbara Region (largely for exports); exports of coal transported by rail from southern regions of Queensland and loaded for exports mainly in Queensland's Mackay Region; and bauxite shipments by coastal freight from Weipa in Queensland's Far North Region for processing in Gladstone (see Map 6.1.1).

M6.1.1 Northern Australia—Australia's major freight flow, 2006–07



Source: BITRE (2009).

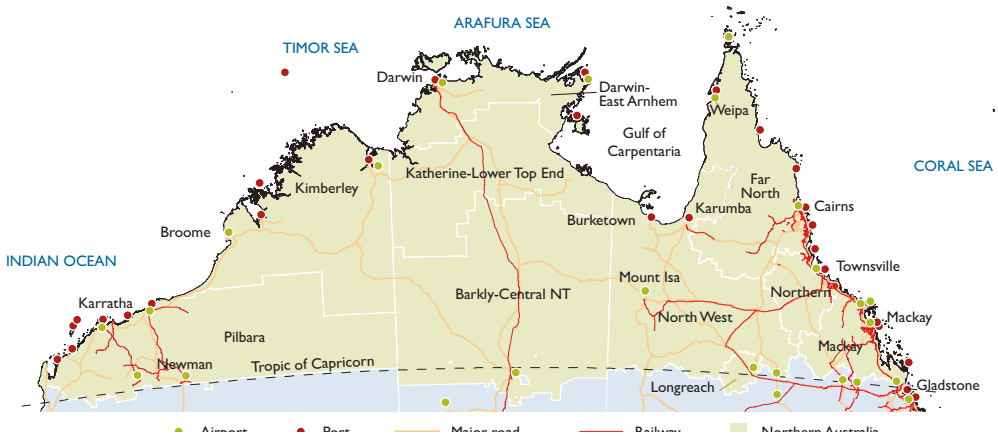
6.1 Trade via sea ports (pages 131–151)

Exports via sea ports of Northern Australia—export tonnage

Tonnage exported via the sea ports of Northern Australia represented 73.9 per cent of the total tonnage exported from Australia via sea ports in 2009–10. Major sea ports in Northern Australia are located on the mainland but operations are also conducted from small islands and oil and gas production rigs, as illustrated on the Map 6.1.2 below. The Pilbara Region was the dominating single largest source of tonnage (iron ore) representing 48.8 per cent of the total Australian export tonnage via maritime ports (see Figure 6.1.1). The largest percentage increase in export tonnage between 2005–06 and 2009–10 was in Darwin-East Arnhem Region with an increase of 492 per cent.

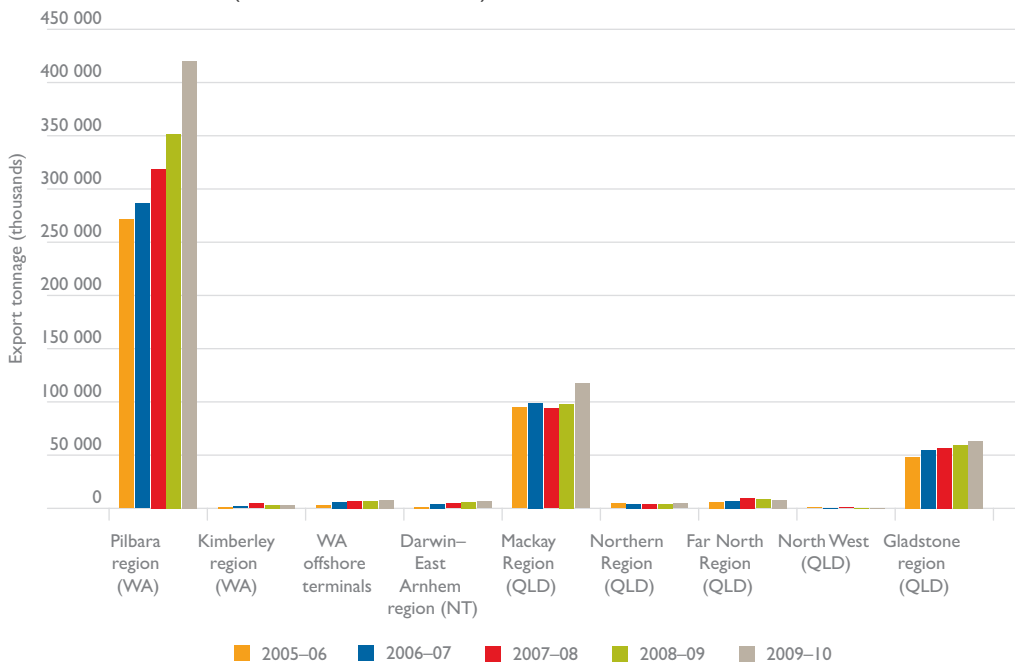
The share of Northern Australia in shipping export commodities is illustrated in Figure 6.1.2. Tonnage exported from Northern Australia (WA) provides the largest proportion and has grown substantially over the period. The smallest contributor is from the Northern Territory but it had the largest percentage change increase growing from around 6700 tonnes in 2005–06 to over 11 000 tonnes in 2009–10.

M6.1.2 Northern Australia—major ports, 2006–07



Note: "Jabiru" in the Timor Sea is a gas/oil venture.
 Source: Geoscience Australia (2009), unpublished.

F6.1.1 Northern Australia—export tonnage via sea ports, by region, 2005–06 to 2009–10 (thousands of tonnes)



Note: Gladstone/Rockhampton ports are major hubs for bauxite and alumina operations sourced in Northern Australia; beginning from 2006–07, these ports are under a joint management and report activities in Gladstone and Rockhampton as one port.
 Source: BITRE (2011), unpublished data.

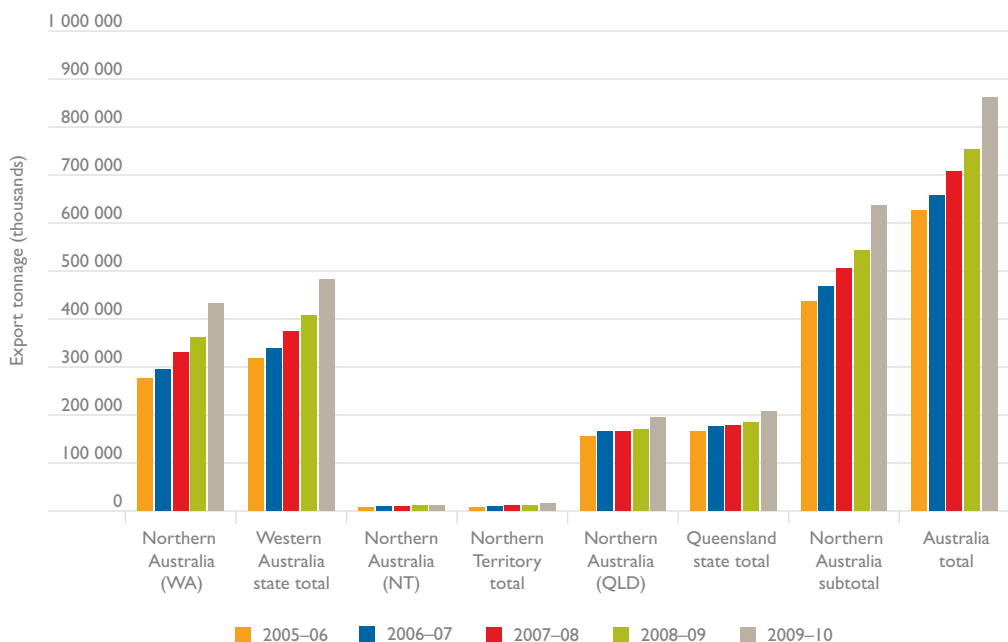
T6.1.1 Northern Australia—exports via sea ports, 2005–06 to 2009–10 (thousand tonnes)

Region	2005/06	2006/07	2007/08	2008/09	2009/10	Per cent of Australia's exports via sea ports, 2009/10
Northern Australia (WA)	275 438	293 934	330 237	362 106	431 496	50.1
Pilbara Region	271 408	286 439	318 754	351 855	420 343	48.8
Kimberley Region	1 468	1 743	4 465	3 027	3 474	0.4
WA offshore terminals	2 563	5 752	7 018	7 224	7 679	0.9
Western Australia state total	317 063	338 376	374 272	408 397	482 659	56.0
Northern regions as a per cent of WA state total	86.9	86.9	88.2	88.7	89.4	
Northern Australia (NT)	6 663	9 695	10 312	10 714	11 093	1.3
Darwin-East Arnhem Region	1 083	3 855	4 533	5 937	6 404	0.7
Confidentialised NT Ports	4 966	4 877	5 282	4 189	3 996	0.5
Rigs and offshore terminals NT	614	963	497	589	693	0.1
Northern Territory total	7 043	10 096	10 683	12 061	14 677	1.7
Northern regions as a per cent of NT state total	94.6	96.0	96.5	88.8	75.6	
Northern Australia (QLD)	154 580	165 075	165 629	170 526	193 950	22.5
Mackay Region	94 632	98 709	93 919	97 923	117 393	13.6
Northern Region	4 509	4 130	4 298	4 330	4 605	0.5
Far North Region	6 172	7 004	9 938	8 213	8 047	0.9
North West Region	738	568	676	658	558	0.1
Rockhampton Region	1					0.0
Gladstone Region	48 528	54 663	56 798	59 400	63 345	7.3
Qld Ports (islands)		2		2	1	0.0
Queensland state total	166 303	176 317	178 691	185 087	208 361	24.2
Northern regions as a per cent of QLD state total	93.0	93.6	92.7	92.1	93.1	
Northern Australia subtotal	436 682	468 705	506 179	543 346	636 539	73.9
Australia total	626 397	657 145	706 870	753 177	861 934	100.0

Note: Export tonnages of LPG from the North West Region Shelf are not published by ABS for reasons of confidentiality.

Source: BITRE (2011), unpublished data.

F6.1.2 Northern Australia—export tonnage via sea ports, by state, 2005–06 to 2009–10 (thousands of tonnes)



Source: BITRE (2011), unpublished data.

The value of Northern Australia's exports via sea ports was 53.7 per cent of the corresponding total Australian exports in 2009–10 (see Table 6.1.2). Both Northern Australian and Australian export value increased from 2005–06 to 2008–09 but declined sharply in 2009–10. The Pilbara Region contributes the greatest share to the Northern Australia export value and has nearly doubled in value between 2005–06 and 2009–10. This was due to sustainable demand for commodities which resulted in faster rises of minerals and energy prices than their respective tonnages of exports during the reported period.

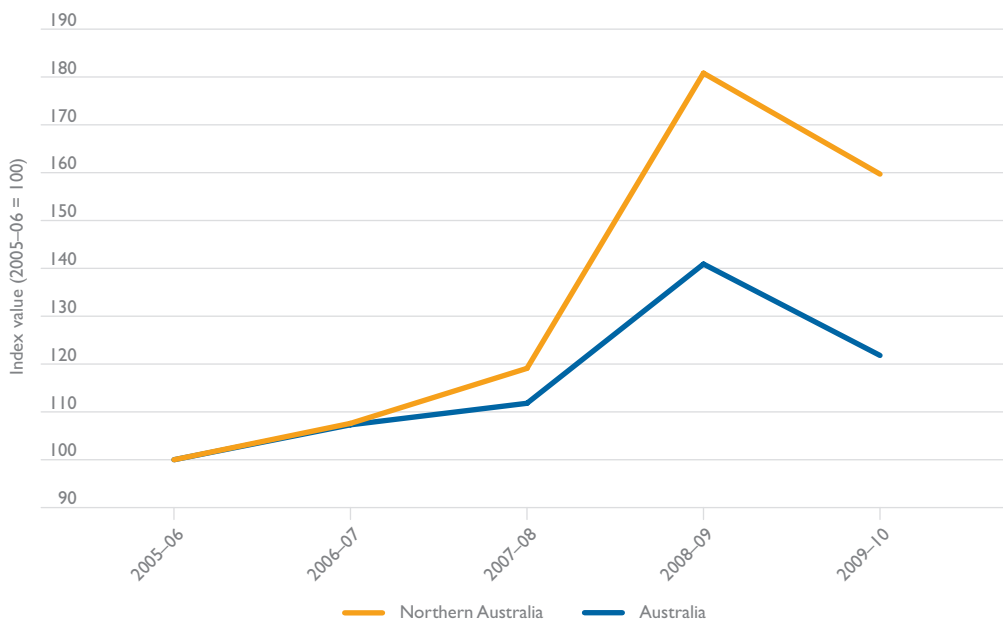
T6.1.2 Northern Australia—exports via sea ports by region, 2005–06 to 2009–10 (\$ 2009–10 millions)

Region	2005/06	2006/07	2007/08	2008/09	2009/10	Per cent of Australia's exports value via sea ports, 2009/10
Northern Australia (WA)	27 591.9	32 034.6	39 877.2	54 734.8	55 911.5	31.3
Pilbara Region	25 203.5	27 352.5	33 232.7	48 056.0	49 584.3	27.7
Kimberley Region	494.4	609.6	898.6	1 920.2	1 478.6	0.8
WA offshore terminals	1 894.0	4 072.5	5 745.9	4 758.6	4 848.6	2.7
Western Australia state total	44 904.8	53 628.7	59 890.5	73 185.0	73 589.1	41.1
Northern regions as a per cent of WA state total	61.4	59.7	66.6	74.8	76.0	
Northern Australia (NT)	2 723.5	4 763.0	4 891.0	6 903.1	6 300.4	3.5
Darwin-East Arnhem Region	1 220.9	2 823.8	2 675.4	5 013.8	4 966.6	2.8
Confidentialised NT Ports	1 008.3	1 165.4	1 751.5	1 469.9	643.8	0.4
Rigs and offshore terminals NT	494.3	773.7	464.0	419.4	690.0	0.4
Northern Territory total	3 031.4	5 164.7	5 205.4	7 451.5	7 288.8	4.1
Northern regions as a per cent of NT state total	89.8	92.2	94.0	92.6	86.4	
Northern Australia (QLD)	29 836.0	27 935.7	26 878.5	47 111.5	33 875.9	18.9
Mackay Region	14 366.1	12 733.4	11 606.9	25 525.8	17 975.2	10.0
Northern Region	5 316.8	6 007.7	6 166.4	5 326.7	5 944.5	3.3
Far North Region	988.8	930.4	840.7	825.9	813.7	0.5
North West Region	806.8	959.0	736.1	337.4	338.5	0.2
Rockhampton Region	.7	.0	.0	.0	.0	0.0
Gladstone Region	8 356.3	7 295.6	7 527.3	15 089.4	8 797.9	4.9
Qld Ports (islands)	.6	9.4	1.2	6.2	6.1	0.0
Queensland state total	40 358.8	39 356.9	37 743.2	58 671.5	43 684.5	24.4
Northern regions as a per cent of QLD state total	73.9	71.0	71.2	80.3	77.5	
Northern Australia subtotal	60 151.4	64 733.2	71 646.6	108 749.5	96 087.8	53.7
Australia total	146 948.5	157 605.1	164 280.4	207 046.6	178 915.1	100.0

Source: BITRE (2011), unpublished data.

