

# National Action Plan for Salinity and Water Quality

## Social and Economic

### State-level Investment Project SE01

#### Regional Agricultural Profile Fitzroy Basin NRM Region

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May 2006



The National Action Plan for Salinity and Water Quality (NAPSWQ) is a joint Australian and Queensland Government initiative that encourages governments and regional communities to work together to address salinity and water quality issues in priority catchments throughout Queensland. This document has been produced under the NAPSWQ using Australian and Queensland Government financial support.

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[www.regionalnrm.qld.gov.au/research\\_sips/sips/social\\_economic/assistance.html](http://www.regionalnrm.qld.gov.au/research_sips/sips/social_economic/assistance.html)

This report may be cited as:

Heather, K, Clouston, B (2006). ***Regional Agricultural Profile: Fitzroy Basin NRM Region*** Department of Natural Resources, Mines and Water, Brisbane

QNRM 06280

ISSN numbers

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## Regional profile for the Fitzroy Basin NRM region

### Introduction

This report provides a basic social and agricultural regional profile for the Fitzroy Basin NRM region based on the information provided by the Queensland Regional Bodies Information System (QRBIS). The information provided in QRBIS is based on the 2000-01 Agricultural Census, the 1996 and 2001 Census of Population and Housing, and the 2004 Population Survey. This regional profile for the Fitzroy Basin NRM region is designed to provide both a social and an agricultural profile of the region, and will also provide a baseline against which information from the 2005-2006 Agricultural Census can be compared. It is anticipated that future census information will be provided by the Australian Bureau of Statistics to match the boundaries of the natural resource management regions, making it easier to compare future data to the 2000-01 data presented in this report.

The information presented in this report includes; population and age structure, employment, agricultural commodities produced in the region, agricultural practices used, and some data for natural resource management practices.

### Location of the Fitzroy Basin NRM region

The Fitzroy Basin NRM region is situated in Central Queensland between the Burdekin Dry Tropics NRM region and the Burnett Mary NRM region (see Figure 1 below). The region includes all the lands drained by the Fitzroy, Water Park Creek, Styx River, Shoalwater Creek, Raglan, Calliope and Boyne River Basins and their tributaries and marine waters and islands to the 3 mile nautical limit.

Figure 1: The Fitzroy Basin NRM region



### Matching available data to regional NRM bodies

Data from the various sources used in this report is collected and provided at different geographic levels. For example, the Population and Housing Census is reported at the finest level, the collection district, while the Agricultural Census is reported at the higher statistical local area (SLA) level. Outside of the metropolitan area the statistical local area level roughly equates to local government areas. On the other hand, regional NRM body boundaries are much greater in scale and based roughly on catchment boundaries. The challenge is then to match (or concord) data collected based on administrative boundaries to the regional body boundaries.

## Regional Agricultural Profile – Fitzroy Basin NRM Region

The data reported in QRBIS has been concorded to the regional body boundaries where possible. While it has been possible to match the Population and Housing Census to the regional boundaries based on collection districts this has not been possible for the Agricultural Census based on statistical local areas.

**Figure 2: The Fitzroy Basin NRM region showing each local government area**



Figure 2 above shows the local government areas contained within the Fitzroy Basin NRM region. These local government areas contain 8 statistical local areas which fall wholly within the boundary of the region and 14 partially (see Table 1). We had to assume that agricultural production is spread uniformly over the statistical local area, and agricultural production has been allocated to regional bodies on this basis. Where less than 10% of a statistical local area fell within the region, however, the data from this statistical local area was not included. Where more than 90% of the statistical local area fell within the region, 100% of the data from this statistical local area was included. Table 1 below shows the statistical local areas that are contained within the region and indicates the percentage of each one that has been included within the boundaries of the region for the purpose of this report. Table 1 also shows where a statistical local area has been added or subtracted.

It should be noted that some ground truthing of land uses in the statistical local areas that sit on the boundary of the Fitzroy Basin NRM region has been conducted using geographic information systems (GIS). Land use data from 1999 was used. Where ground truthing has identified that a specific land use sits mainly within or outside a statistical local area this will be indicated in a footnote to the tables in the agricultural profile section of this report.

## Regional Agricultural Profile – Fitzroy Basin NRM Region

**Table 1: Area of SLA included in the Fitzroy Basin NRM region**

SLA	Percentage of SLA included in region	Percentage of SLA included in this report	Percentage added to another region	Percentage added from another region
Banana	99.7%	100%		
Bauhinia	99.9%	100%		
Bendemere	4.9%	0%	4.9% to QLD Murray Darling	
Belyando	16.4%	16.4%		
Broadsound	95.5%	100%		4.4% from Mackay
Bungil	48.7%	48.7%		
Calliope - Pt A	80.9%	80.9%		
Calliope - Pt B	99.7%	100%		
Duaringa	100%	100%		
Emerald	99.8%	100%		
Fitzroy - Pt A	100%	100%		
Fitzroy - Pt B	100%	100%		
Gladstone	100%	100%		
Livingstone	100%	100%		
Monto	4.1%	0%	4.1% to Burnett Mary	
Mount Morgan	100%	100%		
Nebo	67.5%	67.5%		
Rockhampton	100%	100%		
Peak Downs	100%	100%		
Sarina	33%	33%		
Tambo	4.9%	0%	4.9% to South West	
Taroom	99.9%	100%		

## Social and demographic profile

### Population

#### Estimated resident population

The estimated resident population of the Fitzroy Basin NRM region was 205,835 at 30 June 2004; this represents 5.3% of the total Queensland population. The region represents 9% of the total area of Queensland. Fifty-one percent of the population were male and 49% of the population were female.

