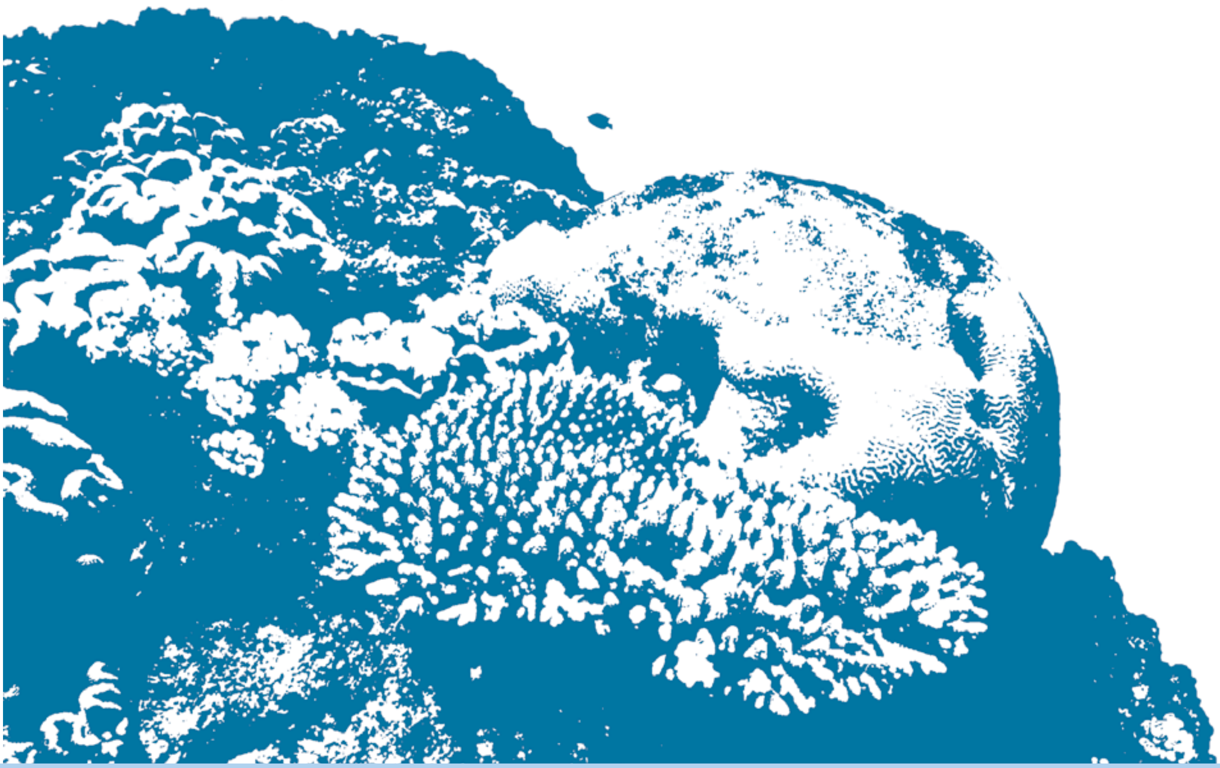
Australian Government

Great Barrier Reef Marine Park Authority

RESEARCH PUBLICATION NO. 103

Social and Economic Profile of the Great Barrier Reef Catchment 2009



RESEARCH PUBLICATION NO. 103

Social and Economic Profile of the Great Barrier Reef Catchment 2009

Social and Economic Information and Research
Science Coordination

Compiled by
Karen Lawrence

Australian Government
Great Barrier Reef
Marine Park Authority

PO Box 1379
Townsville QLD 4810

Telephone: (07) 4750 0700
Fax: (07) 4772 6093
Email: info@gbrmpa.gov.au

www.gbrmpa.gov.au

Published by the Great Barrier Reef Marine Park Authority

ISBN 978 1 921682 14 8 (pdf)

The National Library of Australia Cataloguing-in-Publication entry :

Social and economic profile of the Great Barrier Reef catchment 2009 [electronic resource] / compiled by Karen Lawrence.

ISBN 978 1 921682 14 8 (pdf)

Research publication (Great Barrier Reef Marine Park Authority : Online) ; 103.

Bibliography.

Great Barrier Reef Region (Qld.)--Economic conditions.
Great Barrier Reef Region (Qld.)--Social conditions.

Lawrence, Karen.
Great Barrier Reef Marine Park Authority.

330.9943

DISCLAIMER
The views and opinions expressed in this publication are those of the authors and do not necessarily reflect those of the Australian Government. While reasonable effort has been made to ensure that the contents of this publication are factually correct, the Commonwealth does not accept responsibility for the accuracy or completeness of the contents, and shall not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on, the contents of this publication.

Requests and inquiries concerning reproduction and rights should be addressed to:

Australian Government
Great Barrier Reef Marine Park Authority

Director, Communication and Education Group
2-68 Flinders Street
PO Box 1379
TOWNSVILLE QLD 4810
Australia
Phone: (07) 4750 0700
Fax: (07) 4772 6093
info@gbrmpa.gov.au

Comments and inquiries on this document are welcome and should be addressed to:

Chief Scientist, Director Science Coordination
stig@gbrmpa.gov.au

www.gbrmpa.gov.au

Preface

In 2008 the GBRMPA commissioned OESR to undertake a project to extract the data relevant for the Reef catchment from the 2006 census data and more recent data where available. Unless stated otherwise all figures reported in this report are from the 2006 census data.

Since the collection of data in the 2006 census Queensland local governments have undertaken a process of amalgamation. This was announced in July 2007 and come into effect in March 2008. To remain current the data shown in this report has been altered to represent the reformed local government areas. The pre-amalgamation local governments are shown in Appendix 1.

The recreational vessel registration data used in this report is current as of September 2009.

The Environmental Management Charge (EMC) data used in this report includes up to 30 September 2009.

Executive Summary

Reef Catchment Wide

Economic valuation

- The direct/indirect value added contributions of selected activities to the Reef catchment, Queensland and Australia for the 06/07 financial year are $3.6 billion, $4 billion and $5.4 billion respectively
- The Great Barrier Reef Foundation found the total assessed value of the Reef to be $51.4 billion

Population

- The population of the Reef catchment from the 2006 census is 1,024,653 which makes up 26.2 per cent of the Queensland State population
- From 2006 to 2011 the Reef catchment population is projected to increase by 4.5 per cent (compared to 3.4 per cent for the Queensland state)
- From 2011 to 2026 the Reef catchment population is projected to increase by 1.4 per cent (compared to 1.5 per cent for the Queensland state)

Indigenous population

- The proportion of the population that identified themselves as Indigenous was 6.7 per cent (compared to 3.3 per cent for the Queensland state)

Visitation to the Reef

- In 2008, there were 1,945,619 visits to the Reef recorded through EMC data. This was down from 2,026,158 in 2007

Recreational vessel registrations

- As of September 2009 there are 83,314 recreational vessels registered in the Reef Catchment

Employment by industry

- The industries with the highest proportion of workers in the Reef catchment are retail trade (11.3 per cent), health care and social assistance (9.4 per cent) and construction (9.1 per cent)

Building approvals

- The total building approvals for 2007 in the Reef catchment was 13,146 and had a total value of $4.7 million

Method of transport to work

- Almost 60 per cent of workers drive themselves to work

Internet connection

- Nearly 57 per cent of homes in the Reef catchment have some sort of Internet connection

Region Specific

Far North

Population
- The population of the Far North statistic division is 321,050 which makes up 22.6 per cent of the Reef catchment
- Of the total population 14.3 per cent identified themselves as Indigenous

Employment by industry
- The industries with the highest proportion of workers are retail trade (11.6 per cent), public administration and safety (10.7 per cent) and health care and social assistance (9.3 per cent)

Building approvals
- The total building approvals for 2007 was 3,141 with a total value of $1.2 million

Education and employment
- In the Far North area there are 113,350 employed people and 44,596 school students

Northern

Population
- The population of the Northern statistic division is 196,670 which makes up 19.3 per cent of the Reef catchment
- Of the total population 6.6 per cent identified themselves as Indigenous

Employment by industry
- The industries with the highest proportion of workers are public administration and safety (11.2 per cent), retail trade (10.9 per cent) and health care and social assistance (10.7 per cent)

Building approvals
- The total building approvals for 2007 was 2,669 with a total value of $1.1 million

Education and employment
- In the North area there are 94,738 employed people and 38,598 school students

Mackay

Population
- The population of the Mackay statistic division is 150,176 which makes up 14.7 per cent of the Reef catchment
- Of the total population 3.6 per cent identified themselves as Indigenous

Employment by industry
- The industries with the highest proportion of workers are mining (11.7 per cent), retail trade (10.8 per cent) and construction (9.6 per cent)

Building approvals

- The total building approvals for 2007 was 1,756 with a total value of $770,000

Education and employment

- In the Mackay area there are 76,756 employed people and 27,860 school students

Fitzroy

Population

- The population of the Fitzroy statistic division is 188,406 which makes up 18.5 per cent of the Reef catchment
- Of the total population 4.7 per cent identified themselves as Indigenous

Employment by industry

- The industries with the highest proportion of workers are manufacturing (10.8 per cent), retail trade (10.6 per cent) and construction (9.3 per cent)

Building approvals

- The total building approvals for 2007 was 1,991 with a total value of $680,000

Education and employment

- In the Fitzroy area there are 89,900 employed people and 37,733 school students

Wide Bay-Burnett

Population

- The population of the Wide Bay-Burnett statistic division is 254,663 which makes up 24.9 per cent of the Reef catchment
- Of the total population 3.3 per cent identified themselves as Indigenous

Employment by industry

- The industries with the highest proportion of workers are retail trade (12.7 per cent), health care and social assistance (11 per cent) and agriculture/forestry and fishing (10.3 per cent)

Building approvals

- The total building approvals for 2007 was 3,582 with a total value of $970,000

Education and employment

- In the Wide Bay-Burnett area there are 96,520 employed people and 47,075 school students

Contents

List of Tables

List of Figures

Introduction

The Great Barrier Reef is a national and international icon, famous for its beauty and vast scale. It is the largest and best known coral reef ecosystem in the world, spanning a length of 2300 km along two-thirds of the east coast of Queensland. The reefs of the Great Barrier Reef – almost 3000 in total - represent about 10 per cent of all the coral reef areas in the world. The Great Barrier Reef Marine Park covers an area of 345,000 km^2. It is recognised under the World Heritage criteria as having outstanding universal value. The marine plant, fish and mammal life supported by the Marine Park is immensely diverse.