Figure 6.1.3 illustrates the fast growing exports via sea ports from Northern Australia, total of Australia. A sharp increase is evident in the 2008–09 financial year, especially for Northern Australia. However this is followed by a sharp decline of similar proportions for both Australia and Northern Australia in the final study period.

F6.1.3 Northern Australia—value of exports via sea ports, 2005–06 to 2009–10 (index 2005–06 = 100)



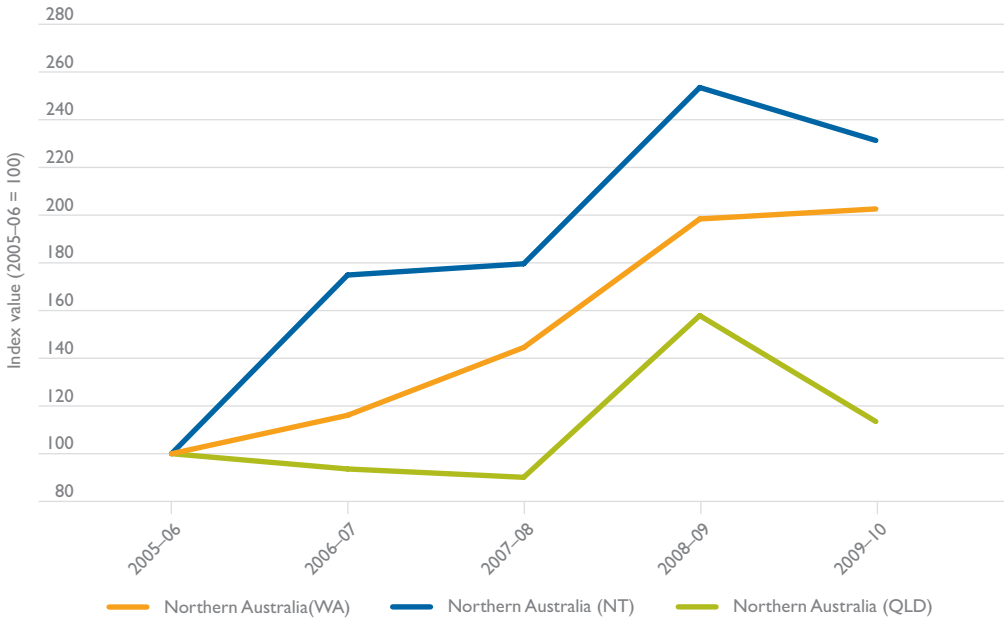
Source: BITRE (2011), unpublished data.

While all three Northern Australia states experienced an increase in export value, the Northern Territory experienced the strongest growth followed by Western Australia and Queensland. The strong growth in the Northern Territory is from the Darwin-East Arnhem Region, particularly in the 2008–09 financial year (see Figure 6.1.6). However, in terms of absolute value, the largest contributor was the Pilbara Region in Western Australia but this grew slower than the other Western Australia region, the Kimberley (see Figure 6.1.5).

The overall pattern for the value of exports via sea ports is a general increase in value but a drop in value for the last financial year is possibly due to the global financial crisis.

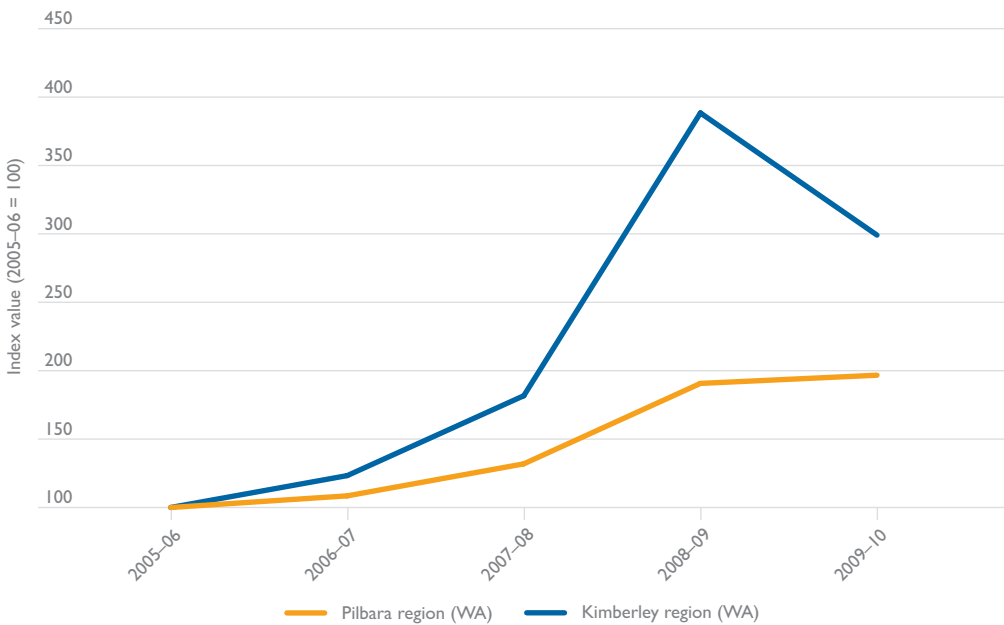
Figure 6.1.7 has been omitted for the update.

F6.1.4 Northern Australia—value of exports via sea ports, 2005–06 to 2009–10 (index 2005–06 = 100)



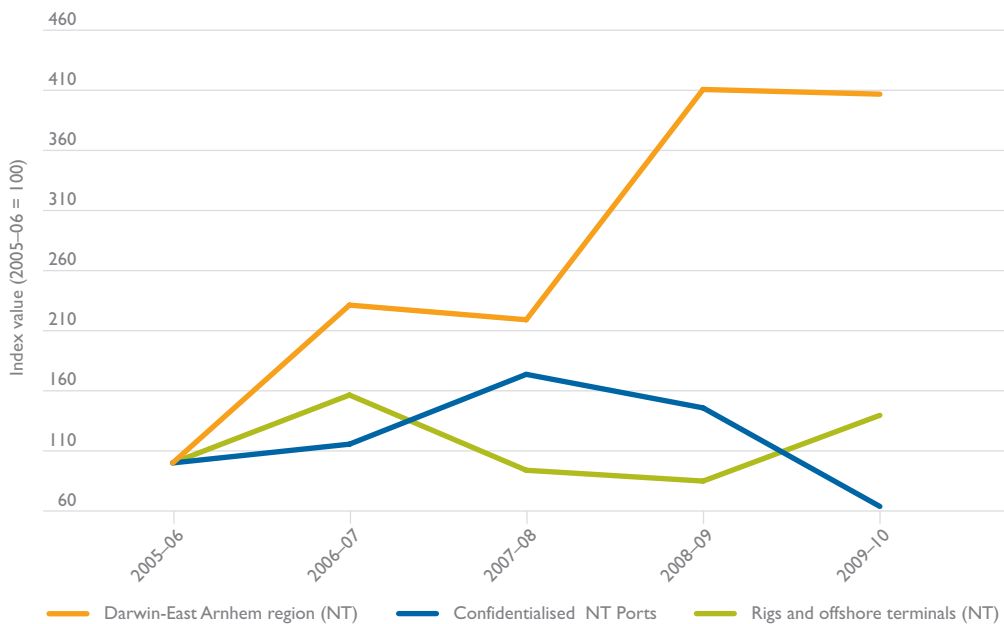
Source: BITRE (2011), unpublished data.

F6.1.5 Northern Australia (Western Australia)—value of exports via sea ports, by region, 2005–06 to 2009–10 (index 2005–06 = 100)



Source: BITRE (2011), unpublished data.

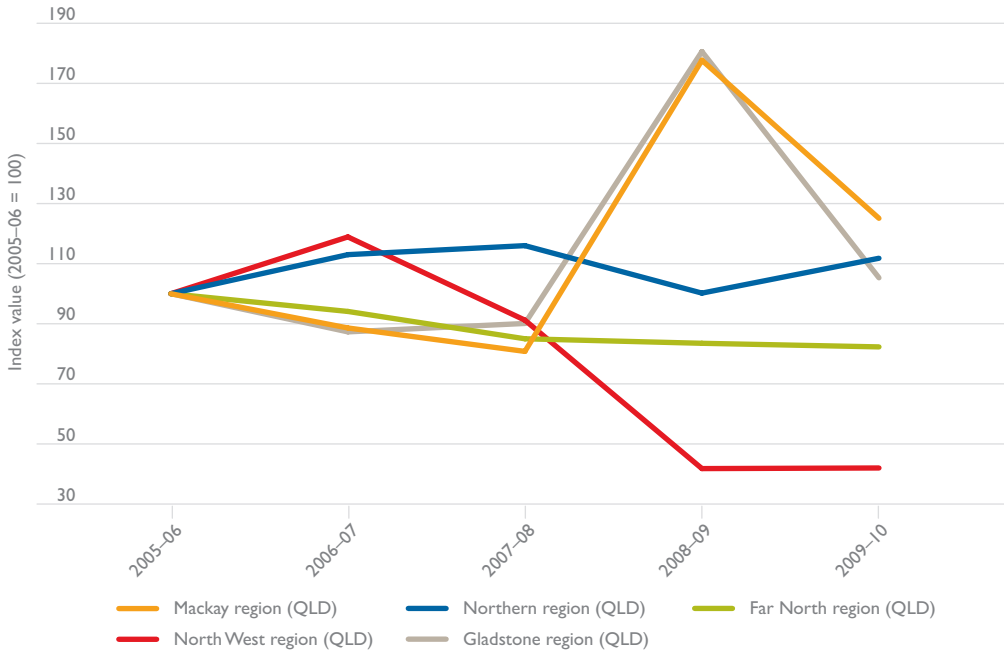
F6.I.6 Northern Australia (Northern Territory)—value of exports via sea ports, by region, 2005–06 to 2009–10 (index 2005–06 = 100)



Source: BITRE (2011), unpublished data.

The value of exports via other Queensland's ports of the Mackay and Gladstone regions increased substantially in 2008–09 but this was followed by a sharp drop in 2009–10. In contrast to most other northern Australian regions the North West experienced a number of declining years with the largest falls occurring between 2006–07 and 2008–09.

F6.1.8 Northern Australia (Queensland)—value of exports via sea ports, by region, 2005–06 to 2009–10 (index 2005–06 = 100)



Source: BITRE (2011), unpublished data.

Import via sea ports of Northern Australia—import tonnage

Import tonnages via Northern Australia’s maritime ports represented only 21.1 per cent of the corresponding Australian total in 2009–10, with Darwin-East Arnhem in the Northern Territory and the Northern Region in Queensland being the largest import receivers (see Table 6.1.3). In contrast to the Northern Territory, the Northern Australia regions of Queensland and Western Australia are only a small share of the state with both the state capitals, Brisbane and Perth, positioned outside Northern Australia.