There was an annual average increase in population in the Fitzroy Basin NRM region of 0.5% between 1996 and 2004. The population increase for the Fitzroy Basin NRM region is only a quarter of the average annual population increase for the state between 1996 and 2004.

**Table 2: Estimated resident population – Fitzroy Basin NRM region, 1996, 2001, 2004**

	Region	Queensland	Region as a percentage of Queensland
Area (km <sup>2</sup> )	156,000	1,734,157	9%
1996	197,786	3,338,721	5.9%
2001	199,347	3,635,121	5.5%
2004	205,835	3,882,037	5.3%
<b>Annual average change 1996-2004 (%)</b>	<b>0.5</b>	<b>2.0</b>	.....
<b>Annual average change 2001-2004 (%)</b>	<b>1.1</b>	<b>2.3</b>	.....

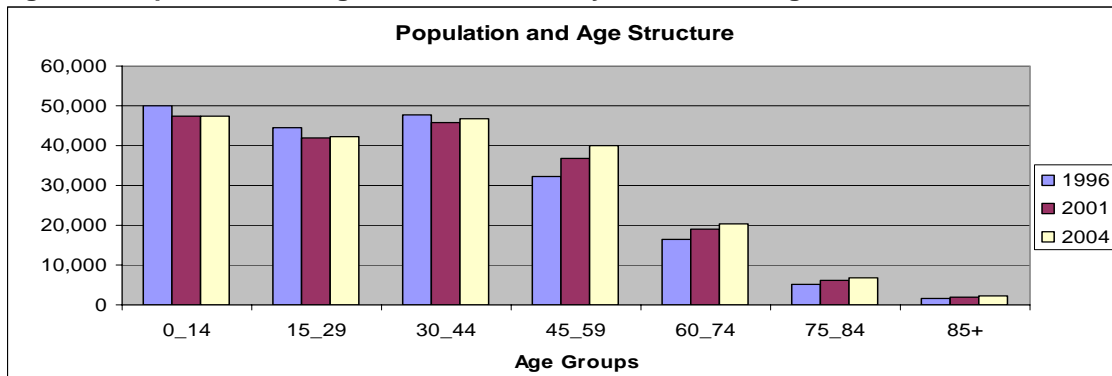
(a) The area for the region was calculated by adding together the portion of each SLA that fell within the region.

Source: ABS data, Census of Population and Housing 1996, 2001; ABS Population Survey 2004 (as reported in QRBIS).

#### Population and age structure

The data indicates an ageing population in the Fitzroy Basin NRM region. There were decreases in the 0-14 age group (5.2%), the 15-29 age group (5.4%), and the 30-44 age group (1.9%) between 1996 and 2004, and increases in the 45-59 age group (24%), the 60-74 age group (24%), the 75-84 age group (32%), and the 85+ age group (47%). However between the years 2001 and 2004 there has been a slight increase in population in the age groups 15-29 (0.4%) and 30-44 (1.7%) indicating that the decreasing trend in these age groups may be reversing.

**Figure 3: Population and age structure – Fitzroy Basin NRM region, 1996, 2001, 2004**



Source: ABS data, Census of Population and Housing 1996, 2001; ABS Population Survey 2004 (as reported in QRBIS).

## Regional Agricultural Profile – Fitzroy Basin NRM Region

### Employment

#### Employment by industry

The three industries employing the greatest number of people in the Fitzroy Basin NRM region in 2001 were; Retail Trade (13.6%), Manufacturing (9.9%), and Agriculture, Forestry and Fishing (9%) (see Table 3).

The number of people employed increased between 1996 and 2001 in 12 out of 17 of the industries. Increases were greatest in Wholesale Trade (25%) and Cultural and Recreational Services (15%). The largest decreases occurred in Communication and Services (24%) and Mining (23%).

**Table 3: Employment by Industry – Fitzroy Basin NRM region, 1996, 2001**

Industry	1996		2001		1996 to 2001 % Change
	No. employed	% <sup>a</sup>	No. employed	% <sup>a</sup>	
Agriculture, Forestry and Fishing	7,268	8.5%	7,888	9.0%	9%
Mining	8,481	9.9%	6,515	7.5%	-23%
Manufacturing	7,922	9.3%	8,638	9.9%	9%
Electricity, Gas and Water Supply	1,602	1.9%	1,642	1.9%	2%
Construction	6,253	7.3%	6,070	6.9%	-3%
Wholesale Trade	3,530	4.1%	4,430	5.1%	25%
Retail Trade	10,823	12.7%	11,923	13.6%	10%
Accommodation, Cafes and Restaurants	4,193	4.9%	4,499	5.1%	7%
Transport and Storage	4,785	5.6%	4,963	5.7%	4%
Communication and Services	1,027	1.2%	778	0.9%	-24%
Finance and Insurance	1,600	1.9%	1,416	1.6%	-12%
Property and Business Services	5,321	6.2%	5,745	6.6%	8%
Govt. Admin and Defence	3,280	3.8%	2,984	3.4%	-9%
Education	6,542	7.6%	7,093	8.1%	8%
Health and Community Services	6,556	7.7%	6,842	7.8%	4%
Cultural and Recreational Services	1,088	1.3%	1,250	1.4%	15%
Personal and Other Services	2,516	2.9%	2,745	3.1%	9%
Not Stated	1,599	1.9%	1,524	1.7%	-5%
Non Classifiable	1,157	1.4%	419	0.5%	-64%
<b>Total</b>	<b>85,543</b>	<b>100%</b>	<b>87,364</b>	<b>100%</b>	

(a) The values in this column represent the percent of all people employed in the Fitzroy Basin NRM region who are employed in the separate industries.