The Great Barrier Reef Marine Park is a multiple use marine park, supporting a wide range of uses, including commercial marine tourism, defence activities, fishing, ports and shipping, recreation, scientific research and Indigenous traditional use. It brings billions of dollars into Australia's economy each year, and supports more than 50 000 jobs. Within the Marine Park, a number of activities are strictly prohibited (such as mining and oil drilling) and there is careful management of all other activities (such as fishing, commercial marine tourism and shipping operations). A range of measures are employed to manage the various uses of the Marine Park and to protect its values.

About 70 Great Barrier Reef Aboriginal and Torres Strait Islander Traditional Owner clan groups hold a range of past and present heritage values for their land and sea country, and for surrounding sea countries. These values may be cultural, spiritual, economic, social or physical, and demonstrate continuing connections with the Great Barrier Reef Region and its natural resources.

The Great Barrier Reef was inscribed on the World Heritage List in 1981, the first coral reef ecosystem in the world to have this distinction and the only such coral reef region that has ever qualified on all four natural criteria. This recognition continues to highlight the international significance of the Great Barrier Reef; it also carries an obligation and responsibility to protect and conserve its values for all future generations and to present its values to the world.

The experience of the last two decades has shown that much of what will happen to the Great Barrier Reef in the future will be determined by factors external to it and to Australia. In the Outlook Report (2009) the factors that are currently and are projected to influence the Great Barrier Reef's environmental, economic and social values are three major external factors – climate change, catchment runoff and coastal development plus the influence of direct use of the Region. Many of the threats from both the external factors and those from direct use within the Great Barrier Reef are combining to cause serious impacts on the ecosystem. All these factors are significant to the ecosystem's future functioning and resilience.

Impacts from climate change have already been witnessed and all parts of the ecosystem are vulnerable to its increasing effects, with coral reef habitats the most vulnerable. Industries that rely on the Reef, such as tourism and fishing, will be affected by the impacts of climate change. In the last decade there have been two severe mass coral bleaching events resulting from prolonged elevated sea temperatures.

Coastal development, primarily driven by mining, industry and population growth, is still significantly affecting coastal habitats that support the Great Barrier Reef, connectivity between habitats and the water quality of the Great Barrier Reef. In the past 150 years, the area of the catchment that is intensively farmed has quadrupled. Over the same period, 53 000 mining leases have been granted in Queensland, with more than 3000 current as at October 2008. Mining and industrial activity has driven population growth throughout the catchment at rates faster than the Australian average, especially along the coast. A growing population leads to an increase in infrastructure and services and, if poorly planned and implemented, these constructions can further modify the coastal environment and cause sedimentation, water quality issues and drainage impacts. Mining and industry is also fuelling growth in ports and shipping with proposals for significant expansion in at least seven of the 10 major trading ports along the Great Barrier Reef coast.

The Great Barrier Reef receives the runoff from 38 major catchments which drain 424000 km^2 of coastal Queensland. Over the last decade, the declining quality of water entering the Great Barrier Reef has been recognised as a major threat to the ecosystem. Despite improvements in local land management, the quality of catchment runoff entering the Great Barrier Reef continues to cause deterioration in the water quality in the Great Barrier Reef Region. Most sediment entering the Great Barrier Reef comes from catchments with large pastoral areas. Much continues to be done to improve water quality entering the Great Barrier Reef but it will be decades before the full benefits are seen. A decline in inshore habitats will have economic and social implications for coastal communities.

The impacts of different commercial and non-commercial uses of the Great Barrier Reef Region overlap and are concentrated inshore and next to developed areas. Direct use of the Region is likely to be having minor, if any, impact on many ecosystem processes and some uses may have positive benefits through improving understanding and contributing to management. However, there are some key groups of species and ecological processes that are affected by direct use including fish populations, some species of conservation concern, predation, herbivory and particle feeding.

This report brings together current social and economic information that relates to the Marine Park catchment. This report is broken into two sections, the first provides data for the Reef catchment as a whole and the second section looks more specifically at the five Reef catchment regions (Far North, Northern, Mackay, Fitzroy and Wide Bay-Burnett).

For the purposes of this report, the Great Barrier Reef catchment area is defined as the area incorporating the following Local Government Areas (LGAs) as illustrated in Figure 1; Aurukun Shire Council, Banana Shire Council, Barcaldine Regional Council, Bundaberg Regional Council, Burdekin Shire Council, Cairns Regional Council, Cassowary Coast Regional Council, Central Highlands Regional Council, Charters Towers Regional Council, Cherbourg Aboriginal Shire Council, Cook Shire Council, Croydon Shire Council, Etheridge Shire Council, Fraser Coast Regional Council, Gladstone Regional Council, Gympie Regional Council, Hinchinbrook Shire Council, Hope Vale Aboriginal Shire Council, Isaac Regional Council, Kowanyama Aboriginal Shire Council, Lockhart River Aboriginal Shire Council, Mackay Regional Council, Mapoon Aboriginal Shire Council, Napranum Aboriginal Shire

Council, North Burnett Regional Council, Northern Peninsula Area Regional Council, Palm Island Aboriginal Shire Council, Pormpuraaw Aboriginal Shire Council, Rockhampton Regional Council, South Burnett Regional Council, Tablelands Regional Council, Torres Strait island Regional Council, Torres Shire Council, Townsville City Council, Weipa Town Area, Whitsunday Regional Council, Woorabinda Aboriginal Shire Council, Wujal Wujal Aboriginal Shire Council and Yarrabah Aboriginal Shire Council.