T6.1.3 Northern Australia—imports via sea ports, 2005–06 to 2009–10 (thousands of tonnes)

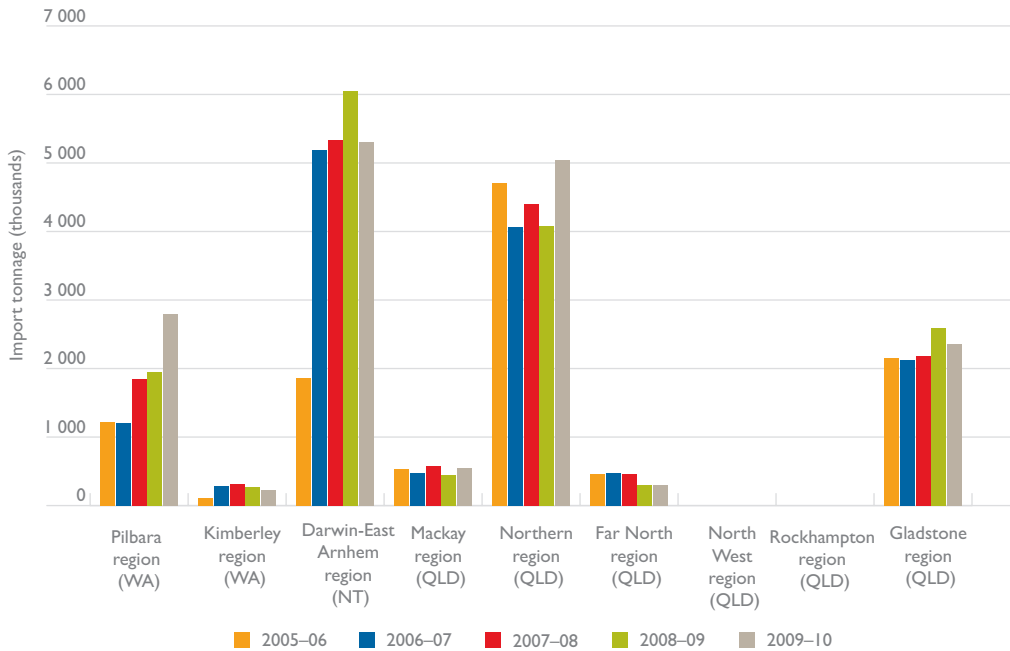
Region	2005/06	2006/07	2007/08	2008/09	2009/10	Per cent of Australia's imports via sea ports, 2009/10
Northern Australia (WA)	1 339	1 604	2 150	2 231	3 027	3.5
Pilbara Region	1 225	1 205	1 840	1 954	2 797	3.3
Kimberley Region	113	291	310	277	230	0.3
WA offshore terminals	2	108				0.0
Western Australia state total	11 364	12 115	14 187	14 429	15 513	18.1
Northern regions as a per cent of WA state total	11.8	13.2	15.2	15.5	19.5	
Northern Australia (NT)	3 022	6 334	6 487	7 512	6 804	7.9
Darwin-East Arnhem Region	1 864	5 195	5 327	6 051	5 311	6.2
Confidentialised NT Ports	1 158	1 139	1 160	1 454	1 480	1.7
Rigs and offshore terminals NT				7	14	0.0
Northern Territory total	3 034	6 353	6 531	7 530	6 827	8.0
Northern regions as a per cent of NT state total	99.6	99.7	99.3	99.8	99.7	
Northern Australia (QLD)	7 854	7 136	7 622	7 418	8 248	9.6
Mackay Region	532	470	577	446	550	0.6
Northern Region	4 703	4 066	4 402	4 074	5 044	5.9
Far North Region	461	472	465	304	299	0.3
North West Region						—
Rockhampton Region						—
Gladstone Region	2 153	2 127	2 178	2 594	2 353	2.7
Qld Ports (islands)	4	1		1	2	0.0
Queensland state total	18 653	19 128	20 155	19 748	21 514	25.1
Northern regions as a per cent of QLD state total	42.1	37.3	37.8	37.6	38.3	
Northern Australia subtotal	12 215	15 074	16 260	17 161	18 079	21.1
Australia total	72 675	77 786	84 648	81 629	85 655	100.0

Source: BITRE (2011), unpublished data.

Tonnage imported by regions via sea ports is illustrated in Figure 6.1.9. Regions' imports are strongly related to the development of large minerals projects, such as the one the Darwin-East Arnhem Region experienced after 2006–07. Another strong importer has been the Northern Region in Queensland.

Western Australia's northern regions' imports are very small, as compared with that state's total imports via sea ports.

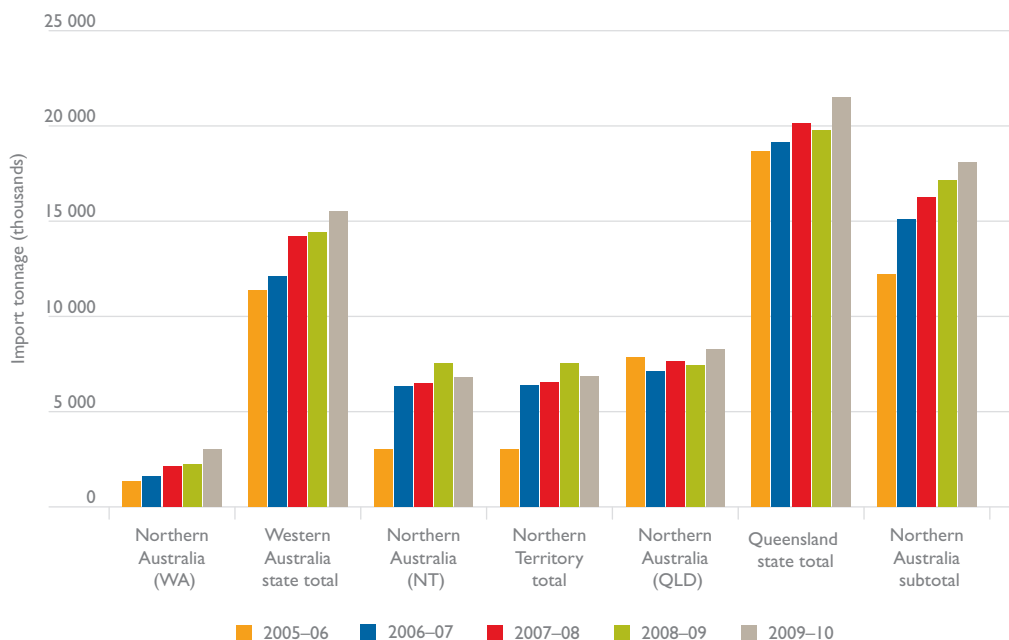
F6.1.9 Northern Australia—import tonnage, via sea ports, by region, 2005–06 to 2009–10 (thousands of tonnes)



Source: BITRE (2011), unpublished data.

Figure 6.1.10 illustrates the relative sizes of imported tonnages via sea ports in Northern Australia between 2005–06 and 2009–10. These imports are largest in proportion to the state's total imports in Queensland (38 per cent in 2009–10) and Northern Territory (all imports in all years, as all Northern Territory ports are within the Darwin-East Arnhem Region with an access to sea ports). In the case of the northern regions of Western Australia, imports via sea ports were very small and represented only a small portion of the respective total Western Australian imports in 2009–10. This is, partially, due to operational practices by large minerals operators, who acquire materials and supplies (including imports) via operating centres located in southern states or capitals. These imports are frequently landed in southern regions and then distributed to operational sites in northern regions and therefore are counted as southern regions imports.

F6.1.10 Northern Australia—import tonnage via sea ports, by state, 2005–06 to 2009–10 (thousands of tonnes)



Source: BITRE (2011), unpublished data.

Import value

Northern Australia's values of 'direct' imports via sea ports was 11.8 per cent of the corresponding Australian value of imports in 2009–10 (see Table 6.1.4). Figure 6.1.11 presents the Northern Australian regions import values, from 2005–06 to 2009–10. The Pilbara provides the greatest share of the value of imports into Northern Australia at just over half of the total value.

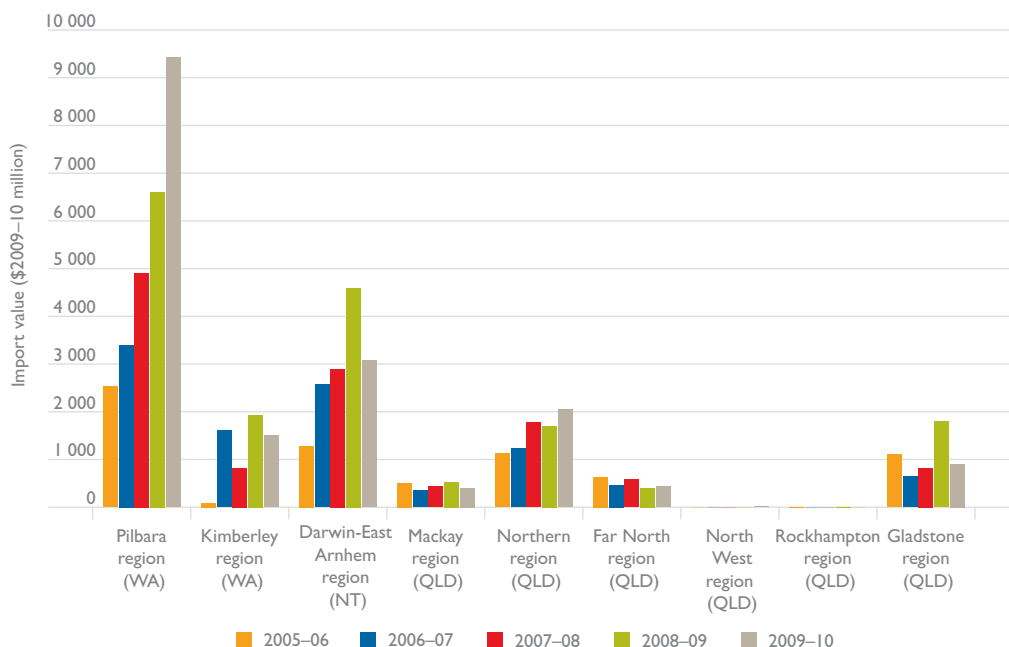
The discrepancy between larger tonnage of imports per capita in Northern Australia and the lower value of those imports, as compared with the value of Australian imports via sea ports, may suggest that some imports are reaching Northern Australia through southern Australia. Part of the imported production supplies and consumer goods reaches Northern Australian ports as coastal shipments or by road, for which information on value is not collected. For example, supplies of imported groceries and other consumer products to larger retail companies in Northern Australia are transported via roads or rail from southern distribution centres. Data on final destination or use of these imports is not collected or not publicly available.

T6.1.4 Northern Australia—imports via sea ports by region, 2005–06 to 2009–10 (\$ 2009–10 millions)

Region	2005/06	2006/07	2007/08	2008/09	2009/10	Per cent of Australia's imports value via sea ports, 2009/10
Northern Australia (WA)	2 619.3	5 017.6	5 729.4	8 533.6	10 928.6	7.0
Pilbara Region	2 528.8	3 399.1	4 905.2	6 601.9	9 426.3	6.0
Kimberley Region	87.9	1 601.8	824.2	1 931.7	1 502.3	1.0
WA offshore terminals	2.6	16.8	.0	.0	.0	0.0
Western Australia state total	15 468.7	19 491.9	22 949.9	26 868.3	26 420.7	16.8
Northern regions as a per cent of WA state total	16.9	25.7	25.0	31.8	41.4	
Northern Australia (NT)	1 961.7	3 297.6	3 273.4	5 244.1	3 734.9	2.4
Darwin-East Arnhem Region	1 279.5	2 570.0	2 900.0	4 598.0	3 079.9	2.0
Confidentialised NT Ports	682.2	727.6	373.4	523.5	434.5	0.3
Rigs and offshore terminals NT	.0	.0	.0	122.6	220.5	0.1
Northern Territory total	1 972.9	3 312.2	3 322.0	5 258.9	3 751.2	2.4
Northern regions as a per cent of NT state total	99.4	99.6	98.5	99.7	99.6	
Northern Australia (QLD)	3 376.8	2 711.8	3 609.4	4 430.5	3 815.8	2.4
Mackay Region	503.1	350.2	436.1	531.8	402.8	0.3
Northern Region	1 129.3	1 224.6	1 770.4	1 699.6	2 053.3	1.3
Far North Region	631.4	464.2	584.2	402.3	436.7	0.3
North West Region	.0	.0	.0	.0	10.9	0.0
Rockhampton Region	1.1	.0	.0	.2	.0	0.0
Gladstone Region	1 103.8	642.4	817.7	1 790.4	905.8	0.6
Qld Ports (islands)	8.0	30.3	1.0	6.2	6.4	0.0
Queensland state total	23 791.9	25 143.7	28 334.6	27 562.5	25 069.0	16.0
Northern regions as a per cent of QLD state total	14.2	10.8	12.7	16.1	15.2	
Northern Australia subtotal	7 957.8	11 027.0	12 612.2	18 208.2	18 479.3	11.8
Australia total	137 240.8	148 096.3	164 328.8	169 873.3	156 865.7	100.0

Source: BITRE (2011), unpublished data.

F6.1.1.1 Northern Australia—import values via sea ports, by region, 2005–06 to 2009–10 (\$ 2009–10 millions)



Source: BITRE (2011), unpublished data.

Coastal shipping—loaded tonnage

Coastal shipping consists of goods loaded in Australian ports on Australian or foreign ships and (unloaded) delivered to other destinations within the Australian customs area. Typically, distribution of liquid fuels and fuel components from refineries located in sea ports to major agglomerations along the Australian coast is designed to use coastal shipping for the long haul and rail/road for the final part of transportation. Similarly, building materials, chemicals, construction steel, machinery and supplies are transported via coastal shipping. A special role is played by coastal shipping in supplying remote and isolated communities in Northern Australia. Vital supplies are delivered on barges to many locations along the coast, such as Nhulunbuy (Northern Territory) and Kalumburu (Western Australia). This mode of delivery is vital, particularly in the wet season when those places are often not accessible by road.

Coastal shipping volumes originating in Northern Australia represented 47.3 per cent of the total loaded tonnage in Australia, in 2008–09. The largest source of coastal tonnages was from Queensland's Far North Region, followed by Western Australia's Pilbara (see Table 6.1.5). Commodities loaded in Northern Australia were mainly minerals, fuels and food products for processing at other Australian destinations.

Note that a number of errors in the coastal shipping tables published in the original Northern Australian statistical *Compendium* 2009 have been rectified in Table 6.1.5 and the associated graphs.