Source: ABS data, Census of Population and Housing 1996, 2001 (as reported in QRBS).

## Regional Agricultural Profile – Fitzroy Basin NRM Region

### Employment within Industries

The following tables provide more detail about employment in the primary industries and those industries that provide support to the primary industries in the Fitzroy Basin NRM region. Table 4 gives a breakdown of the agriculture, forestry and fishing industry and in 2001 agriculture (92%) was by far the largest employer within this industry. The forestry and logging sector employed the smallest number of the Agriculture, Forestry and Fishing labour force, only 124 employees were employed in this sector in 2001.

**Table 4: Employment - Agriculture, Forestry and Fishing - Fitzroy Basin NRM region, 1996, 2001**

Agricultural	1996		2001		1996 to 2001 % change
	No. employed	% <sup>a</sup>	No. employed	% <sup>a</sup>	
Agriculture	6,664	92%	7,286	92%	9%
Services to Agriculture Hunting & Trapping	234	3%	270	3%	15%
Forestry and Logging	125	2%	124	2%	-1%
Commercial Fishing	179	2%	183	2.5%	2%
Agriculture Forestry & Fishing, undef	66	1%	25	0.5%	-62%

(a) The values in this column represent the percentage of the Fitzroy Basin NRM region's agriculture, forestry and fishing labour force that were employed in each of the separate sectors.

Source: ABS data, Census of Population and Housing 1996, 2001 (as reported in QRBIS).

Table 5 provides more detail about employment in the mining industry in the Fitzroy Basin NRM region. Coal mining (85%) was the main employer in the mining industry in 2001. Metal ore mining was the smallest employer in 2001 with only 78 employees employed in this sector.

**Table 5: Employment - Mining - Fitzroy Basin NRM region, 1996, 2001**

Mining	1996		2001		1996 to 2001 % change
	No. employed	% <sup>a</sup>	No. employed	% <sup>a</sup>	
Coal Mining	7,548	89%	5,530	85%	-27%
Oil and Gas Extraction	26	0%	104	2%	300%
Metal Ore Mining	74	1%	78	1%	5%
Other Mining	261	3%	260	4%	0%
Services to Mining	413	5%	293	4%	-29%
Mining, undefined	159	2%	250	4%	57%

(a) The values in this column represent the percentage of the Fitzroy Basin NRM region's mining labour force that were employed in each of the separate sectors.

Source: ABS data, Census of Population and Housing 1996, 2001 (as reported in QRBIS).

## Regional Agricultural Profile – Fitzroy Basin NRM Region

The main employer in the manufacturing industry in 2001 in the Fitzroy Basin NRM region was the metal product manufacturing sector (34.5%). The second largest manufacturing employer was the food, beverage and tobacco manufacturing industry (21%).

**Table 6: Employment - Manufacturing - Fitzroy Basin NRM region, 1996, 2001**

Manufacturing	1996		2001		1996 to 2001 % change
	No. employed	% <sup>a</sup>	No. employed	% <sup>a</sup>	
Food, Beverage & Tobacco Mfg	1,847	23%	1,789	21%	-3%
Textile Clothing Footwear & Leather Mfg	86	1%	147	2%	71%
Wood & Paper Products Mfg	343	4%	393	4.5%	15%
Printing, Publishing & Recorded Media	414	5%	342	4%	-17%
Petroleum Coal Chemical & Ass Prod Mfg	420	5%	532	6%	27%
Non-Metallic Mineral Prod Mfg	539	7%	513	6%	-5%
Metal Product Manufacturing	2,867	36%	2,994	34.5%	4%
Machinery & Equipment Mfg	1,058	14%	1,131	13%	7%
Other Manufacturing	206	3%	275	3%	33%
Manufacturing, undefined	142	2%	522	6%	268%

(a) The values in this column represent the percentage of the Fitzroy Basin NRM region's manufacturing labour force that were employed in each of the separate sectors.

Source: ABS data, Census of Population and Housing 1996, 2001 (as reported in QRBIS).

The majority of the employees employed in the electricity, gas and water industry in 2001 were employed in electricity and gas supply (84%). Only 16% of employees in the electricity, gas and water industry were employed in water supply, sewerage and drainage services in 2001.

**Table 7: Employment - Electricity, Gas and Water - Fitzroy Basin NRM region, 1996, 2001**

Electricity, Gas and Water	1996		2001		1996 to 2001 % change
	No. employed	% <sup>a</sup>	No. employed	% <sup>a</sup>	
Electricity and Gas Supply	1,382	86%	1,373	84%	-1%
Water Supply Sewerage & Drainage Serv	217	14%	266	16%	23%
Electricity Gas Water Supply undef	3	0%	3	0%	0%

(a) The values in this column represent the percentage of the Fitzroy Basin NRM region's electricity, gas and water labour force that were employed in each of the separate sectors.

Source: ABS data, Census of Population and Housing 1996, 2001 (as reported in QRBIS).

## Regional Agricultural Profile – Fitzroy Basin NRM Region

Table 8 below provides more detail about employment in the Transport industry. In 2001 the majority of Transport industry employees were employed in road transport (40%). Rail transport employees made up the second largest group (37%) in 2001. In 1996 rail transport was the largest Transport industry employer (43%) and road transport was the second largest employer (37%).