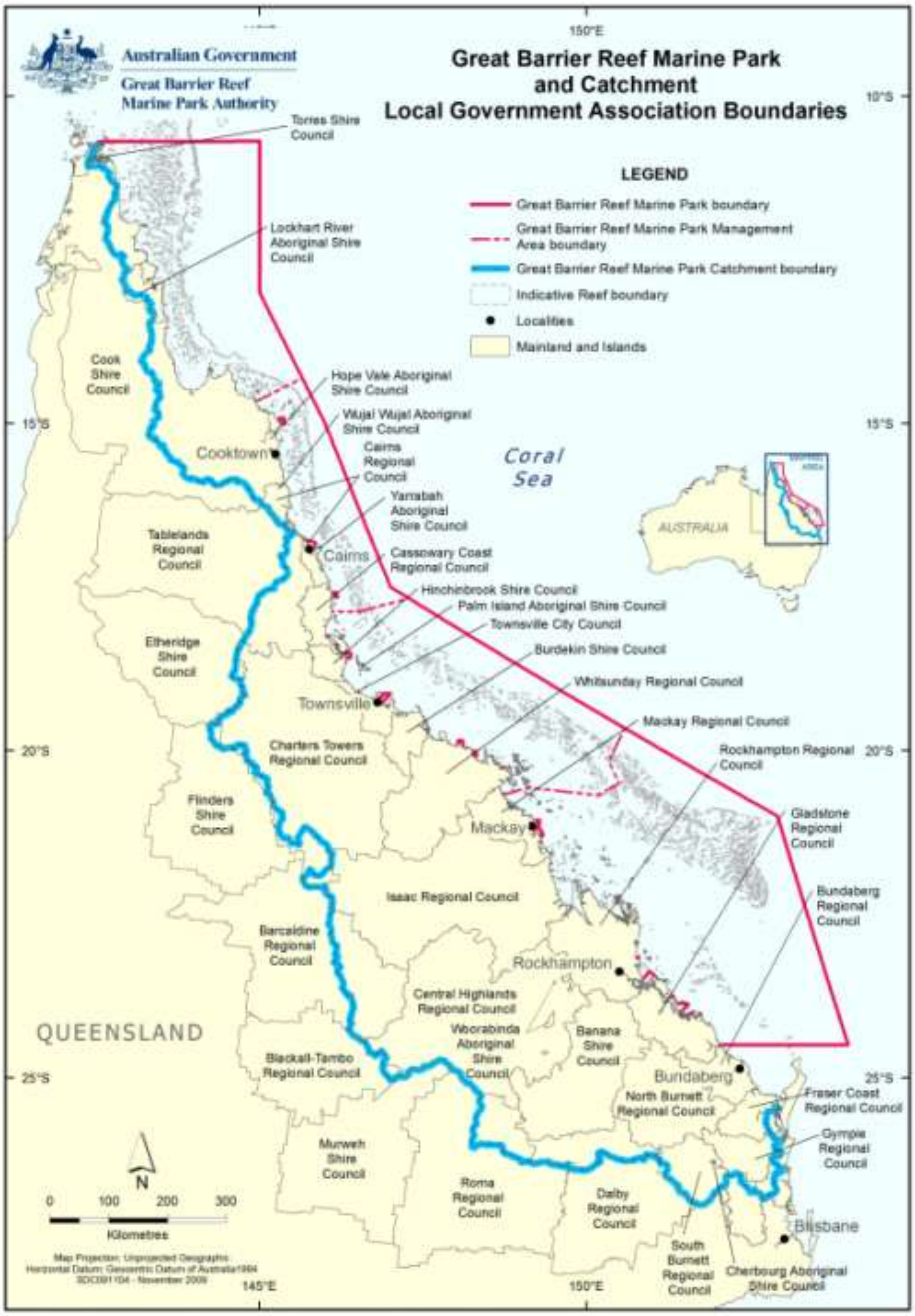


Figure 1: Map of the Great Barrier Reef Catchment Local Council Areas

Reef Catchment Wide

Economic valuation

Value added approach

The Great Barrier Reef Marine Park Authority has commissioned Access Economics on three separate occasions to estimate the economic and financial values of activities undertaken within the Marine Park. The latest results are for the 2006-07 financial year. The activities included in the analysis include tourism, commercial fishing and recreational activity. The results shown in the report are restricted to financial transactions and make no attempt to take into account social or environmental values. The table below shows the direct/indirect value added contribution of selected activities to the Reef Catchment, Queensland and Australia for the 2006-07 financial year ($million).

Table 1: Direct/indirect value added contributions of selected activities to the Reef Catchment, Queensland and Australia in 2006-07 ($million)

Activity	Reef Catchment	Queensland	Australia
Direct contribution			
Tourism	2,257	2,314	2,682
Commercial fishing	89	89	87
Recreational fishing	39	39	46
Other recreational activity	23	23	26
Total direct contribution	**2,408**	**2,465**	**2,841**
Indirect contribution			
Tourism	1,087	1,408	2,435
Commercial fishing	28	34	52
Recreational fishing	22	28	51
Other recreational activity	13	17	30
Total indirect contribution	**1,150**	**1,487**	**2,567**
Direct plus indirect contribution			
Tourism	3,344	3,722	5,117
Commercial fishing	117	124	139
Recreational fishing	61	66	96
Other recreational activity	36	39	57
Total contribution	**3,558**	**3,951**	**5,409**

Source: Access Economics 2009. Totals may differ from sums of components due to rounding.

Total economic value approach

The Great Barrier Reef Foundation is an independent investor in science who directly link Reef science with business, government and philanthropy. The Foundation work with its partners to develop and fund strategic projects addressing the major threats to the Reef. The aim of the Foundation is to channel private investment into such projects.

One of the Foundation's research projects was to value the effect of bleaching to assess the loss from a total or permanent bleaching event. In order to do this a total assessed value of the Reef was required. Using a new method the Foundation combined a direct use value, of fishing and tourism such as the value found by Access Economics, with the non-use value, such as the willingness of people to pay to protect the Reef. Using this method a total assessed value of the entire Reef was found to be $51.4 billion. For more information on this refer to the Great Barrier Reef Foundation website
http://www.barrierreef.org/ZooXFund/ResearchProjects/ValuingBleachingEffects/Reportoutcomes.aspx

Population and population projections

- As at the 2006 census the estimated resident population of the Reef catchment was **1,024,653 people**. This represents 26.2 per cent of the Queensland population.
- For the Reef Catchment the population projections for 2011 and 2026 respectively are 1,256,900 and 1,576,834. See Figure 2.
- For the Reef catchment from 2006 to 2011 the population is estimated to grow by 4.5 per cent per annum. The Queensland State population for the same period is expected to grow by 3.4 per cent per annum.
- However, from 2011 to 2026 the growth rate for the population of the Reef catchment is estimated to be 1.4 per cent per annum and for the whole state to be slightly higher with 1.5 per cent per annum.

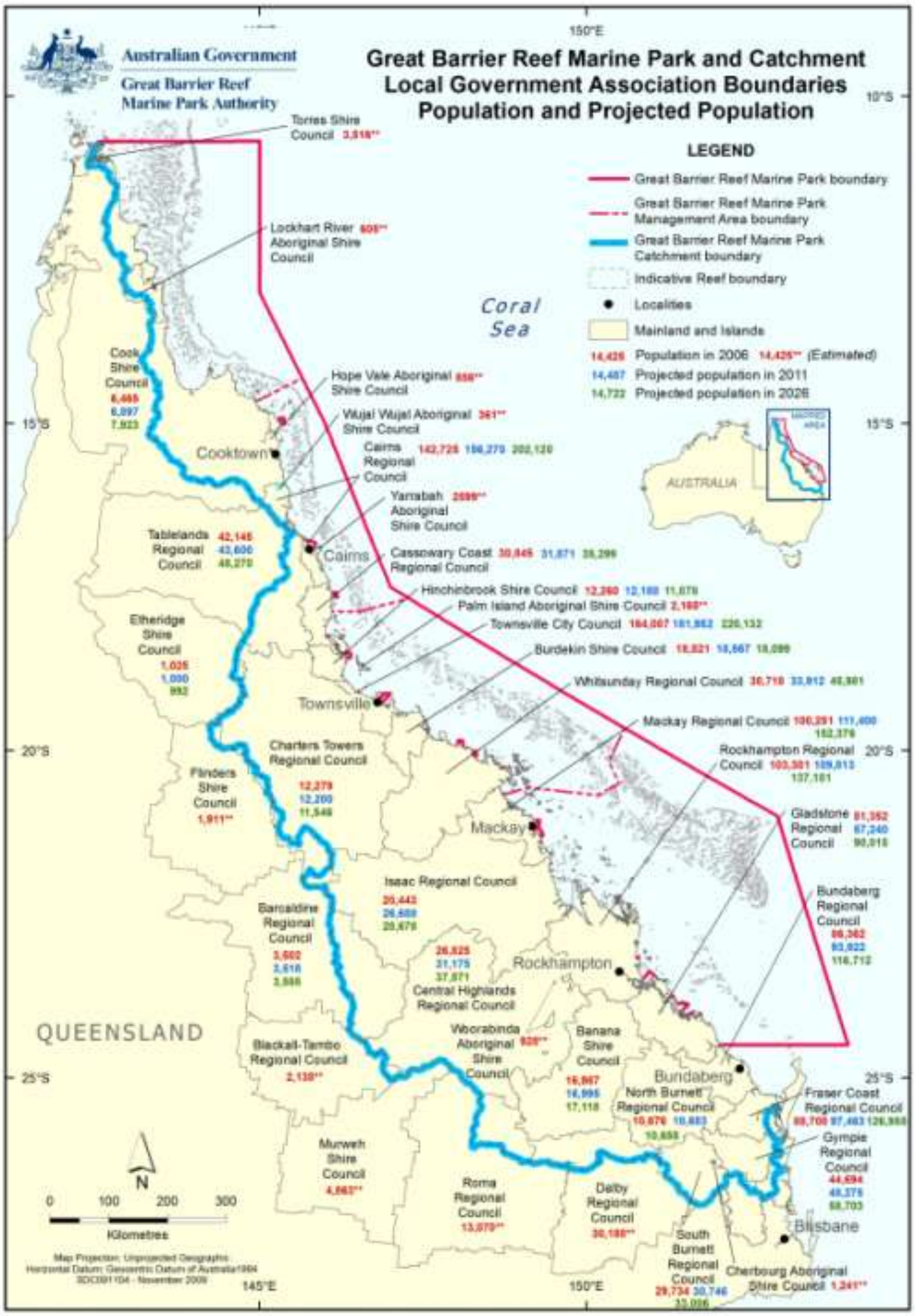


Figure 2: Population and projected population of local government areas in the Reef catchment for 2006, 2011 and 2026.

Indigenous population

- Of the total population, **68,908** identified themselves as Indigenous. (64,116 did not state their Indigenous status).
- 6.7 per cent of the population in the Reef catchment is Indigenous compared to for the whole state of Queensland where Indigenous population represents only 3.3 per cent of the total. See Figure 3.