T6.1.5 Northern Australia—coastal shipping, loaded tonnage, 2001–02 to 2008–09

Region	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	Per cent of total loaded tonnes in Australian ports in 2008/9
Northern Australia (WA)	8 702 793	8 841 763	9 912 495	8 299 859	9 018 091	9 670 242	8 144 344	6 052 111	11.7
Pilbara Region	5 624 482	4 846 067	5 792 785	5 263 428	6 121 148	7 031 852	5 557 449	4 942 158	9.6
Port Hedland	4 240 098	4 405 731	4 413 675	4 292 838	4 273 023	4 569 505	4 399 942	3 161 020	6.1
Kimberley Region	197 214	203 068	396 654	521 083	410 846	24 661	5 411	870	
WA off shore terminals	2 881 097	3 792 628	3 723 056	2 515 349	2 486 096	2 613 729	2 581 485	1 109 083	2.2
Western Australia state total	11 920 555	12 522 658	13 538 018	11 465 152	11 682 509	13 120 380	14 369 352	11 102 239	21.5
Northern Australia (NT)	623 337	614 047	655 571	1 191 235	600 408	217 418	17 457	662 273	1.3
Darwin-East Arnhem Region	623 337	614 047	655 571	1 191 235	600 408	86 388	17 457	662 273	1.3
NT off shore terminals						131 030			
Northern Territory total	623 425	614 382	655 571	1 192 546	600 408	217 418	17 457	662 273	1.3
Northern Australia (QLD)	13 668 308	14 111 977	14 346 912	15 950 520	17 651 630	18 119 957	18 383 438	17 658 622	34.2
Mackay Region	460 675	266 000	322 072	322 072	253 908	200 501	429 276	330 740	0.6
Northern Region	669 618	735 246	671 727	750 331	711 068	979 176	705 774	460 178	0.9
Far North Region	9 145 000	9 706 176	9 726 722	11 114 795	12 839 193	13 153 101	13 216 712	13 229 701	25.6
North West Region	202 450	109 869	264 979	225 283	407 859		449 241	421 275	0.8
QLD ports (Islands)	13 190	2 772	6 540		9 253		17 238	10 167	0.0
Rockhampton Region	71 196	75 433							0.0
Gladstone Region	3 106 179	3 216 481	3 354 872	3 538 038	3 430 348	3 787 179	3 565 197	3 206 560	6.2
Queensland state total	15 839 055	16 449 823	16 981 283	18 349 661	19 726 300	20 678 925	20 822 285	20 184 391	39.1
Northern Australia subtotal	22 994 438	23 567 787	24 914 978	25 441 614	27 270 129	28 007 617	26 545 239	24 373 006	47.3
Australia total	52 432 162	52 825 016	53 193 977	53 671 970	55 249 318	56 385 024	59 534 463	51 582 511	100.0

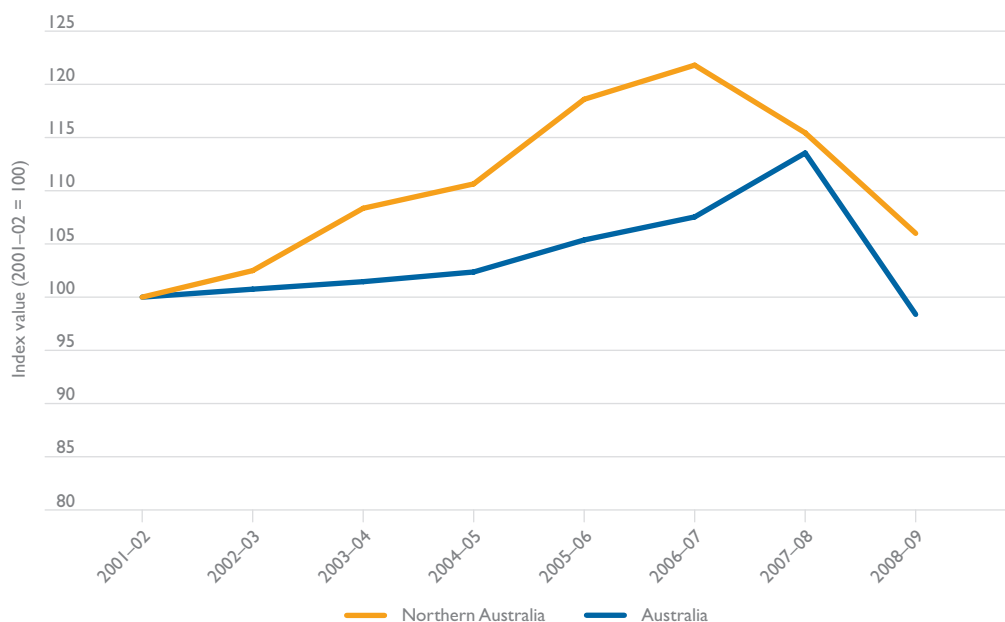
Note: At the time of preparation data for 2009–10 was not available.

Source: BITRE (2009), unpublished data.

Tonnages loaded indicate volatility but also growth over time (see Figure 6.1.12 and 6.1.13). Northern Australia's loaded tonnages in coastal shipping grew steadily between 2001–02 and 2006–07, and then experienced a decline. Australian tonnage loaded grew much slowly over the same period and experienced a decline in tonnage later in the 2008–09 financial year. Both northern Western Australia and Queensland had far less volatility than the northern Northern Territory region which consists of the ports in the Darwin-East Arnhem Region (see Figure 6.1.3). The volatility apparent in the Darwin-East Arnhem Region could be due to factors such as the opening of the direct railway line between Darwin and Adelaide in 2004–05.

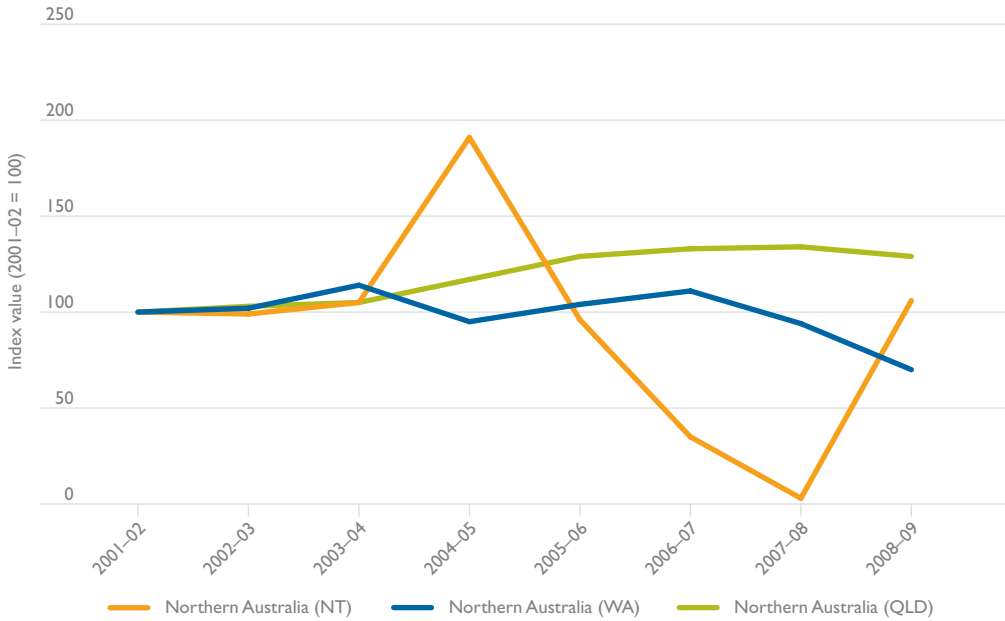
F6.1.14 has been omitted for the update.

F6.1.12 Northern Australia and Australian—coastal shipping, loaded tonnage, 2001–02 to 2008–09 (index 2001–02 = 100)



Source: BITRE (2011), unpublished data.

F6.1.13 Northern Australia regions—coastal shipping, loaded tonnage, 2001–02 to 2008–09 (index 2001–02 = 100)



Source: BITRE (2011), unpublished data.

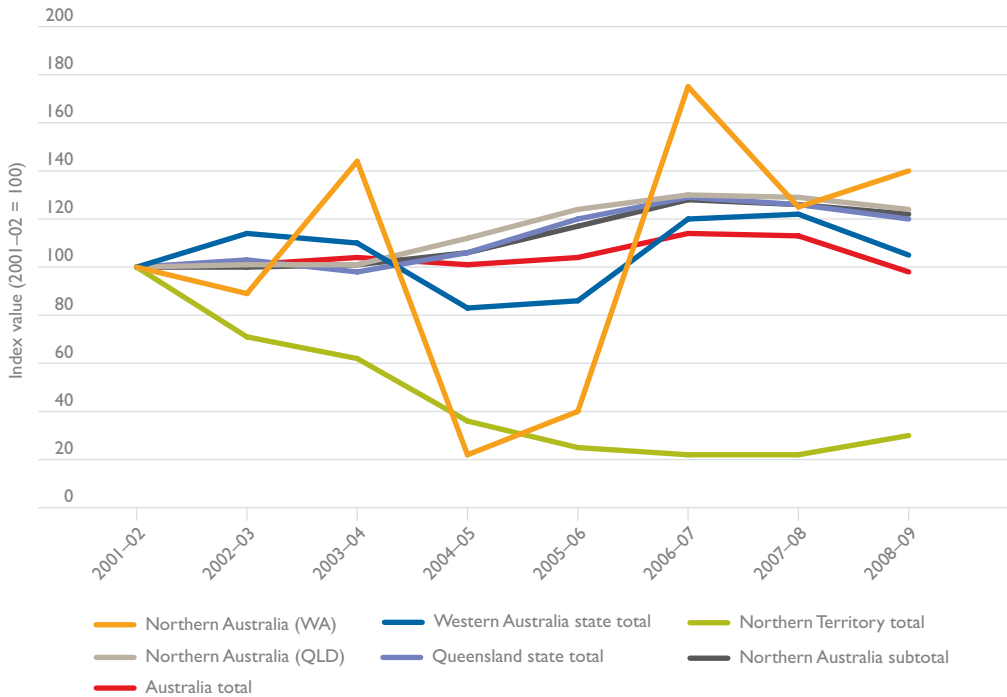
Coastal shipping—unloaded tonnage

Tonnages unloaded in Northern Australia coastal shipping represented 30.9 per cent of the corresponding Australian total sea port tonnages in 2008–09. A majority of the unloaded tonnages were: mineral fuels, lubricants and related materials; manufactured goods; commodities; and machinery and transport equipment. The largest tonnages unloaded were in the Gladstone and Northern regions of Queensland (see Table 6.1.6). Queensland’s northern regions represented 80 per cent of the total unloaded coastal tonnage intrastate, whilst the northern regions of Western Australia unloaded 17 per cent of coastal sea freight of that state.

Northern Australia Queensland along with the states of Queensland and Western Australia had stable increases in unloaded shipping (see Figure 6.1.15). In contrast, the Northern Territory and northern Western Australia have experienced very different outcomes. The Northern Territory has experienced a steady decline in unloaded shipping tonnage with only a slight increase in the last presented financial year. Northern Western Australia has had large fluctuations in the reported tonnage over the same period.

Note that a number of errors in the coastal shipping tables published in the original Northern Australian statistical *Compendium* 2009 have been rectified in Table 6.1.6 and the associated graphs.

F6.I.15 Northern Australia—coastal shipping, unloaded tonnage, by state, 2001–02 to 2008–09 (index 2001–02 = 100)



Source: BITRE (2011), unpublished data.

T6.1.6 Northern Australia—coastal shipping, unloaded tonnage, 2001–02 to 2008–09

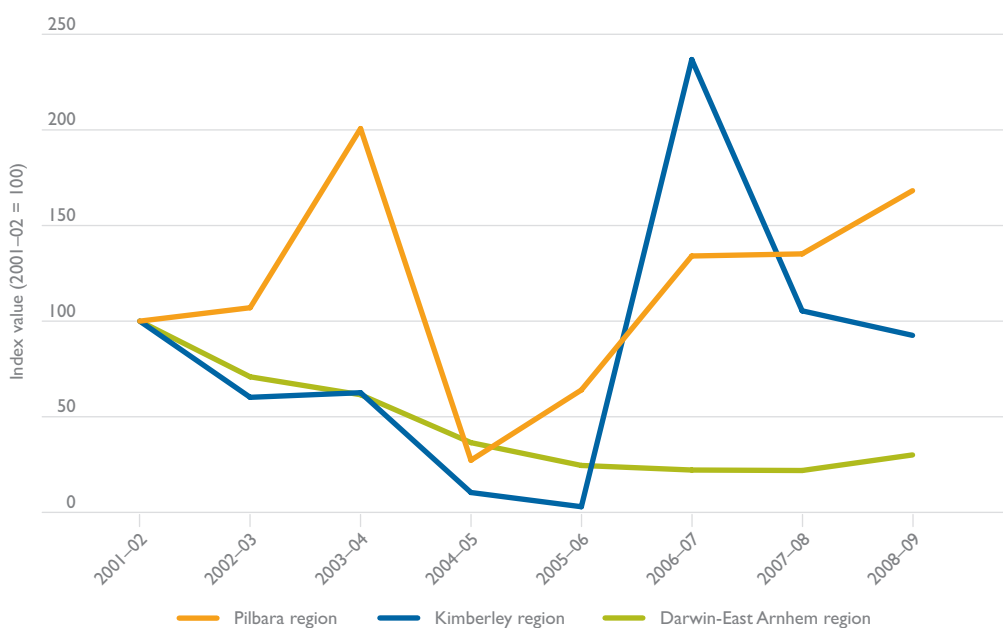
Region	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	Per cent of total unloaded tonnes in Australian ports in 2008/9
Northern Australia (WA)	498 690	444 551	719 737	109 903	201 661	874 403	625 212	695 871	1.3
Pilbara Region	296 822	317 658	595 753	80 971	189 943	397 941	401 218	499 330	1.0
Port Hedland	296 822	46 041	371 537	80 971	189 943	136 139	61 856	129 210	0.3
Kimberley Region	198 135	119 213	123 985	20 584	5 853	469 175	208 814	183 403	0.4
WA off shore terminals	3 732	7 680		8 348	5 865	7 287	15 181	13 139	0.0
Western Australia state total	3 921 802	4 474 799	4 333 176	3 262 765	3 357 613	4 718 975	4 793 661	4 118 173	8.0
Northern Australia (NT)	448 567	317 995	276 009	163 595	110 062	99 332	98 221	134 779	0.3
Darwin-East Arnhem Region	448 567	317 995	276 009	163 595	110 062	99 332	98 221	134 779	0.3
NT off shore terminals									0.0
Northern Territory total	448 567	317 995	276 009	163 595	110 062	99 332	98 221	134 779	0.3
Northern Australia (QLD)	12 167 892	12 316 878	12 284 516	13 568 091	15 036 232	15 821 801	15 747 373	15 111 575	29.3
Mackay Region	447 815	558 192	484 399	487 905	381 736	488 784	337 239	457 830	0.9
Northern Region	1 052 377	1 185 433	804 236	851 386	876 001	1 146 517	938 556	697 022	1.4
Far North Region	848 216	653 702	571 671	533 478	542 629	210 425	619 084	19 625	0.0
North West Region	23 424			6 145					0.0
QLD ports (Islands)	79 027	72 838					52 274	44 744	0.1
Rockhampton Region			1 201		16 155				0.0
Gladstone Region	9 717 033	9 846 713	10 423 009	11 689 176	13 219 711	13 976 075	13 800 220	13 892 355	26.9
Queensland state total	15 591 812	16 091 317	15 299 883	16 600 698	18 712 496	20 099 847	19 642 622	18 784 334	36.4
Northern Australia subtotal	13 115 149	13 079 424	13 280 262	13 841 589	15 347 954	16 795 536	16 470 806	15 942 226	30.9
Australia total	52 834 830	53 500 680	55 091 313	53 386 354	55 082 707	60 133 957	59 823 916	51 572 872	100.0

Note: At the time of preparation, data for 2009–10 was not available.