**Table 8: Employment - Transport - Fitzroy Basin NRM region, 1996, 2001**

Transport	1996		2001		1996 to 2001 % change
	No. employed	% <sup>a</sup>	No. employed	% <sup>a</sup>	
Road Transport	1,492	31%	1,996	40%	34%
Rail Transport	2,074	43%	1,818	37%	-12%
Water Transport	98	2%	114	2%	16%
Air and Space Transport	118	3%	151	3%	28%
Other Transport	42	1%	12	0%	-71%
Services to Transport	750	16%	500	10%	-33%
Storage	97	2%	39	1%	-60%
Transport & Storage, undef	114	2%	333	7%	192%

(a) The values in this column represent the percentage of the Fitzroy Basin NRM region's transport labour force that were employed in each of the separate sectors.

Source: ABS data, Census of Population and Housing 1996, 2001 (as reported in QRBS).

### Employment by agricultural sector

The Agriculture, Forestry and Fishing industry has been further disaggregated into sectors (see Table 9). The main employer in the agriculture, forestry and fishing industry in the Fitzroy Basin NRM region in 2001 was the beef cattle farming sector (55.6%). The grain-sheep grain-beef farming sector was the second largest employer (9.2%) and the grain sector was the third largest employer (6.2%).

The number of people employed in the beef cattle farming sector, the grain sector, and the grain-sheep grain-beef cattle farming sector increased significantly between 1996 and 2001. The number of people employed in agriculture undefined, however, had decreased significantly; possibly some employees from the sectors mentioned may have been listed under agriculture undefined in 1996. Advice from the ABS suggests that the way in which employment information was coded in 1996 may have differed from the way in which the information was coded in 2001.

Significant declines in numbers of people employed between 1996 and 2001 occurred in the grain-sheep beef cattle farming sector (90%), the services to forestry sector (75%), the dairy cattle farming sector (35%), and the commercial fishing undefined sector (35%).

## Regional Agricultural Profile – Fitzroy Basin NRM Region

**Table 9: Employment by agricultural sector – Fitzroy Basin NRM region, 1996, 2001**

Sector	1996		2001		1996 to 2001 % Change
	No. employed	% <sup>a</sup>	No. employed	% <sup>a</sup>	
<b>Livestock Production</b>					
Sheep-Beef Cattle Farming	28	0.4%	45	0.6%	61%
Sheep Farming	17	0.2%	27	0.3%	59%
Beef Cattle Farming	1928	26.6%	4374	55.6%	127%
Dairy Cattle Farming	188	2.6%	122	1.6%	-35%
Pig Farming	61	0.9%	55	0.7%	-10%
Horse Farming	23	0.3%	18	0.2%	-22%
Deer Farming	3	0.0%	0	0.0%	-100%
Livestock Farming, nec	53	0.7%	32	0.4%	-40%
Other Livestock Farming, undef	6	0.1%	0	0.0%	-100%
Poultry Farming, undef	19	0.3%	9	0.1%	-53%
Poultry Farming (Meat)	3	0.0%	0	0.0%	-100%
Poultry Farming (Eggs)	12	0.2%	25	0.3%	108%
<b>Total Livestock Production<sup>b</sup></b>	<b>2341</b>	<b>32.3%</b>	<b>4707</b>	<b>59.8%</b>	
<b>Crop Production</b>					
Grain Growing	240	3.3%	485	6.2%	102%
Cotton Growing	132	1.8%	255	3.2%	93%
Sugar Cane Growing	100	1.4%	111	1.4%	11%
Horticulture & Fruit Growing, undef	128	1.8%	114	1.5%	-11%
Plant Nurseries	95	1.3%	77	1.0%	-19%
Cut Flower & Flower Seed Growing	14	0.2%	10	0.1%	-29%
Vegetable Growing	23	0.3%	82	1.0%	257%
Grape Growing	21	0.3%	77	1.0%	267%
Apple & Pear Growing	3	0.0%	0	0.0%	-100%
Fruit Growing, nec	218	3.0%	302	3.8%	39%
Crop & Plant Growing, nec	59	0.8%	104	1.3%	76%
Other Crop Growing, undef	26	0.4%	0	0.0%	-100%
<b>Total Crop Production<sup>b</sup></b>	<b>1059</b>	<b>14.6%</b>	<b>1617</b>	<b>20.5%</b>	
<b>Services to Agriculture</b>					
Cotton Ginning	29	0.4%	18	0.2%	-38%
Shearing Services	3	0.0%	0	0.0%	-100%
Serv to Agrictre Huntng Trappng undef	0	0.0%	3	0.0%	-
Services to Agriculture, undef	9	0.1%	12	0.2%	33%
Aerial Agricultural Services	18	0.2%	13	0.2%	-28%
Services to Agriculture, nec	173	2.3%	220	2.8%	27%
<b>Total Services to Agriculture<sup>b</sup></b>	<b>232</b>	<b>3.2%</b>	<b>266</b>	<b>3.4%</b>	