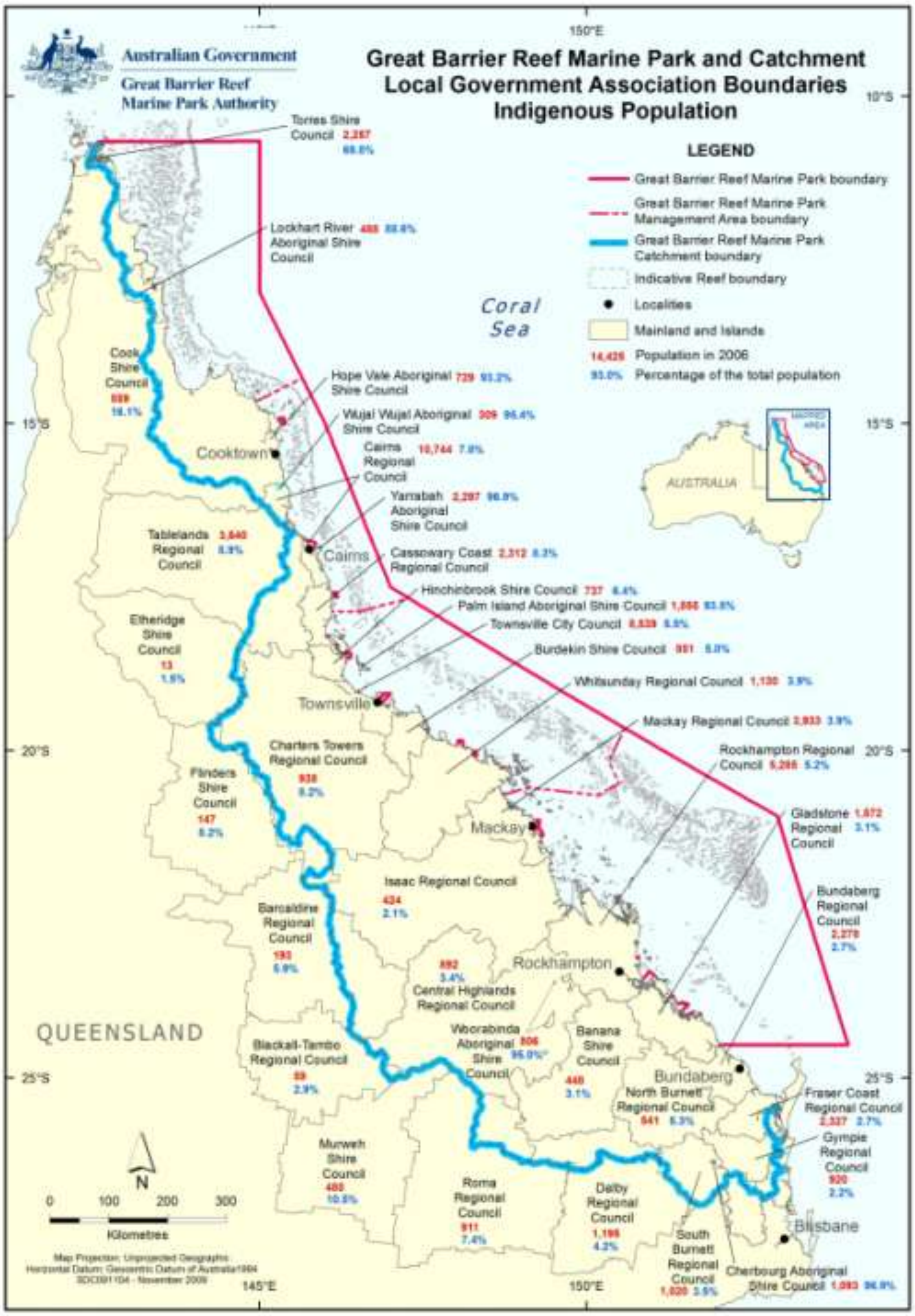


Figure 3: Map showing Indigenous population of local government areas and as a proportion of general population

Visitation to the Reef

Information on the number of tourists visiting the Marine Park is analysed using data provided through environmental management charge (EMC) logbooks. EMC is a charge payable by all commercial tourism operators to the Great Barrier Reef Marine Park Authority. Information collected through the EMC logbooks includes:

- The number of visitors per day
- The locations visited

Passengers carried by the tourism operators are categorised in the following way:

- Pax – refers to full day passengers who undertake a trip of three hours or longer
- Half pax – refers to passengers who undertake a trip of less than three hours
- FOC – refers to passengers who are exempt from EMC (free of charge) and can include the following:
    - Young children
    - Trade familiarisation passengers
    - Passengers who have paid EMC to another operator on the same day
    - The fourth and subsequent days for passengers on extended trips

Figure 4, below shows the total EMC collected for tourism across the whole Marine Park from 1994 to 2008. The category 'half-pax' was introduced in the fourth quarter of 2001, and before that they were included in the 'pax' category.

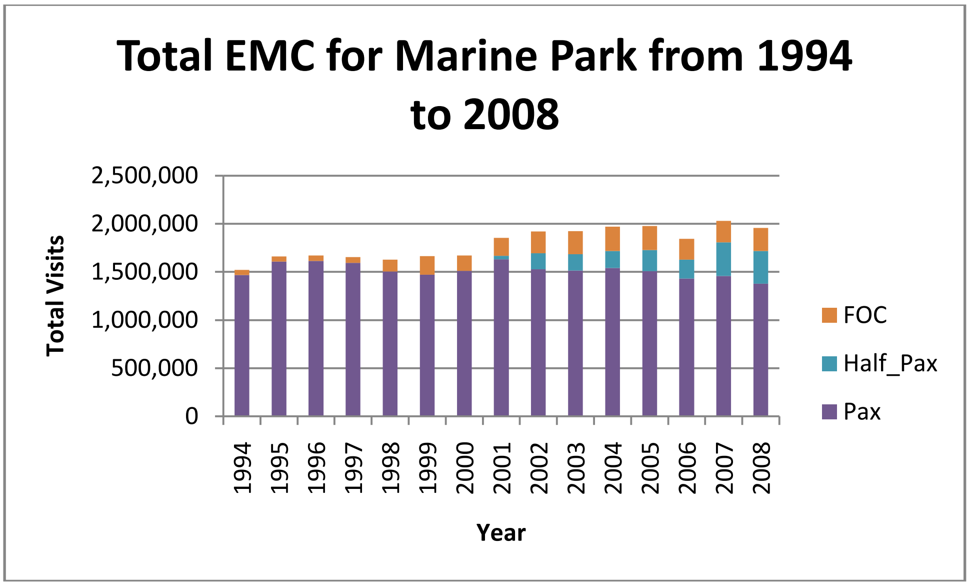


Figure 4: Graph showing EMC visitation to the Reef

Figure 5 gives a better idea of how tourism numbers have changed in the last three years. The graph shows the first three quarters of 2007, 2008 and 2009 (1st quarter is Jan to March, 2nd April to June and 3rd July to September). As can be seen from the graph for the first quarter there was a slight decrease from 2007 to 2008 and a seven percent decrease from 2008 to 2009. For the second quarter there was a rise of over two and a half percent from 2007 to 2008 followed by a decrease of over three percent from 2008 to 2009. From 2007 to 2008, third quarter figures dropped by over seven percent and dropped again by four percent from 2008 to 2009.

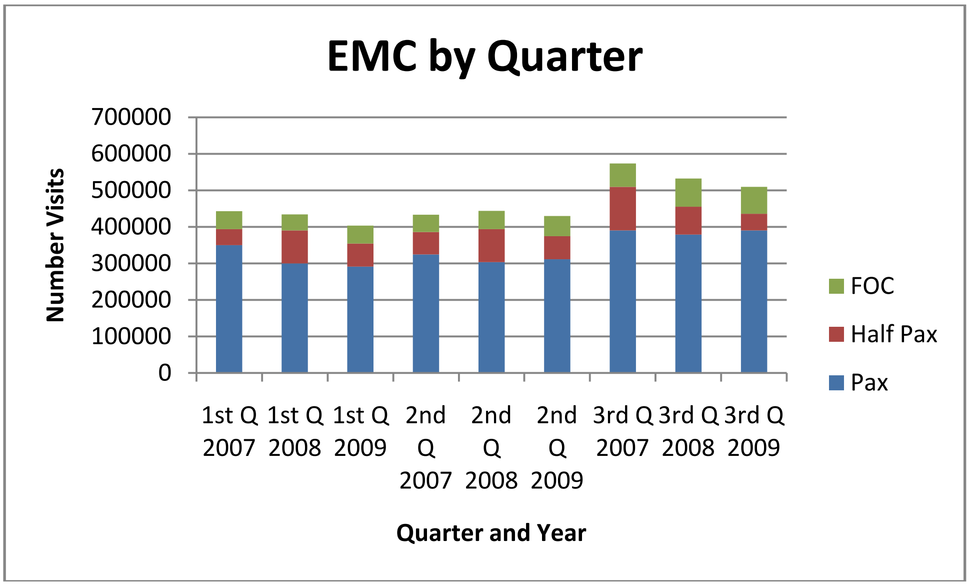


Figure 5: EMC by quarter for visits to the whole Marine Park

Recreational Vessel Registration

Data for the number of registered recreational vessels is provided by Queensland Transport. This is used as a measure of how many people have the potential to pursue recreational activities in the Marine Park. The information is categorised by type of vessel as well as length of vessel. Figure 6 shows the total number of recreational vessels registered in 17 local government areas within the Reef catchment. As indicated by the graph, the total number of recreational vessels in the Reef catchment has increased in every reporting period with the exception of from December 2007 to March 2008 which was around the time of the start of global financial crisis. During this period, the number of registered recreational vessels fell by 450 registrations for the whole Reef catchment, which was a reduction of less than one per cent.