Source: BITRE (2011), unpublished data.

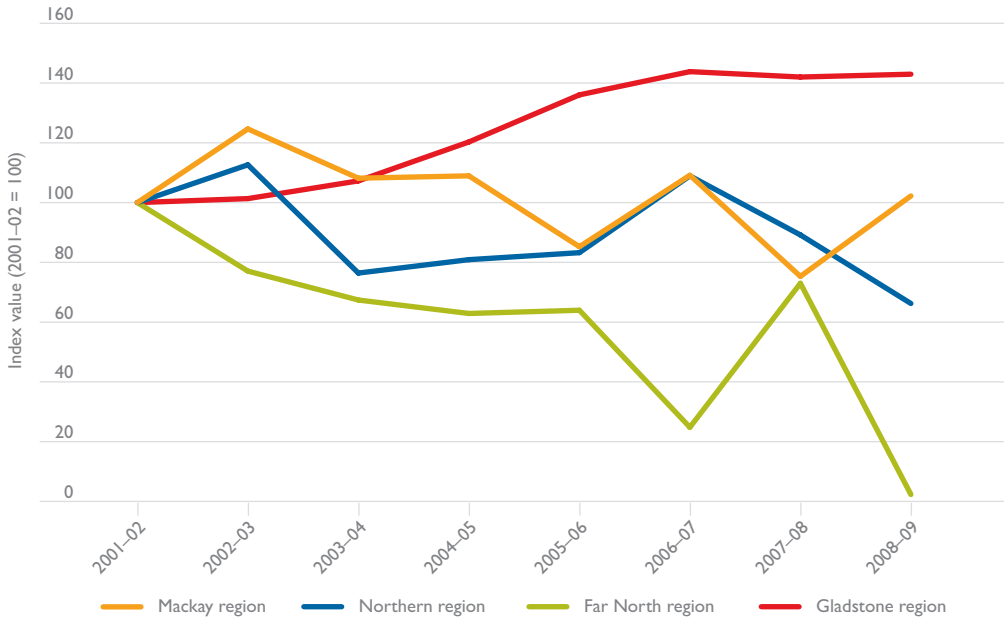
Figure 6.1.16 presents the Western Australian and Northern Territory regions for unloaded coastal shipping tonnages index, from 2001–02 to 2008–09. The Western Australian regions of the Kimberley and the Pilbara show a high level of change with both regions experiencing declines followed by significant increases in tonnage. In contrast, Darwin–East Arnhem Region has experienced a steady decline with only a small increase in the 2008–09 financial year. Queensland Northern Australian regions illustrate the volatile nature of coastal shipping with the Gladstone Region experiencing steady increases in unloaded tonnage, while the Far North Region had a marked decline with some periods of increasing growth (see Figure 6.1.17).

**F6.1.16 Northern Australia (Western Australia and Northern Territory)—
coastal shipping, unloaded tonnage, by region, 2001–02 to 2008–09
(index 2001–02 = 100)**



Source: BITRE (2011), unpublished data.

F6.1.17 Northern Australia (Queensland)—coastal shipping, unloaded tonnage, by region, 2001–02 to 2008–09 (index 2001–02 = 100)



Source: BITRE (2011), unpublished data.

The following section on sea ports has not been updated.

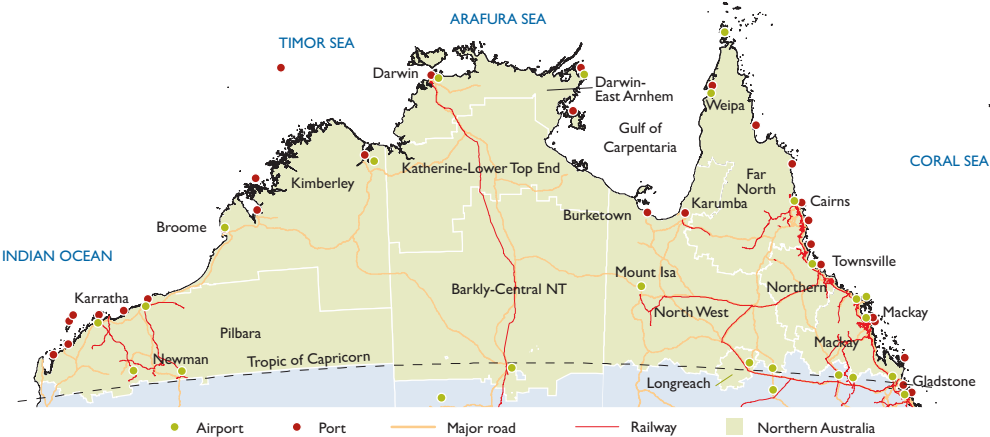
6.2 Aviation

Passenger and freight movements (pages 154–159)

The greatest number of domestic passenger movements in 2009–10 occurred in the Far North Queensland Region, followed by Mackay Region and the Darwin-East Arnhem Region in the Northern Territory (see Table 6.2.3). For a location of a major airport in Northern Australia see Map 6.2.1. The large numbers of passengers travelling regularly by air in Queensland relate to the size of the resident population, this is also combined with a large number of domestic and international tourists.

An important part of domestic transport in Northern Australia is related to ‘fly-in fly-out’ staff rotation arrangements in remote mining, geological services and, increasingly, agriculture. Air transport is used to carry workers from their places of residence to remote locations in Australia’s north. While regular public transport (RPT) services account for some of this activity, a significant proportion is carried on charter flights. Unfortunately, no detailed data is available on the charter sector.

M6.2.1 Northern Australia—major airports, roads and railways, 2009



Source: Geoscience Australia (2009), unpublished.

T6.2.3 Northern Australia—air passenger and freight movements, 2009–10

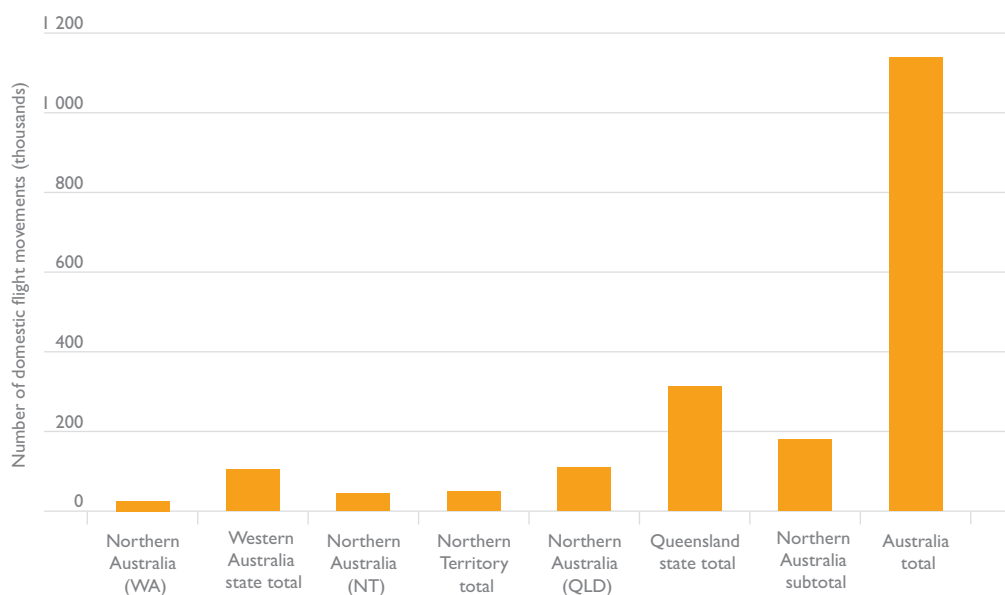
Region	Air passenger movements						Freight movements					
	Domestic inbound	Domestic outbound	Total domestic passenger movements	Total international passenger movements	Total inbound	Total outbound	International inbound (tonnes)	International outbound (tonnes)	Total international freight (tonnes)	Total passenger movements	Per cent of Australia's passenger movements	Per cent of Australia's freight movements
Northern Australia (WA)	880 128	888 595	1 768 723	880 128	888 595	1 768 723					0.0	0.0
Pilbara Region	627 577	631 854	1 259 431	627 577	631 854	1 259 431					0.0	0.0
Kimberley Region	252 551	256 741	509 292	252 551	256 741	509 292					0.0	0.0
Western Australia state total	4 642 012	4 649 689	9 291 701	2 981 877	6 147 376	12 273 578	32 572	32 604	65 176		0.0	0.0
Northern Australia (NT)	1 118 898	1 130 201	2 249 099	207 825	1 227 874	1 229 050	317	99	416		0.0	0.0
Darwin-Kakadu Region	781 497	786 000	1 567 497	207 825	890 473	84 849	317	99	416		0.0	0.0
Barkly-Central NT Region	337 255	344 055	681 310	337 255	344 055	681 310					0.0	0.0
Katherine-Lower Top End Region	146	146	292		146	146					0.0	0.0
Northern Territory total	1 264 398	1 276 478	2 540 876	207 825	1 373 374	1 375 327	317	99	416		0.0	0.0
Northern Australia (QLD)	3 362 229	3 355 127	6 717 356	427 380	3 578 056	3 566 680	1 955	3 819	5 774		0.0	0.0
Mackay Region	811 284	812 774	1 624 058	811 284	812 774	1 624 058					0.0	0.0
Northern Region	772 371	765 467	1 537 838	772 371	765 467	1 537 838					0.0	0.0
Far North Region	1 670 338	1 667 300	3 337 638	427 380	1 886 165	1 878 853	1 955	3 819	5 774		0.0	0.0
North West Region	93 964	94 272	188 236	93 964	94 272	188 236					0.0	0.0
Longreach Region	14 272	15 314	29 586	14 272	15 314	29 586					0.0	0.0
Queensland state total	14 071 717	14 058 325	28 130 042	5 320 085	16 721 536	16 728 591	47 777	50 135	97 912		0.0	0.0
Northern Australia subtotal	5 361 255	5 373 923	10 735 178	635 205	5 686 058	5 684 325	2 272	3 918	6 190		0.0	0.0
Australia total	50 789 677	50 789 677	101 579 354	25 626 406	63 644 919	63 560 841	453 180	306 799	759 979		0.0	0.0

Note: Data on domestic airfreight is not available.

Source: BITRE (2010b) and unpublished data.

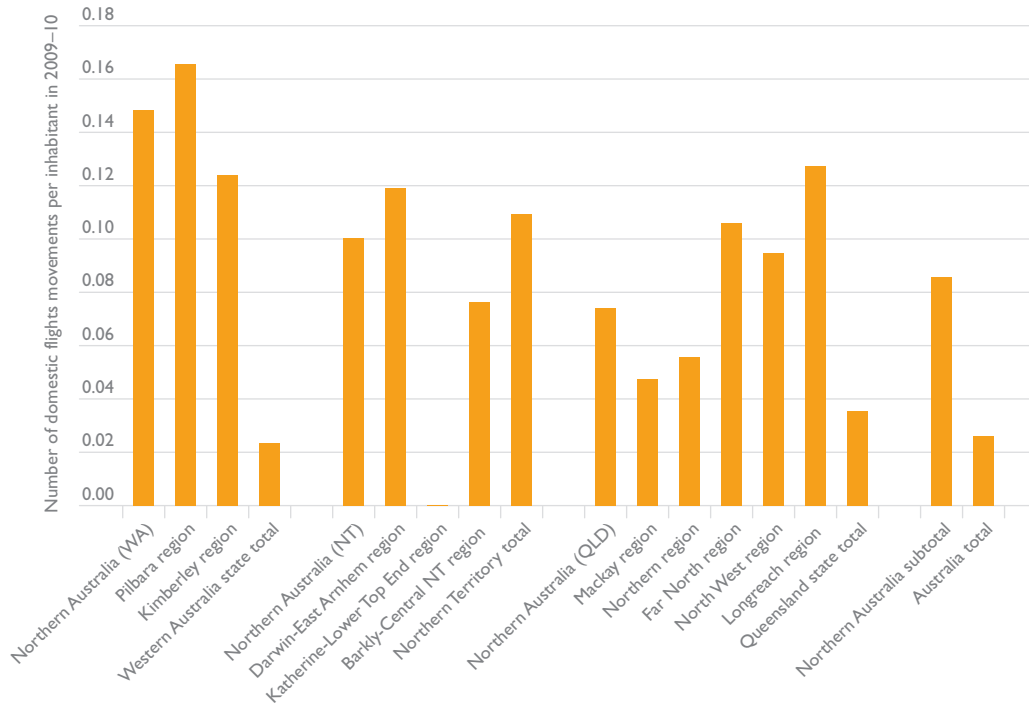
Figure 6.2.1 illustrates the total domestic RPT flight movements in the northern regions of Queensland and Northern Territory in 2009–10. These flight movements, when compared with the size of resident populations of these regions, indicate that domestic air transport has been used much more frequently in Northern Australia than in the rest of Australia. The average number of domestic flights per capita of residents of Northern Australia in 2009–10 was several times higher than in Australia and in their respective states. Figure 6.2.2 indicates that the number of domestic flights per resident of Pilbara and Kimberley regions was 4.5 times higher than the Australian and Western Australian averages. For Queensland's northern regions, these averages were higher than those for Queensland and Australia but relatively lower than for northern regions of the Northern Territory and Western Australia. Northern Australia's high level of flying frequency is largely related to long travel distances related to the remoteness of those locations and the regular use of air transport in periodic staff rotations in remote mining, services and other sectors.