## Regional Agricultural Profile – Fitzroy Basin NRM Region

**Table 9 continued**

Sector	1996		2001		1996 to 2001 % Change
	No. employed	% <sup>a</sup>	No. employed	% <sup>a</sup>	
<b>Forestry</b>					
Forestry & Logging, undef	0	0.0%	9	0.1%	-
Forestry	24	0.3%	44	0.6%	83%
Logging	48	0.7%	48	0.6%	0%
Services to Forestry	61	0.8%	15	0.2%	-75%
<b>Total Forestry<sup>b</sup></b>	<b>133</b>	<b>1.8%</b>	<b>116</b>	<b>1.5%</b>	
<b>Fishing</b>					
Commercial Fishing undef	110	1.5%	72	0.9%	-35%
Marine Fishing, undef	17	0.2%	21	0.3%	24%
Rock Lobster Fishing	0	0.0%	3	0.0%	-
Prawn Fishing	5	0.1%	29	0.4%	480%
Finfish Trawling	8	0.1%	10	0.1%	25%
Line Fishing	13	0.2%	6	0.1%	-54%
Marine Fishing, nec	13	0.2%	22	0.3%	69%
Aquaculture	17	0.2%	24	0.3%	41%
<b>Total Fishing<sup>b</sup></b>	<b>183</b>	<b>2.5%</b>	<b>187</b>	<b>2.4%</b>	
<b>Other</b>					
Grain Sheep Bf Cattle Farm undef	701	9.7%	69	0.9%	-90%
Grain-Sheep Grain-Bf Cattle Farm	493	6.8%	724	9.2%	47%
Hunting & Trapping	15	0.2%	6	0.1%	-60%
Agriculture, undef <sup>c</sup>	2095	28.9%	176	2.2%	-92%
<b>Total Other<sup>b</sup></b>	<b>3304</b>	<b>45.6%</b>	<b>975</b>	<b>12.4%</b>	

nec – not elsewhere classified

(a) The values in this column represent the percent of all the people employed in the Agriculture, Forestry and Fishing industry in the Fitzroy Basin NRM region who are employed in each agricultural sector.

(b) The 'total' rows represent the total number and the total percent of the Fitzroy Basin NRM region labour force employed in each agricultural sector.

(c) Advice from the ABS suggests that the large decrease in value for agriculture undefined from 1996 to 2001 might be a result of a difference in the way coding was carried out between 1996 and 2001.

Source: ABS data, Census of Population and Housing 1996, 2001 (as reported in QRBS).

## Agricultural profile

### Introduction

The following agricultural profile includes information on the agricultural commodities produced in the Fitzroy Basin NRM region (pastures and grasses, crops, livestock, and livestock products), and information on agricultural practices (cultivation techniques, treatment of stubble, fertiliser use, and soil conditioner use).

An estimate of the number of agricultural establishments in the Fitzroy Basin NRM region at November 2005 is 3253 (Australian Bureau of Statistics 2006).

### Commodities

#### Pastures and grasses

Native or naturalised pastures represented 40% of all agricultural holdings in the Fitzroy Basin NRM region in 2000-01. In contrast sown pastures represented only 2%, and pastures cut for hay only 0.1%. However pastures cut for hay in the region represented 16% of the state total volume for pastures cut for hay.

**Table 10: Volume and value of pastures and grasses – Fitzroy Basin NRM region, 2000-01**

Pastures and grasses	Volume		Area		Value		Production of commodity as a percentage of Queensland total		
	t '000	ha '000	% of total ag. holdings in region	\$ '000	% of total ag. value in region	Vol	Area	Value	
Pastures cut for hay	45	8	0.1%	8,134	1%	16%	15%	15%	
Sown pastures	N/A	247	2%	N/A	N/A	N/A	4%	N/A	
Native or naturalised pasture	N/A	5,591	40%	N/A	N/A	N/A	9%	N/A	

NA – Not Applicable.

Source: ABS data, Agricultural Census, 2000-01 (as reported in QRBIS).

## Regional Agricultural Profile – Fitzroy Basin NRM Region

### Crops

The volume and value of crops in the Fitzroy Basin NRM region for 2000-01 is represented below in Table 11. Cereals for grain (\$177m) produced the highest value of production, even taking into consideration ground truthing (see footnotes). Cotton (\$91m) produced the second highest value of production, and fruit and nuts (\$19m) produced the third highest value of production for crops in the region. Cereals for grain grown in 2000-01 represented 37% of the state total value of production for cereals for grain and cotton represented 22% of the state total value of production for cotton. Peanuts grown in the region represented 16% of the state total value of production for peanuts.

**Table 11: Volume and value of crops – Fitzroy Basin NRM region, 2000-01**

Crops	Volume		Area		Value		Production of commodity as a percentage of Queensland total		
	t '000	ha '000	% of total ag. holdings in region	\$ '000	% of total ag. value in region	Vol	Area	Value	
Cereals for grain <sup>a</sup>	937	424	3.06%	177,950	15%	36%	27%	37%	
Cotton-Irrigated-Lint	45	28 <sup>b</sup>	0.20%	91,095 <sup>c</sup>	8%	23%	20%	22%	
Cotton-Irrigated-Seed	112	N/A	N/A	N/A	N/A	24%	N/A	N/A	
Cotton-Non-Irrigated-Lint	2	7 <sup>b</sup>	0.05%	N/A	N/A	9%	15%	N/A	
Cotton-Non-Irrigated-Seed	6	N/A	N/A	N/A	N/A	11%	N/A	N/A	
Crops for hay	22	8	0.05%	N/A	N/A	13%	11%	N/A	
Soybeans	0.7	2	0.01%	335	0%	5%	15%	5%	
Peanuts	6	2	0.02%	12	0%	16%	13%	16%	
Sugar Cane <sup>de</sup>	626	11	0.08%	14,539	1%	2%	3%	2%	
Fruit and nuts <sup>f</sup>	N/A	2	0.02%	19,712	2%	N/A	5%	3%	
Vegetables <sup>f</sup>	N/A	1	0.01%	12,570	1%	N/A	2%	2%	
<b>Total</b>	<b>1,756</b>	<b>485</b>	<b>3.50%</b>	<b>316,211</b>	<b>27.7%</b>				

(a) Ground truthing has revealed that in 1999 most dryland cropping in the Bungil Shire lay outside the Fitzroy Basin NRM region. The data presented here may therefore overestimate grain production in the Fitzroy Basin NRM region.