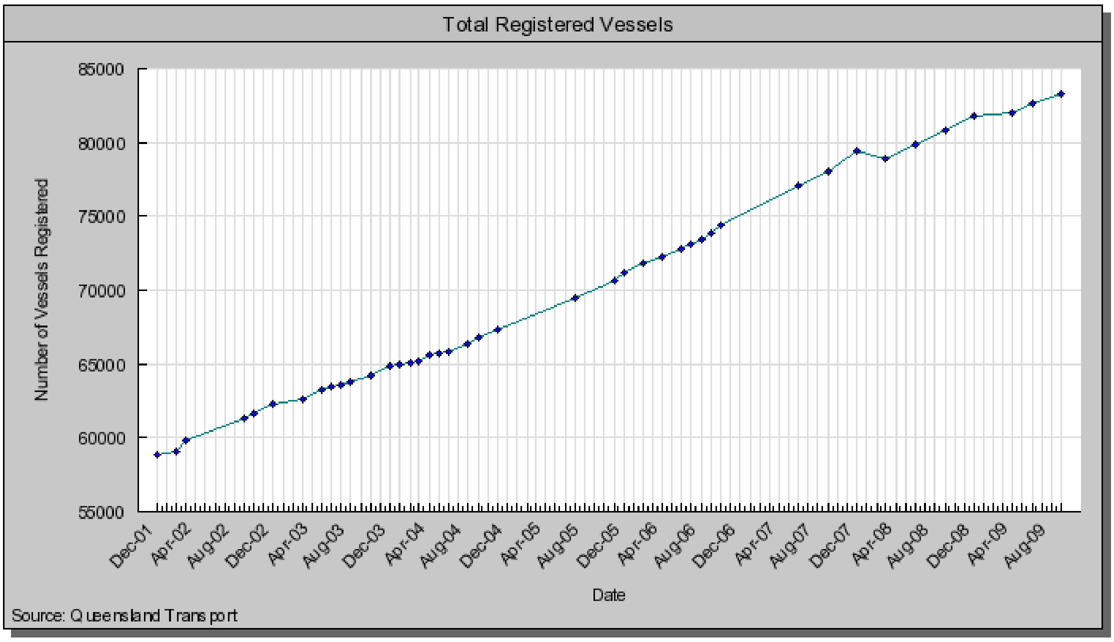


Figure 6: Total recreational vessel registration

Figure 7 shows the breakdown of the total recreational vessel registrations for each local government. Although the graph is a little cluttered, showing all 17 local government areas, it can be clearly seen that Mackay, Townsville and Cairns councils have the highest number of recreational vessel registrations. It is expected that these city councils would have the highest number of recreational vessels registered as they have the highest populations. From the graph it can also be seen that all local government areas have gradually increased over the reporting period with the exception of Cook Shire.

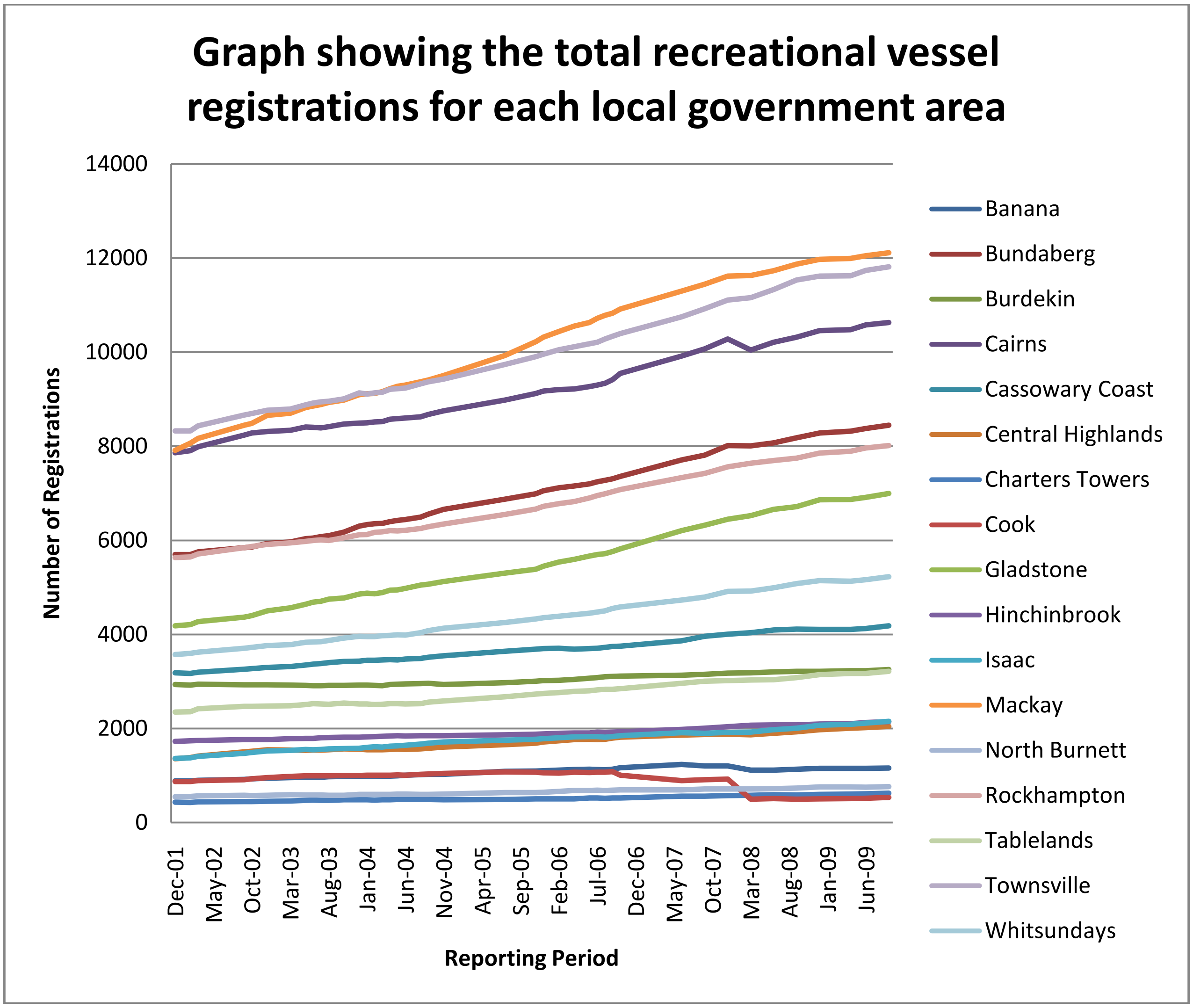


Figure 7: Graph showing the breakdown of recreational vessel registrations for each local government area

The local government area of Cook experienced a reduction in registrations from October 2006 to June 2007. However, the greatest reduction was from December 2007 to March 2008, which is consistent with the overall results. Cairns also experienced quite a decrease between December 2007 and March 2008 however, there was an overall increase for the whole reporting period. Table 2 shows the figures for the period from December 2007 to March 2008 for the Total Registrations, Cairns and Cook local governments.

Table 2: Variation of registered recreational vessels for Cairns, Cook and Total

	Dec 2007	**Mar 2008**	**Number change**	**Per cent change**
Total	79,383	78,933	450	0.6%
Cairns	10,283	10,049	234	2.3%
Cook	919	497	422	45.9%

As can be seen in the table the Cook Shire experienced a huge drop (over 45 per cent) in the number of boats registered in the shire between December 2007 and March 2008 and the Cairns Council had a decrease of over 230 registrations. It can only be speculated that these two council areas were affected by the economic downturn. Tourism to Cairns has also been impacted by a reduction of direct flights from Japan. Apart from in March 2008 the total number of registrations has increased in every reporting period. There are a couple of possible explanations for the continued increases in registrations:

- More people from within the catchment are buying boats
- Population increases from interstate are bringing boats with them

Figure 8 shows a map of the number of recreational vessels registered in each local government area for 2001 and 2006. It also shows the proportion of population that own a boat in each council area in both years. Data is reported on for these two years as more accurate population data is available from the census. As can be seen from the map, the proportion of boat owners has increased in all local government areas with the exception of the Cook Shire where the proportion of boat owners fell from 23.4 per cent in 2001 to 16.7 per cent in 2006. The actual number of registered vessels increased yet proportionally there was a decrease due to a substantial population increase.