6.2.1 Northern Australia—number of domestic flight movements in northern regions and state totals, 2009–10



Note: Information presented in this update is different to the initial publication because it is based on flight movements.
Source: BITRE (2010b) and unpublished data.

F6.2.2 Northern Australia—domestic outbound flights per capita by region, 2009–10



Note: Data illustrates scheduled services only, charter flights are not included. Flying trips (domestic flights) are calculated by dividing outbound flights by the resident population. Information presented in this update is different to the initial publication.

Source: BITRE (2010b) and unpublished data.

Aircraft movements by regular public transport (RPT) services in Northern Australia accounted for nearly 15 per cent of total Australia’s RPT aircraft movements in 2009–10. These relatively large numbers of aircraft movements were required in providing regular services to about 4.8 per cent of the Australian population located in Northern Australia. Table 6.2.4 also indicates that air services are concentrated in relatively few regions, such as the Far North and Northern regions of Queensland, as well as in Darwin-East Arnhem in the Northern Territory and the Pilbara and Kimberley regions in Western Australia.

Some relatively large communities and important regional business centres did not have regular air services in 2009–10, although they had these services in 2005. Among them are Katherine and Tennant Creek in the Katherine-Lower Top End Region of the Northern Territory, Cooktown and Weipa in the Northern Region of Queensland.

T6.2.4 Northern Australia—aircraft movements, 2009–10

Region	Domestic	International	Total	% of State
Northern Australia (WA)	25 218		25 218	20.6
Pilbara Region	16 560		16 560	13.5
Exmouth	1 264		1 264	1.0
Port Hedland	3 477		3 477	2.8
Kimberley Region	8 658		8 658	7.1
Western Australia state total	105 124	17 137	122 261	100.0
Northern Australia (NT)	44 354	4 986	49 340	90.7
Darwin-Kakadu Region	37 694	4 986	42 680	78.4
Darwin	20 976	4 986	25 962	47.7
Barkly-Central NT Region	6 658		6 658	12.2
Alice Springs	6 652		6 652	12.2
Katherine-Lower Top End Region	2		2	0.0
Northern Territory total	49 443	4 986	54 429	100.0
Northern Australia (QLD)	113 568	4 878	118 446	34.0
Mackay Region	19 153		19 153	5.5
Mackay town	12 927		12 927	3.7
Northern Region	29 232		29 232	8.4
Townsville	25 144		25 144	7.2
Far North Region	57 123	4 878	62 001	17.8
Weipa	1 212		1 212	0.3
Cairns	33 686	4 878	38 564	11.1
North West Region	7 109		7 109	2.0
Mount Isa	3 918		3 918	1.1
Longreach Region	951		951	0.3
Longreach	951		951	0.3
Queensland state total	312 803	35 941	348 744	100.0
Northern Australia subtotal	183 140	9 864	193 004	14.9
Australia total	1 139 050	153 854	1 292 904	100.0

Source: BITRE (2010b) and unpublished data.

Table 6.2.5 illustrates aircraft movements at selected Northern Australian airports in various fixed-wing weight categories, as well as helicopters. The data also lists regular public transport aircraft movements in these airports. The share of RPT in the total aircraft movements varied from 28.9 to 47.0 per cent, thus indicating that a majority of aircraft movements are non-scheduled. The published data remains incomplete but it indicates that staff rotations, expert services and some categories of supplies are being carried out by charter operators. This includes: transport of passengers (largely 'fly-in fly-out' of miners, engineering staff); transport of platform crews and light weight supplies from airports to platforms and back; provision of over-flying geological services; provision of health services; aerial surveying; transport of equipment and provisions to mines; and pipeline building and maintenance.

T6.2.5 Northern Australia—aircraft movements in selected Northern Australian airports, 2009–10

Arrival airport name	Over 136 tonnes	Between 7 and 136 tonnes	Less than 7 tonnes	Helicopter	Unknown weight	Military	Total of all aircraft movements	Total RPT	Per cent of RPT in total aircraft movements
Alice Springs	–	8 188	13 856	920	–	78	23 042	6 652	28.9
Cairns	3 098	39 592	32 266	8 362	–	84	83 402	38 564	46.2
Townsville	60	25 802	25 312	1 360	–	998	53 532	25 144	47.0
Rockhampton	54	18 826	19 320	2 358	–	534	41 092	13 018	31.7
Hamilton Island	–	4 500	2 470	5 222	–	12	12 204	4 276	35.0

Note: Movements are the sum of Arrivals and Circuits multiplied by 2. Arrival data is only recorded during hours of tower operation, therefore actual movements at non non-manned locations may be higher than published. The Air Services' aircraft movement data include regular air transport, chartered and owner-operator flights. Rockhampton was included in this table as it is part of a very busy and important regional hub in an area extending into Northern Australia.

Source: Airservices Australia (2010) and BITRE (2010b).

Maps 6.2.2 to 6.2.7 have not been updated (p. 160–165)

6.3 Railways (pages 166–171)

There are three distinct railway systems in Northern Australia. There is a network of railways of in the Pilbara Region; the AustralAsia Railway in Northern Territory, linking Darwin with other capital cities; and the narrow-gauge railways of Queensland.

Railway task

The primary task performed by the railways of Northern Australia is focused on a limited range of passenger and freight operations. There are a small number of passenger train services on a few of the rail lines, connecting communities with regional centres and providing tourist operations, principally in Queensland. The passenger services are shown in Table 6.3.1.

T6.3.1 Passenger train operations in Northern Australia, 2011

State	Route	Service
Queensland	Cairns–Kuranda–Forsayth	Kuranda Scenic Railway, twice daily Savannahlander; thrice weekly
	Normanton–Croydon	Gulflander; once weekly
	Townsville–Mt Isa	The Inlander; twice weekly
	Cairns–Brisbane	The Sunlander; thrice weekly Tilt Train, twice weekly
	Longreach–Rockhampton	Spirit of the Outback, twice weekly
Northern Territory	Darwin–Alice Springs (–Adelaide)	The Ghan, once weekly; twice weekly in dry season

Source: Rail Australia (ndp)

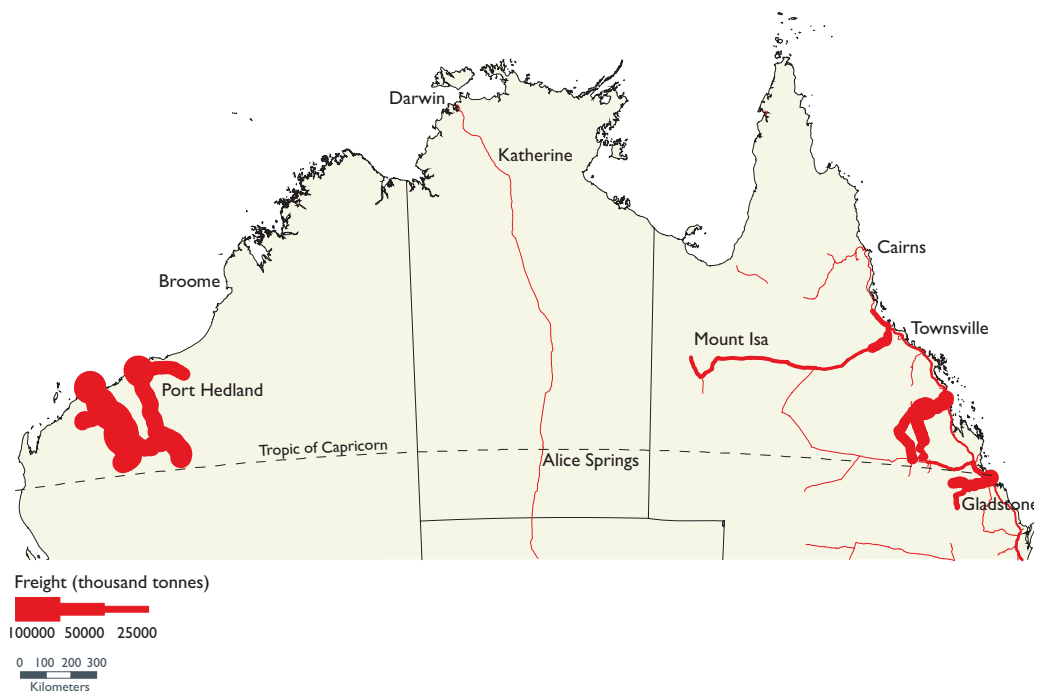
The freight railway operations in Northern Australia perform crucial roles. One such role is in intermodal freight, where services link Darwin with southern Australia, and along Queensland's east coast (Cairns–Townsville–Rockhampton–Brisbane).

The railways' principal role is in the export-based movement of ores and coal from the hinterland to the ports. See Map 6.3.1. For practical, logistical and economic reasons, miners seek to move coal and ores almost entirely by rail. The principal bulk rail freight movements are summarised in Table 6.3.2. The task can be summarised as comprising four distinct bulk rail freight operations:

- Mt Isa–Townsville corridor, moving mineral concentrates, metals, fertilisers and sulphuric acid.
- Queensland coal movements from the Bowen Basin. Rail traffic flows from the Newlands rail/mining system to Abbot Point (near Bowen); from the Goonyella system to Dalrymple Bay and Hay Point (near Mackay); from the Blackwater and Moura systems to RG Tanna and Barney Point (near Gladstone).
- Western Australian iron ore, from the Pilbara Region to terminals at Port Hedland, Port Walcott (Cape Lambert) and Dampier.
- Bulk freight along the AustralAsia Railway to Darwin. The goods shifted are manganese ore from Bootu Creek (via Muckaty rail siding near Tennant Creek); iron ore from Frances Creek (via Union Reef siding); and copper and gold concentrate from Prominent Hill in South Australia to Darwin (via Wirrida siding).

In addition to these tasks, some railways in Northern Queensland operate with low volumes of general commodities, such as cattle movements. In addition to these tasks, in Queensland there are large volumes of sugar cane traffic, moved over relatively short distances, from plantations to refineries.

M6.3.1 Northern Australia—assigned rail freight (kilotonnes), 2005



Source: BITRE 2009

T6.3.2 Principal bulk rail freight movements in Northern Australia, various years

Railway	Commodity	Million tonnes pa (year)
Mt Isa–Townsville corridor	Mineral concentrates, metals, fertilisers, sulphuric acid	4.8 (2004–05)
Queensland coal network	Coal	Newlands 14.2 (2008–09) Goonyella 86.5 (2008–09) Blackwater 50.7 (2008–09) Moura 11.3 (2008–09)
Pilbara iron ore networks	Iron ore	Rio Tinto 224 (2010) BHP Billiton 134 (2009–10) Fortescue 40 (2009–10)
AustralAsia (Darwin) railway	Manganese ore, iron ore, copper/gold concentrates	2.2, with around 0.25 m tonnes from Prominent Hill, SA; 0.55 m tonnes from Bootu Creek; 1.5 m tonnes from Frances Creek (2008–09)

Source: QR Network 2009; DOTARS 2007; Rio Tinto ndp; Le May 2011; BHP Billiton 2010; Track & 7 Signal 2008; AustralAsia Railway Corporation 2009; and Fortescue Metals Group Limited 2010.

Strong global demand for ores and coal has led railway infrastructure managers/miners to plan to cater for increased extraction of those commodities. Where existing railways are capacity constrained, various track and signalling schemes have been identified to increase throughput. There are also new railways being constructed. These expansion plans are in concert with mine and port capacity expansion plans.

The consequence of railway infrastructure and train investments will be substantially more railway throughput. For instance, in the Pilbara, Rio Tinto’s various investment projects would see current port throughput in the Pilbara (essentially all moved by rail) rise from 224 million tonnes, to a maximum potential throughput of 330 million tonnes. Similarly, Fortescue is investigating expanding output from the current 55 million tonne capacity, to 95 million tonnes. In 2012, the completion of infrastructure works on Queensland’s Newlands coal system (including construction of a 69 km railway linking the Newlands system with the Goonyella system) will result in track capacity doubling (from 25 million tonnes to 50 million); with complementary port, terminal and mining capacity expansions, the buoyant global market for the coal, will lead to that capacity being taken up by mining companies.⁵

Characteristics of the railway infrastructure

Northern Australia’s railways are owned or managed by a range of companies. Three-quarters of the route length is privately owned or managed—see Table 6.3.3. In most cases, the lines are single-track, non-electrified track. Notable exceptions to this are some of the railways managed by QR National (privatised in late 2010); some of those railways have important segments of double-track and have been electrified.