(b) The hectare values given for irrigated and non-irrigated cotton-lint represent the hectares used to produce both seed and lint.

(c) The dollar value given for irrigated cotton represents the value of both irrigated and non-irrigated cotton.

(d) The values provided for sugar cane represents sugar cane for crushing and sugar cane for plants.

(e) Ground truthing has revealed that in 1999 all sugar cane in the Sarina and Broadsound Shires lay outside the Fitzroy Basin NRM region, and all irrigated agriculture in the Nebo Shire lay within the Fitzroy Basin NRM region. Overall the data presented here may overestimate sugar production in the Fitzroy Basin NRM region.

(f) Ground truthing has revealed that in 1999 most irrigated agriculture in the Sarina Shire lay outside the Fitzroy Basin NRM region, and all irrigated agriculture in the Calliope Pt A Shire lay within the Fitzroy Basin NRM region. Overall the data presented here may overestimate fruit production and underestimate vegetable production.

Source: ABS data, Agricultural Census, 2000-01 (as reported in QRBIS).

## Regional Agricultural Profile – Fitzroy Basin NRM Region

### Livestock

The agricultural commodity producing the highest value of production for the Fitzroy Basin NRM region in 2000-01 was beef cattle (\$733m); this represented 25% of the state value of production for beef cattle. The second highest value of production for livestock in the Fitzroy Basin NRM region came from pig production (\$15m); pig production in the region represented 9% of the state value of production for pigs.

**Table 12: Volume and value of livestock – Fitzroy Basin NRM region, 2000-01**

Livestock	Number			Value		Production of commodity as a percentage of Queensland total	
	No. of stock '000	\$ '000	% of total ag. value in region	No.	Value		
Cattle & calves	2,552 <sup>a</sup>	733,045 <sup>b</sup>	63%	22%	25%		
Sheep & lambs	63	591 <sup>b</sup>	0.1%	1%	1%		
Pigs	45	15,460 <sup>b</sup>	1%	7%	9%		
Poultry	49	119 <sup>b</sup>	0.01%	0%	0%		

(a) The value for number cattle and calves represents meat and dairy cattle.

(b) The dollar values given for livestock represent the value of all livestock slaughtered during 2000-01 and not the value of all livestock.

Source: ABS data, Agricultural Census, 2000-01 (as reported in QRBIS).

### Livestock products

The highest value of production for livestock products in 2000-01 in the Fitzroy Basin NRM region came from cow's milk production (\$9m) and the second highest value of production came from egg production (\$2m). Both cow's milk production and egg production in the Fitzroy Basin NRM region represented only 4% of the state value of production for these commodities.

**Table 13: Volume and value of livestock products – Fitzroy Basin NRM region, 2000-01**

Livestock Products	Volume		Value		Production of commodity as a percentage of Queensland total	
	Vol '000	\$ '000	% of total ag. value in region	Vol	Value	
Wool (t)	0.2	1,396	0.1%	0%	1%	
Cow milk production (L)	15,813	9,379	1%	2%	4%	
Eggs (dz)	1,682	2,557	0.2%	4%	4%	

Source: ABS data, Agricultural Census, 2000-01 (as reported in QRBIS).

## Agricultural practices

### Cultivation techniques

In total approximately 489,000 ha of land, 0.4% of total agricultural holdings in the region, was prepared for the sowing of crops in the Fitzroy Basin NRM region during 2000-01. No cultivation was used on 35% of the land prepared for sowing, 1 or 2 cultivations were used on 38% of the land used for sowing, and on 27% of land prepared for sowing other cultivation techniques were used. The area of land prepared for sowing in the region represented 24.8% of the total area prepared for sowing in the state.

**Table 14: Cultivation technique – Fitzroy Basin NRM region, 2000-01**

Cultivation Technique	Area cultivated		Cultivation technique as a percentage of Queensland total
	ha '000	% of total area cultivated in region	Area
No cultivation <sup>a</sup>	172	35%	32%
1 or 2 cultivations <sup>a</sup>	188	38%	25%
Other cultivation technique <sup>a</sup>	129	27%	19%

(a) Ground truthing has revealed that in 1999 most irrigated agriculture in the Sarina Shire lay outside the Fitzroy Basin NRM region, all irrigated sugar in the Broadsound Shire lay outside the Fitzroy Basin NRM region, and all irrigated agriculture in the Calliope Pt A Shire lay within the Fitzroy Basin NRM region. Overall the data presented here may overestimate the area of land cultivated within the region.

Source: ABS data, Agricultural Census, 2000-01 (as reported in QRBIS).

## Regional Agricultural Profile – Fitzroy Basin NRM Region

### Treatment of stubble

The most common treatment of crop stubble in the Fitzroy Basin NRM region during 2000-01 was to leave stubble intact (38.5%). Thirty-four percent of stubble was ploughed into the soil and 12.5% of stubble was mulched. The practice of leaving stubble intact in the Fitzroy Basin NRM region represented 34% of the practice across the state.

**Table 15: Treatment of stubble – Fitzroy Basin NRM region, 2000-01**

Treatment	Area treated		Stubble treatment as a percentage of Queensland total
	ha '000	% of total area treated in region	Area
Stubble ploughed into soil <sup>a</sup>	164	34%	23%
Stubble mulched <sup>a</sup>	62	12.5%	22%
Stubble left intact <sup>a</sup>	188	38.5%	34%
Stubble removed by hot burn <sup>a</sup>	4	1%	16%
Stubble removed by cool burn <sup>a</sup>	9	2%	16%
Stubble removed by baling or heavy grazing <sup>a</sup>	33	7%	20%
All other methods <sup>a</sup>	25	5%	31%

(a) Ground truthing has revealed that in 1999 most irrigated agriculture in the Sarina Shire lay outside the Fitzroy Basin NRM region, all irrigated sugar in the Broadsound Shire lay outside the Fitzroy Basin NRM region, and all irrigated agriculture in the Calliope Pt A Shire lay within the Fitzroy Basin NRM region. Overall the data presented here may overestimate treatment of stubble within the region.