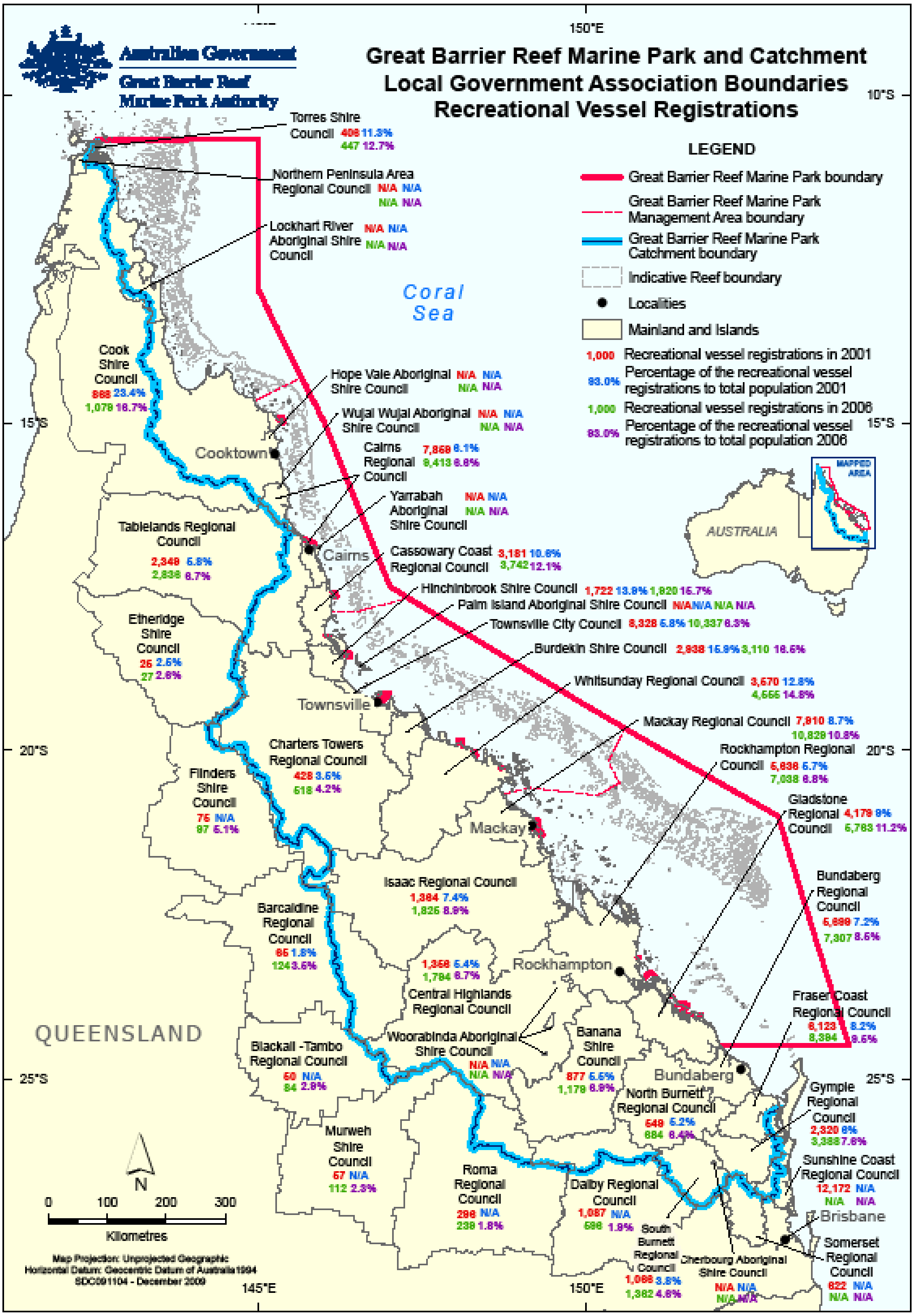


Figure 8: Registered recreational vessels for 2001 and 2006 and as proportion of population

Employment by industry

Employment by industry is an indication of the number of people working and the percent of the workforce working in each industry. Table 3 shows the employment by industry for the Reef catchment from the 2006 census data. As shown in the table retail trade (11.3%), health care and social assistance (9.4 per cent) and construction (9.1 per cent) are the most dominant industries.

Table 3: Number of people and the per cent of workforce employed in each industry in the Reef catchment as at the census 2006

	Number of people	Per cent of workforce
Agriculture\ Forestry & Fishing	30,294	6.6
Mining	19,754	4.3
Manufacturing	40,039	8.7
Electricity\ Gas\ Water & Waste Services	6,387	1.4
Construction	41,828	9.1
Wholesale Trade	14,052	3.1
Retail Trade	52,051	11.3
Accommodation & Food Services	35,349	7.7
Transport\ Postal & Warehousing	24,358	5.3
Information Media & Telecommunications	4,427	1.0
Financial & Insurance Services	7,387	1.6
Rental\ Hiring & Real Estate Services	7,994	1.7
Professional\ Scientific & Technical Services	16,236	3.5
Administrative & Support Services	12,514	2.7
Public Administration & Safety	35,267	7.7
Education & Training	34,559	7.5
Health Care & Social Assistance	43,381	9.4
Arts & Recreation Services	4,261	0.9
Other Services	16,667	3.6
Inadequately Described\Not Stated	12,569	2.7
Total Persons (b)	459,375	100.0

Building approvals and values

The number of building approvals in a year is used as an indication of economic activity. Building approval statistics are viewed by economic analysts as a leading indicator of the general level of economic activity, employment and investment occurring within a region. A high number of building approvals indicates a high level of economic activity. Building approvals can also be used as an indicator for social and environmental impacts that may be associated with such development. Table 4 shows the building approvals and dollar value amounts for the Reef catchment for the year ending 31 December 2007. To put these figures into context the total approvals represents 30 per cent of the State of Queensland and the dollar value represents 26 per cent of the State of Queensland's total.

Table 4: Total number of residential and non-residential building approvals and the total dollar value for the year ending 31 December 2007 for the Reef catchment

Type	Value
Total residential dwelling units approvals **(no.)**	13,141
Total non-residential dwelling units approvals **(no.)**	5
Total residential building value **($)**	3,300,364
Total non-residential building value **($)**	1,437,777
Total building value **($)**	4,738,141

Method of travel to work

As previously stated, in the Outlook Report climate change has been identified as one of the greatest threats to the Reef for the next five years. Along with the livestock industry, transportation in Australia is one of the greatest carbon emissions. Individuals are being encouraged to use less electricity around their homes and work places and where possible reduce their car usage. The method of travel to work and changes in methods over time will provide a useful indicator to determine if climate change campaigning is resonating with the general population. The method of travel to work from the 2006 census data is shown in Table 5. As can be seen in Table 5 almost 60 per cent of all workers drive themselves to work and a further almost eight per cent travel as a passenger in a car. Therefore, to reduce the impact of climate change on the Reef this could be used as a tool for future marketing campaigns.

Table 5: Method of travel to work

Type of travel	Number of workers	Per cent of this method	Per cent of all workers
One method:			
Train	123	0.03%	0.03%
Bus	6,711	1.80%	1.46%
Ferry	317	0.09%	0.07%
Tram (includes light rail)	36	0.01%	0.01%
Taxi	1,273	0.34%	0.28%
Car, as driver	274,522	73.80%	59.76%
Car, as passenger	36,546	9.82%	7.96%
Truck	8,030	2.16%	1.75%
Motorbike/scooter	6,270	1.69%	1.37%
Bicycle	7,806	2.10%	1.70%
Other	4,567	1.23%	0.99%
Walked only	25,787	6.93%	5.61%
Total one method	**371,988**	**100.00%**	
Two methods:			
Train and:			
Bus	12	0.29%	0.00%
Car, as driver	21	0.51%	0.00%
Car, as passenger	16	0.39%	0.00%
Bus and:			
Ferry	49	1.18%	0.01%
Car, as driver	312	7.52%	0.07%
Car, as passenger	291	7.02%	0.06%
Other	175	4.22%	0.04%
Other two methods	3,271	78.88%	0.71%
Total two methods	**4,147**	**100.00%**	
Three methods:			
Train and two other methods	25	5.76%	0.01%
Bus and two other methods (excludes train)	152	35.02%	0.03%
Other three methods	257	59.22%	0.06%
Total three methods	**434**	**100.00%**	
Worked at home	24,841		5.41%
Did not go to work	49,365		10.75%
Method of travel to work not stated	8,565		1.86%
Total	**459,340**		**100.00%**

Internet and computer usage

Table 6 shows that nearly 57 per cent of dwellings in the 2006 census had some sort of internet connection. More importantly it shows that nearly 40 per cent of dwellings do not have the Internet connected. This is important as more frequently the Internet is becoming the preferred medium for communication and educations. Therefore, by using the Internet as a way of communication a substantial proportion of the population within the Reef catchment may not be reached.

Table 6: Internet use

Type of connection	Number of dwellings	Per cent of dwellings
No Internet connection	143,164	39.73%
Type of Internet connection:		
Broadband	113,826	31.58%
Dial-up	88,644	24.60%
Other	2,184	0.61%
Total	*204,654*	**56.79%**
Internet connection not stated	12,562	3.49%
Total	**360,380**	**100%**

Region Specific

Far North

The local government areas included in the Far Northern Statistical Division that are included in the Great Barrier Reef Catchment (wholly or partially) are: Aurukun Shire Council, Cairns Regional Council, Cassowary Coast Regional Council, Cook Shire Council, Croydon Shire Council, Etheridge Shire Council, Hope Vale Aboriginal Shire Council, Kowanyama Aboriginal Shire Council, Lockhart River Aboriginal Shire Council, Mapoon Aboriginal Shire Council, Napranum Aboriginal Shire Council, Northern Peninsula Area Regional Council, Pormpuraaw Aboriginal Shire Council, Tablelands Regional Council, Torres Shire Council, Torres Strait Island Regional Council, Wujal Wujal Aboriginal Shire Council and Yarrabah Aboriginal Shire Council.

The results presented in this section are for the above listed local government areas.

Population and population projections

The population of the Far North statistical division is **231,050** which make up 22.6 per cent of the catchment population.

Indigenous population

Of the total population in the Far North, **33,118** identified themselves as Indigenous (14.3 per cent). (However, 17,365 did not state their Indigenous status).