The Pilbara railways, built to standard (1435 mm) gauge, have been privately-built, beginning with the Hamersley Iron [Rio Tinto] Tom Price–Dampier railway, opened in 1966. The system of railways in the Pilbara now consists of more than 2000 km, with further extensions and railways planned.

There are three major railway infrastructure managers in the Pilbara: Rio Tinto, BHP Billiton, and Fortescue; these entities wholly own the railways or majority own the infrastructure in joint

⁵ QR Network 2010; Fortescue Metals Group Limited 2010; and Rio Tinto ndp.

ventures with other companies. Hancock Prospecting is planning to construct a 300 km railway; in 2010 Rio Tinto opened railways to Mesa A and Brockman 4 mines, offsetting resource depletion at other locations on their network. In 2011, Fortescue opened a 50 km extension of its Cloud Break railway, to Christmas Creek. The trackage of all three infrastructure managers are set to very high operational standards, with relatively high axle loads permitting very heavy wagons. Similarly, Pilbara trains are very long—up to 2.8 km in length—and together with high axle loads, allowing gross train weights of up to 26 000 tonnes. The high infrastructure and train standards make these trains amongst the longest and heaviest trains regularly operated in the world.

The AustralAsia Railway in Northern Territory (between Darwin and Alice Springs) opened in 2004 and led to the development of some freight operations. The railway construction, between the railhead at Alice Springs, and Darwin, was financed through a PPP between the private sector and the Australian, Northern Territory and South Australian governments. New port facilities were constructed in Darwin, for international intermodal and bulk haulage.

From line opening in 2004, the infrastructure manager of the AustralAsia Railway was Freightlink; the company was placed in administration in 2008. Genesee & Wyoming Australia (based in SA) purchased the operation in 2010. The railway, linking to the East–West corridor at Tarcoola, is a concrete-sleepered, single-track railway. Additional, incremental, capacity can be readily added to this line, through provision of additional passing loops. Three of the four new mining operators (at Bootu Creek, Frances Creek, Prominent Hill [SA]) along the line have elected to shift their ore northwards through Darwin; the Cairn Hill [SA] mining output, near Coober Pedy, is transferred via Rankin Dam siding (on the AustralAsia Railway) to Outer Harbour, Adelaide. Most of the non-bulk ('intermodal') freight between Darwin and the south has switched from road to rail.

The Northern Australia railways in Queensland are largely built to narrow gauge. An exception is a short railway owned by Rio Tinto; the line is built to standard gauge and hauls bauxite to the port of Weipa. Around one-third of the route kilometres in Queensland are managed by QR National. That company—which operates most of the coal and other freight services in Queensland—manages most of Queensland's coal lines. Those lines are the railways of the Newlands, Goonyella, Blackwater and Moura coal systems. In 2009, QR National's railway infrastructure, which included both trains and track was hived off from Queensland Rail. The company was privatised in November 2010. Much of the QR National network is electrified and is set to relatively high axle loads.

An important coal network projects includes the construction of the 69 km 'Northern Missing Link' (or 'GAP') project, which links the Newlands and Goonyella coal systems. The railway will permit Goonyella system coal (currently channelled exclusively via the Port of Hay Point) to alternatively be shipped from the Port of Abbot Point (the port for the Newlands coal system). The Newlands–Abbot Point railway is being upgraded to increase line capacity in order to cater for this additional traffic. The planned 210 km 'Southern Missing Link' railway (south of the Tropic of Capricorn)—also known as the Surat Basin Railway, between Banana and Wandoan—will feed thermal coal export traffic north to the port of Gladstone and, specifically, to the Wiggins Island Coal Terminal. The extra traffic on the Moura system that will be generated by this new railway will require capacity expansion on the existing coal line to Gladstone. Waratah Coal and Hancock Coal have each made proposals for new, standard gauge railway lines, from the Alpha coal basin to new port facilities south of Mackay.

The government-owned Queensland Rail tracks are dominated by the 967 km Mt Isa corridor, largely performing a mixed bulk freight task. The 1 681 km Cairns–Brisbane main line is mostly owned by Queensland Rail. Other Queensland Rail lines have relatively low value commodities and are set to relatively low operational standards.

The freight task in Queensland is largely performed by QR National, Asciano and Rio Tinto—the latter’s operation being restricted to its short, but intensive, Weipa operation. Asciano operates an intermodal (non-bulk) operation between Cairns and Brisbane. Following the introduction of mandated access provisions, mining companies have been free to offer tenders for train operators to bid to operate their trains. In that context, Asciano has won contracts to haul coal trains for mining companies.

The advent of mandated access has led to Asciano making inroads into QR National’s coal haulage dominance in Queensland, but in 2011 the state’s coal task is still dominated by QR National. QR National also has the Queensland Government contract (in force between 2010 and 2015) to operate other freight services in the State.

T6.3.3 Characteristics of railway infrastructure of Northern Australia, 2011

Open railways in Northern Australia	Gauge and route kilometres, by infrastructure manager						Total
	Sugar tramways; other		Narrow		Standard		
	Manager	km	Manager	km	Manager	km	
Western Australia					BHP Billiton	636	
					Fortescue	310	
					Rio Tinto Group	1 095	2 041
Northern Territory (north of Alice Springs)					Genesee & Wyoming Australia	1 418	1 418
Queensland (including Moura/Gladstone coal system)	Sugar tramways	4 200	QR National	1 467	Rio Tinto Group	19	
	Other	4	Queensland Rail	3 046			8 736
Total		4 204		4 513		3 478	12 195
Proposed/under construction railways in Northern Australia							
Western Australia					Hancock Prospecting	303	
					Hope Downs JV	52	355
Queensland			Various	308	Various	990	1 298

Source: BITRE railway profile database (unpublished).

CHAPTER 8

Natural resources

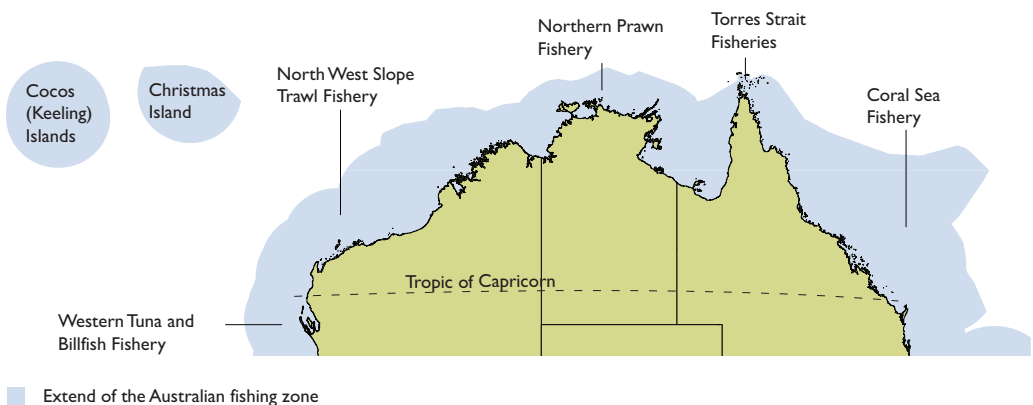
8.8 Fisheries (pages 240–245)

Due to the importance of the fishing industry and the pressures currently being placed on the natural marine environment, the fisheries of Australia have been placed under strict management, both at the state and national level. Each fishery incorporates measures such as catch limits, size limits, target catches and seasonality to ensure the sustainable harvest of the fisheries.

Fisheries are open to two classes of fishing: commercial and recreational. Commercial fishing is important as a source of food for both domestic and foreign consumption, while recreational fishing is important as a source of tourism revenue for the regions where this is allowed.

At the national level, the Australian Fisheries Management Authority (AFMA) is responsible for the efficient and sustainable management of the Commonwealth fish resources. Generally, they manage fisheries from three nautical miles to 200 nautical miles (or national economic boundaries) of ocean, but on negotiation with the states can manage up to the shore line. State authorities control the fisheries situated within three nautical miles of the coast.⁶

M8.8.1 Northern Australia—fisheries



Source: AFMA (2008a).

⁶ (AFMA 2010f). All data on the fisheries administered by the AFMA comes from their website <http://www.afma.gov.au>.

AFMA manages more than twenty fisheries, nine of which include waters off Northern Australia. Of these nine, only four fisheries are exclusively associated with Northern Australia.

The fisheries which are situated off the coast of Northern Australia are:

- Torres Straight Fisheries
- Coral Sea Fishery
- Western Deepwater Fishery (a small area of its most northern part)
- Northern Prawn Fishery
- North West Slope Fishery
- Eastern and Western Tuna, Skipjack and Billfish fisheries (which cover the whole of the Australian coast).

Coral Sea Fishery

The Coral Sea Fishery is a relatively small fishery which lies off the coast of Queensland, encompassing approximately 17 000 square km. A diverse set of marine life are allowed to be fished, including sea cucumber, shark and large varieties of finfish. In 2007–08, the approximate landed weight from the Coral Sea Fishery was 132 tonnes (plus aquarium fish) with an estimated value of \$0.58 million, which is a loss of both tonnage and value of 60.2 tonnes and \$0.76 million from the 2006–07 estimates (AFMA 2010a).

Northern Prawn Fishery

Situated off the northern coast of Australia, the Northern Prawn Fishery stretches from Cape York in Queensland to Cape Londonderry in Western Australia. The Northern Prawn Fishery produces nine commercial species of prawns as well as squid, scallops, scampi and bugs.

To manage this fishery, the AFMA operates a number of controls so that the fishery is not over fished. These controls include and are not limited to seasonal closure, localised permanent closures and limited entry.

In 2008–09, production from this fishery was estimated at \$73 million, which is up from the 2006–07 estimate of \$64 million. In 2008–09, 5495 tonnes of banana prawns and 1013 tonnes of tiger prawns were produced (AFMA 2010b).

North West Slope Trawl Fishery

The North West Slope Trawl Fishery is situated off the northern Western Australia coast, extending from 114°E to approximately 125°E. The fishery mostly targets crustaceans such as deepwater prawns and scampi. Many operators fish both the Northern Prawn Fishery and the North West Slope Trawl Fishery, though the fishery is somewhat seasonal, based on the seasonal operation of the Northern Prawn Fishery. As of June 2010, the region had seven fishing permits operating (AFMA 2010c).

Western Deepwater Trawl Fishery

The majority of the Western Deepwater Trawl Fishery is not situated off the coast of 'northern Australia', though its most northern part can be considered part of Northern Australia. This fishery produces numerous different types of fish, primarily finfish. In the northern section, the fish tend to be more tropical in nature, such as tropical snapper.

The Western Deepwater Trawl Fishery is not heavily fished with a total haul of 53.2 tonnes in 2008–09 (AFMA 2010d). The market for the produce of the fishery is mainly domestic.

The above figures are for the whole of the Australian fishery and not for Northern Australia parts alone, as the data was not able to be divided into our northern Australia classifications.

Eastern and Western Tuna, Skipjack and Billfish fisheries

These fisheries cover the whole of the Australian Fishing Zone and the adjacent high seas. These fisheries have an east/west divide for the ease of management. The main markets for the production of the Tuna and Billfish Fisheries are Japan, America and domestically, while the majority of the production of the Skipjack Fisheries are supplied to the Port Lincoln cannery.

The Eastern Tuna and Billfish Fishery's main port in Northern Australia is Cairns. A total of 6399 tonnes was produced from this fishery at a value of \$A38.89 million in 2008–09 (AFMA 2010e) which have increased from their estimates in 2006–07.

The estimated catch and value for the Western Tuna and Billfish Fishery in 2007–08 was 305 tonnes (with the majority being Billfish at 219 tonnes) and \$1.67 million (AFMA 2009).

These figures are for the whole of these fisheries and not for Northern Australia alone, as the data was not able to be divided into our Northern Australia classifications.

Torres Strait Fisheries

The Protected Zone Joint Authority (PZJA)⁷ (a joint operation of the Australian Government, the Queensland Government and the Torres Strait Regional Authority) manages and is responsible for the 10 separate fisheries located in the Torres Strait Protected Zone (TSPZ). The purpose of these fisheries is to acknowledge and protect the traditional culture and livelihoods of the inhabitants of the Torres Strait. Within these fisheries, the traditional inhabitants have the right of free movement and can fish for their traditional catch, in a traditional manner. For instance, in the Pearl Shell Fishery, licences are limited to the Indigenous population, and the only method of harvest allowed is diving and hand collection.

The largest (in geographical size) fishery is the Turtle and Dugong Fishery, where Torres Strait Islanders are allowed to fish for turtles and dugong using their traditional methods. All of the other fisheries are geographical subsets of the Turtle and Dugong fishery. Detailed maps of the other Torres Strait fisheries can be found at <http://www.pzja.gov.au/resources/maps.htm>. Some of the other fisheries of the Torres Strait are for rock lobster, barramundi, beche-de-mer (sea cucumber) and crab.

⁷ <http://www.pzja.gov.au/>.

The total catch for the Torres Strait Fisheries was 2195 tonnes at an approximate value of \$21 million in 2007–08.

Western Australia State Fisheries

The Western Australian Department of Fisheries oversees the fisheries along the Western Australian coast within three nautical miles of the shore. The Department manages its coast as four offshore and two inland bioregions. Each region contains numerous fisheries based on geographical location and target catch. Of interest to Northern Australia are the North Coast bioregion and the most northern part of the Gascoyne Coast bioregion.

The North Coast bioregion contains twelve individual fisheries, four dedicated to prawns, five dedicated to fish (and shark) of different species, and one each for oysters, crabs and beche-de-mer. Recreational fishing is concentrated around population centres with greater activity during the dry season (WADF 2010b).