Source: ABS data, Agricultural Census, 2000-01 (as reported in QRBIS).

## Regional Agricultural Profile – Fitzroy Basin NRM Region

### Fertiliser use

Fertiliser use in the Fitzroy Basin NRM region accounts for 8% of the total volume of fertiliser used in Queensland; the total area of agricultural holdings in the Fitzroy Basin NRM region represents 9% of the total area of agricultural holding in Queensland. Urea was the main fertiliser used in the region representing 46% of the total volume of fertiliser used in the region.

Totals for hectares treated have not been included in Table 16; if more than one fertiliser was used on one hectare that hectare was counted twice in the Agricultural Census 2000-01, a total for hectares treated would therefore overestimate the number of hectares treated with fertiliser in the region.

**Table 16: Fertiliser used – Fitzroy Basin NRM region, 2000-01**

Fertiliser	Quantity used		Area treated		Fertiliser use as a percentage of Queensland total	
	t'000	ha'000	% of total ag. holdings in region	Area	Vol	
Urea <sup>a</sup>	19.7	151.7	1%	16%	10%	
Ammonium Sulphate <sup>a</sup>	0.1	1.3	0%	3%	1%	
Ammonium Nitrate <sup>a</sup>	0.4	2.1	0%	13%	10%	
Anhydrous Ammonia <sup>a</sup>	2.3	23.0	0%	14%	12%	
Single Superphosphate <sup>a</sup>	1.0	5.6	0%	7%	7%	
Double Superphosphate <sup>a</sup>	0.2	2.5	0%	17%	10%	
Triple Superphosphate <sup>a</sup>	0.1	0.5	0%	4%	7%	
Muriate of Potash <sup>a</sup>	0.8	6.9	0%	4%	4%	
Potassium Sulphate <sup>a</sup>	0.8	2.3	0%	9%	10%	
Potassium Nitrate <sup>a</sup>	0.1	0.9	0%	5%	3%	
Mono Ammonium Phosphate <sup>a</sup>	2.3	38.1	0%	11%	13%	
Di Ammonium Phosphate <sup>a</sup>	2.8	39.3	0%	22%	13%	
Other <sup>a</sup>	11.8	39.5	0%	7%	5%	
<b>Total<sup>a</sup></b>	<b>42.4</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>8%</b>	

(a) Ground truthing has revealed that in 1999 most irrigated agriculture in the Sarina Shire lay outside the Fitzroy Basin NRM region, all irrigated sugar in the Broadsound Shire lay outside the Fitzroy Basin NRM region, and all irrigated agriculture in the Calliope Pt A Shire lay within the Fitzroy Basin NRM region. Overall the data presented here may overestimate fertiliser use within the region.

Source: ABS data, Agricultural Census, 2000-01 (as reported in QRBIS).

## Regional Agricultural Profile – Fitzroy Basin NRM Region

### Soil conditioner use

The most common soil conditioner used in the Fitzroy Basin NRM region in 2000-01 was gypsum (79.6%); the volume of gypsum used in the region represented 9% of the total volume of gypsum used across the state. Soil conditioner was used predominantly to treat physical soil problems. Lime was the main soil conditioner used to treat soil acidity.

**Table 17: Soil conditioner used – Fitzroy Basin NRM region, 2000-01**

Soil conditioner	Quantity used		Area treated		Soil conditioner use as a percentage of Queensland total	
	t '000	ha '000	% of total ag. holdings in region	Area	Vol	
Lime - to correct or stabilise soil acidity <sup>a</sup>	2	1	0.01%	3%	3%	
Dolomite - to correct or stabilise soil acidity <sup>a</sup>	0.06	0.09	0.00%	1%	0%	
Dolomite - to correct physical soil problems <sup>a</sup>	0.02	0.02	0.00%	0%	0%	
Gypsum - to correct physical soil problems <sup>a</sup>	7	4	0.03%	11%	9%	

(a) Ground truthing has revealed that in 1999 most irrigated agriculture in the Sarina Shire lay outside the Fitzroy Basin NRM region, all irrigated sugar in the Broadsound Shire lay outside the Fitzroy Basin NRM region, and all irrigated agriculture in the Calliope Pt A Shire lay within the Fitzroy Basin NRM region. Overall the data presented here may overestimate soil conditioner use within the region.

Source: ABS data, Agricultural Census, 2000-01 (as reported in QRBIS).

## Regional Agricultural Profile – Fitzroy Basin NRM Region

### Area irrigated

The total area irrigated in the Fitzroy Basin NRM region in 2000-01 represented only 0.4% of the total area of agricultural holdings in the region. The total area irrigated in the Fitzroy Basin NRM region however represented 10% of the total area irrigated in Queensland as a whole.