Employment by industry

Table 7 shows the number of people and the percentage of workforce for each industry. The highest category, retail trade (11.6 per cent) is consistent with the whole catchment. Next was public administration and safety (10.7 per cent) followed by health care and social assistance (9.3 per cent).

Table 7: Employment by industry for the Far North

	Number of people	Per cent of workforce
Agriculture\ Forestry & Fishing	6,291	5.85%
Mining	1,323	1.23%
Manufacturing	6,980	6.49%
Electricity\ Gas\ Water & Waste Services	1,067	0.99%
Construction	9,502	8.84%
Wholesale Trade	2,959	2.75%
Retail Trade	12,444	11.58%
Accommodation & Food Services	10,385	9.66%
Transport\ Postal & Warehousing	6,397	5.95%
Information Media & Telecommunications	990	0.92%
Financial & Insurance Services	1,724	1.60%
Rental\ Hiring & Real Estate Services	2,077	1.93%
Professional\ Scientific & Technical Services	3,938	3.66%
Administrative & Support Services	3,674	3.42%
Public Administration & Safety	11,478	10.68%
Education & Training	7,560	7.03%
Health Care & Social Assistance	9,959	9.27%
Arts & Recreation Services	1,591	1.48%
Other Services	3,708	3.45%
Inadequately Described\Not Stated	3,421	3.18%
Total Persons (b)	107,468	100.00%

Building approvals and values

Table 8 shows the total number of residential and non-residential building approvals and the total dollar value for the year ending 31 December 2007 for the Far North. The total approvals for the Far North make up nearly 24 per cent of all approvals and nearly 25 per cent of the value of the catchment.

Table 8: Building approvals and values for the Far North

Type	Value
Total residential dwelling units approvals **(no.)**	3,139
Total non-residential dwelling units approvals **(no.)**	2
Total residential building value **($)**	782,401
Total non-residential building value **($)**	392,048
Total building value **($)**	1,174,449

Education and employment

In the Far North area there are **113,350** employed people (52,220 females and 61,130 males) and **44,596** school students. Table 9 shows the highest level of schooling or qualification of the workforce in the Far North.

Table 9: Schooling and qualifications of the workforce in the Far North

Highest level of schooling		Qualification levels	
Year 8 Or Below	14,558	Postgraduate degree	2,052
Year 9 Or Equivalent	10,567	Graduate diploma and graduate certificate	1,688
Year 10 Or Equivalent	48,396	Bachelor degree	13,918
Year 11 Or Equivalent	16,569	Advanced diploma and diploma	10,789
Year 12 Or Equivalent	66,194	Certificate	34,668
Did Not Go To School	1,080	Persons with a qualification	90,869
Highest Year Of School Not Stated	21,491	Per cent of persons with a qualification	50.8%
Total Persons	**178,855**	**Total persons**	**178,855**

Northern

The local government areas that are included in the Northern Statistical Division of the Great Barrier Reef catchment (wholly or partially) are: Burdekin Shire Council, Charters Towers Regional Council, Hinchinbrook Shire Council, Palm Island Aboriginal Shire Council and Townsville City Council.

The results presented in this section are for the above listed local government areas.

Population and population projections

The population of the Northern statistical division is **196,670** which makes up 19.3 per cent of the catchment population.

Indigenous population

Of the total population in the North, **12,905** identified themselves as Indigenous (6.6 per cent). (10,427 did not state their Indigenous status).

Employment by industry

Table 10 shows the number of people and the per cent of workforce employed in each industry in the Northern Statistical Division of the Reef Catchment. The most popular industries are public administration and safety (11.2 per cent), retail trade (10.9 per cent) and health care and social assistance (10.7 per cent).

Table 10: Employment by industry for the North

	Number of people	Per cent of workforce
Agriculture\ Forestry & Fishing	3,926	4.16%
Mining	2,824	2.99%
Manufacturing	8,429	8.93%
Electricity\ Gas\ Water & Waste Services	1,298	1.38%
Construction	8,492	9.00%
Wholesale Trade	2,780	2.95%
Retail Trade	10,267	10.88%
Accommodation & Food Services	6,200	6.57%
Transport\ Postal & Warehousing	4,478	4.74%
Information Media & Telecommunications	1,338	1.42%
Financial & Insurance Services	1,626	1.72%
Rental\ Hiring & Real Estate Services	1,500	1.59%
Professional\ Scientific & Technical Services	3,681	3.90%
Administrative & Support Services	2,491	2.64%
Public Administration & Safety	10,556	11.18%
Education & Training	7,687	8.14%
Health Care & Social Assistance	10,079	10.68%
Arts & Recreation Services	1,056	1.12%
Other Services	3,270	3.46%
Inadequately Described\Not Stated	2,399	2.54%
Total Persons (b)	94,377	100.00%

Building approvals and values

Table 11 shows the total number of residential and non-residential building approvals and the total dollar value for the year ending 31 December 2007 for the North. The total approvals in the North account for 20 per cent of all approvals in the catchment. The North's buildings account for around 24 per cent of the total catchment value.

Table 11: Building approvals and values for the North

Type	Value
Total residential dwelling units approvals **(no.)**	2,667
Total non-residential dwelling units approvals **(no.)**	2
Total residential building value **($)**	745,535
Total non-residential building value **($)**	397,962
Total building value **($)**	1,143,497

Education and employment

In the North area there are **94,738** employed people (42,959 females and 51,779 males) and **38,598** school students. Table 12 shows the highest level of schooling or other qualification of the workforce.

Table 12: Schooling and qualifications of the workforce in the North

Highest level of schooling		Qualification levels	
Year 8 Or Below	12,744	Postgraduate degree	2,310
Year 9 Or Equivalent	9,229	Graduate diploma and graduate certificate	1,345
Year 10 Or Equivalent	43,211	Bachelor degree	13,359
Year 11 Or Equivalent	13,704	Advanced diploma and diploma	8,096
Year 12 Or Equivalent	59,307	Certificate	29,308
Did Not Go To School	629	Persons with a qualification	72,987
Highest Year Of School Not Stated	14,885	Per cent of persons with a qualification	47.5%
Total Persons	153,709	**Total persons**	153,709

Mackay

The local government areas included in the Mackay Statistical Division that are included in the Great Barrier Reef Catchment (wholly or partially) are: Isaac Regional Council, Mackay Regional Council and Whitsunday Regional Council.

The results presented in this section are for the above listed local government areas.

Population and population projections

The population of the Mackay statistical division is **150,176** which makes up 14.7 per cent of the catchment population.

Indigenous population

Of the total population in Mackay, **5,480** identified themselves as Indigenous (3.6 per cent). (12,719 did not state their Indigenous status).

Employment by industry

Table 13 shows the number of people and the per cent of workforce employed in each industry in the Mackay Statistical Division of the Reef Catchment. The most popular industries for Mackay are mining (11.7 per cent), retail trade (10.8 per cent) and construction (9.6 per cent).

Table 13: Employment by industry for Mackay

	Number of people	Per cent of workforce
Agriculture\ Forestry & Fishing	4,872	6.70%
Mining	8,502	11.69%
Manufacturing	5,858	8.05%
Electricity\ Gas\ Water & Waste Services	599	0.82%
Construction	6,970	9.58%
Wholesale Trade	2,810	3.86%
Retail Trade	7,886	10.84%
Accommodation & Food Services	6,017	8.27%
Transport\ Postal & Warehousing	4,366	6.00%
Information Media & Telecommunications	480	0.66%
Financial & Insurance Services	1,113	1.53%
Rental\ Hiring & Real Estate Services	1,314	1.81%
Professional\ Scientific & Technical Services	2,697	3.71%
Administrative & Support Services	1,776	2.44%
Public Administration & Safety	2,700	3.71%
Education & Training	4,282	5.89%
Health Care & Social Assistance	5,085	6.99%
Arts & Recreation Services	435	0.60%
Other Services	2,975	4.09%
Inadequately Described\Not Stated	2,021	2.78%
Total Persons (b)	72,758	100.00%

Building approvals and values

Table 14 shows the total number of residential and non-residential building approvals and the total dollar value for the year ending 31 December 2007 for Mackay. The total approvals for Mackay make up 13.4 per cent of all approvals in the Reef catchment. The total value of Mackay makes up 16.2 per cent of the total catchment value, which is lower than for both the Far North and the North.

Table 14: Building approvals and values for Mackay

Type	Value
Total residential dwelling units approvals **(no.)**	1,756
Total non-residential dwelling units approvals **(no.)**	0
Total residential building value **($)**	520,577
Total non-residential building value **($)**	247,672
Total building value **($)**	768,248

Education and employment

In the Mackay area there are **76,756** employed people (32,101 females and 44,655 males) and **27,860** school students. Table 15 shows the level of schooling and other qualifications of the workforce in Mackay.

Table 15: Schooling and qualifications of the workforce in Mackay

Highest level of schooling		Qualification levels	
Year 8 Or Below	10,163	Postgraduate degree	770
Year 9 Or Equivalent	7,649	Graduate diploma and graduate certificate	826
Year 10 Or Equivalent	36,391	Bachelor degree	7,461
Year 11 Or Equivalent	10,408	Advanced diploma and diploma	5,419
Year 12 Or Equivalent	37,638	Certificate	24,895
Did Not Go To School	380	Persons with a qualification	57,030
Highest Year Of School Not Stated	14,709	Per cent of persons with a qualification	48.6%
Total Persons	117,338	**Total persons**	117,338

Fitzroy

The local government areas included in the Fitzroy Statistical Division that are included in the Great Barrier Reef Catchment (wholly or partially) are: Banana Shire Council, Barcaldine Regional Council, Central Highlands Regional Council, Gladstone Regional Council, Rockhampton Regional Council and Woorabinda Aboriginal Shire Council.