Tropical finfish are a main focus for the North Coast bioregion taken in the Pilbara Fish trawl Fishery and the Pilbara and Northern Demersal Trap Fisheries, with the typical catch in the range of 3000 tonnes. This makes 'these Fisheries, at an estimated annual value of around \$12 million, the most valuable finfish sector in the state' (WADF 2010b, p.148). Other commercial fisheries are Pearl Oysters for the production of pearls and a small, limited-entry trawl fisheries for prawns, which produce around 700 tonnes annually (WADF 2010b, p.148).

The Gascoyne bioregion contains six bioregions, only one of which is applicable to Northern Australia. The Exmouth Gulf Prawn Fishery, as its name suggests, is situated in the water east of Exmouth and targets four species of prawns. The fishery approximated production was 828 tonnes in the 2009 reporting period. This comprised of 283, 412, 132 and 1 tonnes of king prawns, tiger prawns, endeavour prawns and banana prawns respectively (WADF 2010b, p.118).

Also situated in the Gascoyne bioregion is the Ningaloo Reef, an important natural attraction for the tourism industry, acting as a main attraction for tourists.

In 2007–08 Western Australia had the third largest gross value of production in the country, representing 20 per cent of the national total (ABARE 2009). However, from 1997–98 to 2007–08 Western Australia's share of gross value of production fell 'significantly' by 10 percentage points. More recently, the gross value of production for the state's wild catch in 2007–08 was \$325 607 thousands declining from \$352 608 in 2006–07 (ABARE 2009).

Northern Territory Fisheries

The Northern Territory Department of Resources (DoR)—Primary Industry, Fisheries and Resources is responsible for the fisheries of the Northern Territory. The Northern Territory has 12 operating wild catch fisheries.

The value of the wild catch of the Northern Territory fisheries was estimated at \$A32.9 million in 2007–08, with the highest values coming from Mud Crab (\$A11.24 million), Barramundi (\$A4.9 million) and Timor Reef (\$A4.7 million) (DoR 2010).

Due to the diverse nature of the marine life off the Northern Territory coast from the tropical nature of the waters, the Territory has a dedicated aquarium fishery for the sole purpose of

harvesting marine life for the purpose of display. This fishery produced over 95 881 individual fish in 2009.

Indigenous fishing is also an important part of the Northern Territory fisheries. In 2000–01, 91 per cent of the Indigenous population of communities along the northern coast went fishing, with an average of 12 days fishing each in that year. The most important species for the Indigenous population (in number of organisms) were mussels, mud crabs and mullet.

Queensland State Fisheries

Primary Industry and Fisheries (Queensland) is the authority which manages the states fisheries. Twenty-two fisheries were in operation in 2010, eighteen of which have an influence on Northern Australia. Most of the Queensland fisheries cover the whole of the Queensland coastline; only four fisheries are located solely in the waters off Northern Queensland.⁸ These four fisheries are:

- East Coast Tropical Rock Lobster Fishery
- Gulf of Carpentaria Developmental Finfish Trawl
- Gulf of Carpentaria Inshore Finfish Fishery
- Gulf of Carpentaria Line Fishery.

Together these four fisheries produced 3157 tonnes with a combined estimated value of \$A25.8 million. The largest fishery is the Gulf of Carpentaria Inshore Finfish Fishery with 1985 tonnes of fish harvest, with an approximate value of \$A12 million in 2009.

These fisheries are also important as a source of indigenous fishing. There are no new estimates for Tropical Rock Lobster Fishery by indigenous persons but has been estimated at approximately 13 000 individual lobsters (north Queensland estimate for 2001 only) (PIF 2010d).

As well as these fisheries, the fisheries of the Torres Strait are important to the coastal fishing of Queensland—but the majority of these are reserved for Torres Strait Islanders to fish using traditional methods (DAFF 2009 p. 213).

The natural marine resources off the Queensland coast include the Great Barrier Reef. Considered one of the natural wonders of the world, it serves as a major tourist attraction for Queensland, bringing numerous tourists to the region each year, as indicated by the high aviation travel to and from Cairns and Townsville (see Chapter 6).

The following table (Table 8.8.1) summarises the total catch at the fishery level (only for those fisheries which are solely located in Northern Australia), the whole of Western Australia, Queensland and the Northern Territory, and for Australia as a whole. However, the numbers contained in this table provide an illustration of magnitude of tonnages caught and their respective location.

⁸ Each fishery has its own report and there is no amalgamated report to reference.

T8.8.1 Northern Australia—fisheries catch in tonnes and value, various years

Fishery	Catch (tonnes)	Commercial GVP (thousands of dollars)	Year
Onslow Prawn	57	n.a. ¹	2009
Nickol Bay Prawn	126	n.a. ¹	2009
Broome Prawn	<2	n.a. ¹	2009
Kimberley Prawn	238	n.a. ¹	2009
Kimberly Gillnet and Barramundi	60	n.a. ¹	2009
Northern Demersal Scalesh	1046	n.a. ¹	2009
Pilbara fish trawl	1044	n.a. ¹	2009
Pilbara demersal trap and line	455 (trap) 123 (line)	n.a. ¹	2009
Mackerel	284	n.a. ¹	2009
Northern Shark	n.a. ¹	n.a. ¹	2009
Pearl Oyster	260 002 oysters	n.a. ¹	2009
Beche-de-mer	129	n.a. ¹	2009
Exmouth Gulf Prawn	828	n.a. ¹	2009
Western Australia state total	28 288	325 607	2007/08
GOC Developmental Finfish	744	4 900	2009
GOC Inshore FinFish	1 985	12 000	2009
GOC Line	236	1 300	2009
Tropical Rock Lobster	192	7 574	2009
Queensland state total	23 405	203 126	2007/08
Aquarium	3 358 kg rock, 95 881 individuals rock, coral crustaceans and fish	350	2009
Barramundi	615	4 930	2009
Coastal Line	216	540	2009
Coastal Net	9.9	40	2009
Demersal	505	3 230	2009
Development	n.a. ¹	n.a. ¹	2009
Finfish Trawl	1 114	n.a. ¹	2009
Mud Crab	562	11 240	2009
Offshore Net and Line	1287	2 940	2009
Spanish Mackerel	233	1 800	2009
Timor Reef	733	4 700	2009
Trepang	52.3	n.a. ¹	2009
Northern Territory total	5 937	32 948	2007/08
Torres Strait Fisheries	2 195	21 060	2008
Coral Sea Fishery	132	580	2008
Northern Trawl Prawn Fishery	6 722	73 000	2009
North West Slope Fishery	n.a. ²	n.a. ²	2008
Australia wild catch total	178 399	1 362 666	2007/08

Note: State and national totals and Commonwealth fisheries data sourced from ABARE, state fisheries data sources from relevant states.

1. Not reported.

2. Deemed confidential due to small number of operators.

Source: ABARE (2009); Northern Territory Department of Resources (2010); Western Australia Department of Fisheries (2010a); Queensland Primary Industries and Fisheries (2010a,b,c & d).

CHAPTER 9

Main industries

9.4 Tourism (pages 270–273)

According to Tourism Research Australia's (TRA) survey data, most tourist overnight stays across Northern Australia and Australia were made by domestic visitors. By comparison with the usually resident population of the region, Northern Australia received proportionately more overnight visits from tourists than Australia as a whole. In 2009, approximately 36.1 per cent of all international overnight stays, and 5.0 per cent of all domestic overnight stays, occurred in Northern Australia (see Table 9.4.1), although Northern Australia accounted for only 4.8 per cent of Australia's usually resident population in 2009. In other words, the demand for services and infrastructure is significantly higher in Northern Australia than it would be if only the usually resident population were present.

T9.4.1 Northern Australia—number of overnight stays by visitor type, by region; proportion of all Australian overnight stays by visitor type, by region, 2009

Region	International overnight stays 2009 ('000)	Domestic overnight stays 2009 ('000)	International overnight stays (proportion of all Australian international overnight stays) 2009	Domestic overnight stays (proportion of all Australian domestic overnight stays) 2009
Northern Australia (WA)	152	534	2.9	0.8
Pilbara Region	80	320	1.6	0.5
Kimberley Region	72	214	1.4	0.3
Western Australia state total	694	5 122	13.4	7.8
North Australia (NT)	447	806	8.6	1.2
Darwin-Kakadu Region	216	496	4.2	0.8
Katherine-Lower Top End Region	41	90	0.8	0.1
Barkley-Central NT Region	191	220	3.7	0.3
Northern Territory total	336	1 026	6.5	1.6
Northern Australia (QLD)	1 270	1 939	24.5	2.9
Mackay Region	272	694	5.3	1.1
Northern Region	148	na	2.9	na
Far North Region	821	1 079	15.9	1.6
North West Region	12	87	0.2	0.1
Longreach Region	na	79		0.1
Queensland state total	1 968	15 729	38.0	23.8
North Australia subtotal	1 870	3 279	36.1	5.0
Australia Total	5 175	66 072	100.0	100.0

Note: This table shows the number of overnight stays by visitor type (international and domestic visitors), and the proportion of all overnight stays in Australia by visitor type, by region.

Source: Tourism Research Australia (2010a).

Within Northern Australia, the majority of international tourist overnight stays (approximately 67.9 per cent of overnight stays in Northern Australia) and domestic tourist overnight stays (approximately 59.1 per cent of overnight stays in Northern Australia) occurred in the northern regions of Queensland. The northern regions of Western Australia had the smallest share of tourism overnight stays in Northern Australia.

T9.4.2 Northern Australia—proportion of all Northern Australian overnight stays by visitor type by region, 2009

Region	Percentage of all international overnight stays in Northern Australia 2009	Percentage of all domestic overnight stays in Northern Australia 2009
Northern Australia (WA)	8.1	16.3
Pilbara Region	4.3	9.8
Kimberley Region	3.8	6.5
Northern Australia (NT)	23.9	24.6
Darwin-Kakadu Region	11.5	15.1
Katherine-Lower Top End Region	2.2	2.7
Barkley-Central NT Region	10.2	6.7
Northern Australia (Qld)	67.9	59.1
Mackay Region	14.5	21.2
Northern Region	7.9	na
Far North Region	43.9	32.9
North West Region	0.7	2.7
Longreach Region	na	2.4
Northern Australia subtotal	100.0	100.0

Note: This table shows overnight stays in each region as a proportion of total overnight stays in Northern Australia (domestic and international visitors).
na denotes data unavailable.

Source: Tourism Research Australia (2010a).

At the regional level, some areas within Northern Australia are particularly popular destinations for both domestic and international visitors (see Tables 9.4.3 a, b, and c). Some of the most popular included Tropical North and Fitzroy in Queensland and the Top End in the Northern Territory. In fact, Tropical North Queensland is ranked sixth most popular destination for both International and domestic overnight visitors in 2009. The high number of visitors that travel to Tropical North Queensland is also reflected in the gain to the local economy with around 2700 million dollars being spent in the region.

Although the tourism regions, as listed in the table, are not geographically identical with Northern Australia's regions, as defined in this *Compendium*, the data illustrates the basic tourist movement in the regions. The data also illustrates the size of inbound tourism, length of stay and expenditure that tourism generates in Northern Australia.

T9.4.3a Northern Australia—domestic and international visitors by tourism regions, 2009

Tourism region	Domestic day visitors		
	Expenditure (\$ millions)	Number of visitors (thousands)	Expenditure per visitor (\$)
WA - North West			
NT - Top End	103	887	116
NT - Central			
QLD - Tropical North	189	1 783	106
QLD - Fitzroy	185	1 645	112
QLD - Northern	119	1 135	105
QLD - Mackay and Whitsunday	133	1 049	127

Note: Tourist regions are selected to provide the 'best' approximation to the regions of Northern Australia; missing data replaces unreliable estimates.

Source: Tourism Research Australia (2010b).

T9.4.3b Northern Australia—domestic and international visitors by tourism regions, 2009

Tourism region	Domestic overnight visitors					
	Expenditure (\$ millions)	Number of visitors (thousands)	Visitor nights (thousands)	Expenditure per visitor (\$)	Expenditure per night (\$)	Av length of stay (nights)
WA - North West	416	439	2 851	948	146	6
NT - Top End	850	750	4 206	1 133	202	6
NT - Central						
QLD - Tropical North	1 741	1 503	8 011	1 158	217	5
QLD - Fitzroy	603	1 078	4 581	559	132	4
QLD - Northern	482	757	3 018	637	160	4
QLD - Whitsunday	499	404	1 710	1 235	292	4
QLD - Mackay	255	550	1 984	464	129	4

Note: Tourist regions are selected to provide the 'best' approximation to the regions of Northern Australia; missing data replaces unreliable estimates. Estimates are based on the inclusion of airfares and long distance transport costs.

Source: Tourism Research Australia, Travel Expenditure by Domestic and International Visitors in Australia's Regions, 2010c.

T9.4.3c Northern Australia—domestic and international visitors by tourism regions, 2009

Tourism region	International visitors					
	Expenditure (\$ millions)	Number of visitors (thousands)	Visitor nights (thousands)	Expenditure per visitor (\$)	Expenditure per night (\$)	Av length of stay (nights)
WA - North West	79	62	1 550	1 282	51	25
NT - Top End	186	175	2 118	1 060	88	12
NT - Central	265	241	1 370	1 097	193	6
QLD - Tropical North	813	650	6 213	1 250	131	10
QLD - Fitzroy	52	104	1 198	498	43	11
QLD - Northern	95	142	1 336	671	71	9
QLD - Whitsunday	156	223	1 308	700	119	6
QLD - Mackay						

Note: Tourist regions are selected to provide the 'best' approximation to the regions of Northern Australia; missing data replaces unreliable estimates. Estimates are based on the inclusion of package expenditure.

Source: Tourism Research Australia, Travel Expenditure by Domestic and International Visitors in Australia's Regions, 2010d.

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