**Table 18: Area irrigated – Fitzroy Basin NRM region, 2000-01**

	Area		Area irrigated as a percentage of Queensland total
	ha '000	% of total ag. holdings in region	Area
Total area of holding <sup>a</sup>	13,854	100%	9%
Irrigated - total area <sup>a</sup>	54	0.4%	10%
Non-irrigated - total area <sup>a</sup>	13,801	99.6%	9%

(a) Ground truthing has revealed that in 1999 most irrigated agriculture in the Sarina Shire lay outside the Fitzroy Basin NRM region, all irrigated sugar in the Broadsound Shire lay outside the Fitzroy Basin NRM region, and all irrigated agriculture in the Calliope Pt A Shire lay within the Fitzroy Basin NRM region. Overall the data presented here may overestimate the area of land irrigated within the region.

Source: ABS data, Agricultural Census, 2000-01 (as reported in QRBIS).

## Natural resource management profile

### Fencing to exclude grazing

Thirty-one per cent of the fencing constructed to exclude grazing in 2000-01 in the Fitzroy Basin NRM region was to protect creeks and rivers, fencing to protect remnant native vegetation accounted for 9%, fencing to protect other degraded areas accounted for 9%, fencing to protect native trees and shrubs accounted for 4%, and fencing to protect saline areas accounted for 1%. The majority of fencing constructed in 2000-01 in the Fitzroy Basin NRM region to exclude grazing was to protect other areas.

**Table 19: Fencing to exclude grazing – Fitzroy Basin NRM region, 2000-01**

Reason	Length		Fencing to exclude grazing as a percentage of Queensland total
	km	% of total length of fencing constructed in region in 2000-01	Length
To protect remnant native vegetation	91	9%	16%
To protect planted trees and shrubs	40	4%	10%
To protect creeks and rivers	308	31%	15%
To protect saline areas	12	1%	7%
To protect other degraded areas	89	9%	16%
To protect other areas	451	46%	13%
Total fencing for all reasons	990	100%	

Source: ABS data, Agricultural Census, 2000-01 (as reported in QRBIS).

## Regional Agricultural Profile – Fitzroy Basin NRM Region

### Tree seedlings planted

The majority of tree seedlings planted in the Fitzroy Basin NRM region in 2000-01 were planted for timber and wood pulp (41%) rather than for natural resource management purposes. Seedlings planted for natural resource management purposes during 2000-01 in the Fitzroy Basin NRM region were mainly planted for nature conservation (28%). Seedlings were also planted in 2000-01 in the Fitzroy Basin NRM region to enhance production (23%) and to protect land and water (3%).

**Table 20: Tree seedlings planted – Fitzroy Basin NRM region, 2000-01**

Purpose of Planting	Number planted		Area planted		Seedlings and trees planted as a percentage of Queensland total	
	No. '000	% of seedlings planted in region in 2000-01	ha	% of total ag. holdings in region	No.	Area
Seedlings planted for nature conservation	8	28%	42	0%	3%	3%
Seedlings planted for timber and wood pulp	11	41%	20	0%	2%	4%
Seedlings planted for enhanced production	6	23%	150	0%	5%	9%
Seedlings planted for protection of land and water	1	3%	13	0%	1%	2%
Seedlings planted for all other purposes	1	5%	13	0%	1%	5%

Source: ABS data, Agricultural Census, 2000-01 (as reported in QRBS).

## Conclusions

The Fitzroy Basin NRM region represents approximately 9% of the total area of Queensland, and 5.3% of Queensland's total population. The population of the region increased at a rate of approximately 0.5% per year between 1996 and 2004; this rate of increase is only a quarter of the 2% rate of increase for Queensland during this period.

Retail trade (13.6%), manufacturing (9.9%), and agriculture, forestry and fishing (9%) were the three main employers in the Fitzroy Basin NRM region in 2001. The percentage of the labour force employed in agriculture, forestry and fishing (9%) in the Fitzroy Basin NRM region in 2001 was higher than the percentage of the total Queensland labour force employed in agriculture, forestry and fishing (5.8%).

Employment in the beef cattle sector in 2001 in the Fitzroy Basin NRM region accounted for over half of the employment within the Agriculture, Forestry and Fishing industry. The beef cattle sector also produced the highest value of production (\$733m). The grain-sheep grain-beef cattle sector was the second most important agricultural sector in the Fitzroy Basin NRM region in 2001, employing 9.2% of the agriculture, forestry and fishing labour force. Cereal grains produced the second highest value of production (\$177m).

The total area irrigated in 2001 in the Fitzroy Basin NRM region represented 10% of all land irrigated in Queensland, but only 0.4% of total agricultural holdings in the region. The quantity of fertiliser used in the Fitzroy Basin NRM region in 2001 represented 8% of the total amount of fertiliser used in Queensland. Soil conditioner used in the region was mainly used to correct physical soil problems rather than soil acidity.

## Regional Agricultural Profile – Fitzroy Basin NRM Region

The majority of fencing constructed to exclude grazing in the Fitzroy Basin NRM region in 2000-01 for a defined purpose was to protect creeks and rivers (31%). Most seedlings planted in the Fitzroy Basin NRM region in 2000-01 were planted for timber and wood pulp (41%) rather than for natural resource management purposes.

This report has provided a basic social and agricultural profile of the Fitzroy Basin NRM region based on 2001 data. This information may aid planning and implementing of natural resource management in the region. More importantly it will also provide a baseline against which information from future censuses (due in 2006) can be compared. Advice from the Australian Bureau of Statistics suggests that data from future surveys (Agricultural Census 2005-06, Population and Housing Survey 2005-06, and Natural Resource Management Survey 2004-05) will be provided to match the boundaries of the natural resource management regions. It will not be necessary therefore to concord the new census data to regional NRM boundaries in order to compare it with the data in this report.

## References

Australian Bureau of Statistics 2006, *4624.0: Natural Resource Management on Australian Farms 2004-05*, Commonwealth of Australia, Canberra.