The results presented in this section are for the above listed local government areas.

Population and population projections

The population of the Fitzroy statistical division is **188,406** which makes up 18.5 per cent of the catchment population.

Indigenous population

Of the total population in the Fitzroy, **8,921** identified themselves as Indigenous (4.7 per cent). (11,030 did not state their Indigenous status).

Employment by industry

Table 16 shows the number of people and the per cent of workforce employed in each industry in the Fitzroy Statistical Division of the Reef Catchment. The most popular industries for Fitzroy are manufacturing (10.8 per cent), retail trade (10.6 per cent) and construction (9.3 per cent).

Table 16: Employment by industry for Fitzroy

	Number of people	Per cent of workforce
Agriculture\ Forestry & Fishing	4,727	5.39%
Mining	5,926	6.76%
Manufacturing	9,433	10.76%
Electricity\ Gas\ Water & Waste Services	2,063	2.35%
Construction	8,133	9.28%
Wholesale Trade	2,649	3.02%
Retail Trade	9,272	10.58%
Accommodation & Food Services	5,898	6.73%
Transport\ Postal & Warehousing	5,081	5.80%
Information Media & Telecommunications	702	0.80%
Financial & Insurance Services	1,451	1.66%
Rental\ Hiring & Real Estate Services	1,444	1.65%
Professional\ Scientific & Technical Services	3,118	3.56%
Administrative & Support Services	2,065	2.36%
Public Administration & Safety	4,851	5.54%
Education & Training	7,348	8.39%
Health Care & Social Assistance	7,568	8.64%
Arts & Recreation Services	531	0.61%
Other Services	3,262	3.72%
Inadequately Described\Not Stated	2,110	2.41%
Total Persons (b)	87,632	100.00%

Building approvals and values

Table 17 shows the total number of residential and non-residential building approvals and the total dollar value for the year ending 31 December 2007 for the Fitzroy. The building approvals in the Fitzroy made up 15 per cent of the total catchment and 14 per cent of the total value.

Table 17: Building approvals and values for the Fitzroy

Type	Value
Total residential dwelling units approvals **(no.)**	1,991
Total non-residential dwelling units approvals **(no.)**	0
Total residential building value **($)**	508,973
Total non-residential building value **($)**	169,939
Total building value **($)**	678,912

Education and employment

In the Fitzroy area there are **89,900** employed people (38,029 females and 51,871 males) and **37,733** school students. Table 18 shows the highest level of schooling and the qualification levels of the workforce.

Table 18: Schooling and qualification levels for the Fitzroy

Highest level of schooling		Qualification levels	
Year 8 Or Below	13,809	Postgraduate degree	1,449
Year 9 Or Equivalent	9,742	Graduate diploma and graduate certificate	1,270
Year 10 Or Equivalent	45,203	Bachelor degree	10,480
Year 11 Or Equivalent	12,385	Advanced diploma and diploma	6,550
Year 12 Or Equivalent	48,149	Certificate	28,035
Did Not Go To School	496	Persons with a qualification	66,454
Highest Year Of School Not Stated	15,227	Per cent of persons with a qualification	45.8%
Total Persons	145,011	**Total persons**	145,011

Wide Bay-Burnett

The local government areas included in the Wide Bay-Burnett Statistical Division that are included in the Great Barrier Reef Catchment (wholly or partially) are: Bundaberg Regional Council, Cherbourg Aboriginal Shire Council, Fraser Coast Regional Council, Gympie Regional Council, North Burnett Regional Council and South Burnett Regional Council.

The results presented in this section are for the above listed local government areas.

Population and population projections

The population of the Wide Bay-Burnett statistical division is **254,663** which makes up 24.9 per cent of the catchment population.

Indigenous population

Of the total population in the Wide Bay-Burnett, **8,280** identified themselves as Indigenous (3.3 per cent). (12,373 did not state their Indigenous status).

Employment by industry

Table 19 shows the number of people and the per cent of workforce employed in each industry in the Wide Bay-Burnett Statistical Division of the Reef Catchment. The industries with the highest percentage of the workforce are retail trade (12.7 per cent), health care and social assistance (11 per cent) and agriculture/forestry and fishing (10.3 per cent).

Table 19: Employment by industry for Wide Bay-Burnett

	Number of people	Per cent of workforce
Agriculture\ Forestry & Fishing	9,789	10.27%
Mining	1,148	1.20%
Manufacturing	9,304	9.77%
Electricity\ Gas\ Water & Waste Services	1,336	1.40%
Construction	8,614	9.04%
Wholesale Trade	2,783	2.92%
Retail Trade	12,107	12.71%
Accommodation & Food Services	6,767	7.10%
Transport\ Postal & Warehousing	3,922	4.12%
Information Media & Telecommunications	917	0.96%
Financial & Insurance Services	1,454	1.53%
Rental\ Hiring & Real Estate Services	1,645	1.73%
Professional\ Scientific & Technical Services	2,751	2.89%
Administrative & Support Services	2,477	2.60%
Public Administration & Safety	5,515	5.79%
Education & Training	7,537	7.91%
Health Care & Social Assistance	10,541	11.06%
Arts & Recreation Services	614	0.64%
Other Services	3,428	3.60%
Inadequately Described\Not Stated	2,625	2.76%
Total Persons (b)	95,274	100.00%

Building approvals and values

Table 20 shows the total number of residential and non-residential building approvals and the total dollar value for the year ending 31 December 2007 for the Wide Bay-Burnett. The total building approvals for Fitzroy make up 27.2 per cent and 20.5 per cent of the value for the whole Reef catchment.

Table 20: Building approvals and values for Wide Bay-Burnett

Type	Value
Total residential dwelling units approvals **(no.)**	3,581
Total non-residential dwelling units approvals **(no.)**	1
Total residential building value **($)**	739,665
Total non-residential building value **($)**	229,849
Total building value **($)**	969,514

Education and employment

In the Wide Bay-Burnett area there are **96,520** employed people (44,197 females and 52,323 males) and **47,075** school students. Table 21 shows the highest level of schooling or other qualification for the Wide Bay-Burnett region.

Table 21: Schooling and qualification levels for Wide Bay-Burnett

Highest level of schooling		Qualification levels	
Year 8 Or Below	24,768	Postgraduate degree	1,340
Year 9 Or Equivalent	17,797	Graduate diploma and graduate certificate	1,513
Year 10 Or Equivalent	67,999	Bachelor degree	10,743
Year 11 Or Equivalent	16,004	Advanced diploma and diploma	9,736
Year 12 Or Equivalent	54,344	Certificate	38,533
Did Not Go To School	838	Persons with a qualification	88,413
Highest Year Of School Not Stated	20,424	Per cent of persons with a qualification	43.7%
Total Persons	202,174	**Total persons**	202,174

Want more information?

Data is available on the above social and economic descriptors to the local government level.

To access the information contact the Social and Economic Information and Research section of the Science Coordination Group at the Great Barrier Reef Marine Park Authority

References

Access Economics, 2009. Economic contribution of the GBRMP, 2006-2007. Research publication (Great Barrier Reef Marine Park Authority ; Online) ; 98. Great Barrier Reef Marine Park Authority, Townsville.

Great Barrier Reef Marine Park Authority, 2009. *The Great Barrier Reef Outlook Report 2009*. Great Barrier Reef Marine Park Authority, Townsville.

http://www.barrierreef.org/ZooXFund/ResearchProjects/ValuingBleachingEffects/Reportoutcomes.aspx viewed 11 November 2009

Appendix 1

The local government area as they were pre-amalgamation.

Aramac, Atherton, Arukun, Badu, Bamaga, Banana, Barcaldine, Bauhinia, Belyando, Biggenden, Boigu, Bowen, Broadsound, Bundaberg, Burdekin, Burnett, Cairns, Calliope, Cardwell, Charters Towers, Cherbourg, Cook, Cooloola, Croydon, Dalrymple, Dauan, Douglas, Duaringa, Eacham, Eidsvold, Emerald, Erub, Etheridge, Fitzroy, Gayndah, Gladstone, Hammond, Herberton, Hervey Bay, Hinchinbrook, Hope Vale, Iama, Injinoo, Isis, Jericho, Johnstone, Kilkivan, Kingaroy, Kolan, Kowanyama, Kubin, Livingstone, Lockart River, Mabuiag, Mackay, Mapoon, Mareeba, Maryborough, Mer, Mirani, Miriam Vale, Monto, Mount Morgan, Mundubbera, Murgon, Nanango, Napranum, Nebo, New Mapoon, Palm Island, Peak Downs, Perry, Pormpuraaw, Poruma, Rockhampton, Saibai, St Paul, Sarina, Seisia, Thuringowa, Tiaro, Torres, Townsville, Ugar, Umagico, Warraber, Weipa, Whitsunday, Wondai, Woocoo, Woorabinda, Wujal Wujal, Yarrabah and Yorke.