

# National Action Plan for Salinity and Water Quality

## Social and Economic

### State-level Investment Project SE01

#### Regional Agricultural Profile

#### Burnett Mary NRM Region

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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)

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## Regional profile for the Burnett Mary NRM region

### Introduction

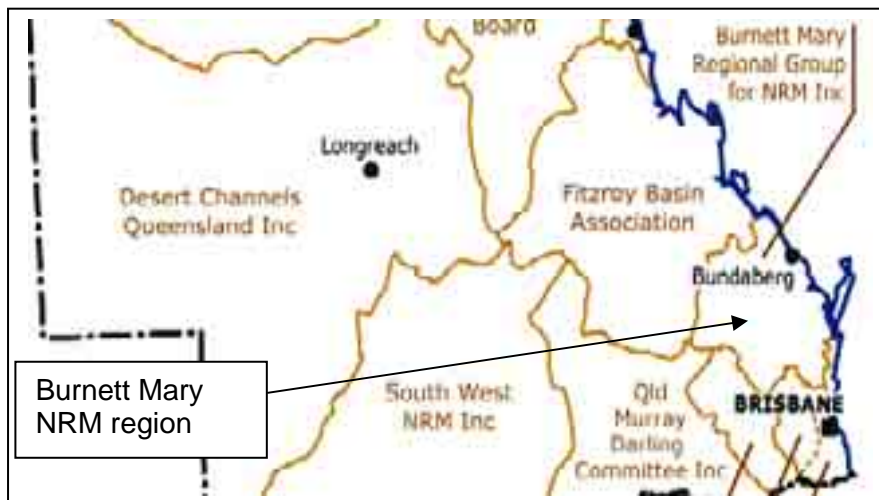
This report provides a basic social and agricultural regional profile for the Burnett Mary NRM region based on the information provided by the Queensland Regional Bodies Information System (QRBIS). The information provided in QRBIS is based on the 2000-01 Agricultural Census, the 1996 and 2001 Census of Population and Housing, and the 2004 Population Survey. This regional profile for the Burnett Mary 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 Burnett Mary NRM region

The Burnett Mary NRM region includes all lands drained by the Burnett, Mary, Kolan, Boyne, Burrum, Baffle Creek River Basins and their tributaries and marine waters and islands to the 3-mile nautical limit (see Figure 1 below).

**Figure 1: Burnett Mary 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 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 NRM body boundaries.

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

Figure 2: Burnett Mary NRM region showing local government areas



Figure 2 above shows the local government areas contained within the Burnett Mary NRM region. These local government areas contain 16 statistical local areas which fall wholly within the boundary of the region and 15 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 NRM 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 Burnett Mary 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 as a footnote to the tables in the agricultural profile section of this report.

## Regional Agricultural Profile – Burnett Mary NRM Region

**Table 1: Percentage of statistical local area included in Burnett Mary 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
Biggenden	100%	100%		
Bundaberg	100%	100%		
Burnett Pt A	100%	100%		
Burnett Pt B	100%	100%		
Caboolture Pt B	7.1%	0%	7.1% added to SEQ West	
Calliope Pt A	19.1%	19.1%		
Caloundra Hinterland	79.2%	81.5%		2.3% from South East
Chinchilla	33.8%	33.8%		
Cooloola Excl. Gympie	88.1%	88.1%		
Cooloola Gympie Only	100%	100%		
Eidsvold	99.8%	100%		
Gayndah	100%	100%		
Hervey Bay Pt A	100%	100%		
Hervey Bay Pt B	100%	100%		
Isis	100%	100%		
Kilcoy	25.1%	25.1%		
Kilkivan	99.8%	100%		
Kingaroy	99.7%	100%		
Kolan	100%	100%		
Maroochy Balance	48.3%	48.3%		
Maryborough	100%	100%		
Miriam Vale	99.4%	100%		
Monto	95.9%	100%		4.1% from Fitzroy
Mundubbera	100%	100%		
Murgon	100%	100%		
Nanango	80.2%	80.2%		
Noosa Balance	38.5%	38.5%		
Perry	100%	100%		
Tiaro	100%	100%		
Wondai	92.7%	100%		7.3% from Condamine Alliance
Woocoo	100%	100%		

## Social and demographic profile

### Population

#### Estimated resident population

The estimated resident population of the Burnett Mary NRM region was 274,309 at the 30<sup>th</sup> June 2004; this represents 7.1% of Queensland's total population, while the area of the region represents approximately 3% of the total area of Queensland. Fifty per cent of the population were male and fifty per cent were female.

There was a population increase in the Burnett Mary NRM region between the years of 1996 and 2004; this increase was, on average, 1.6% each year. This increase is almost as much as the average 2% population increase for Queensland as a whole.

**Table 2: Estimated resident population – Burnett Mary NRM region, 1996, 2001, 2004**

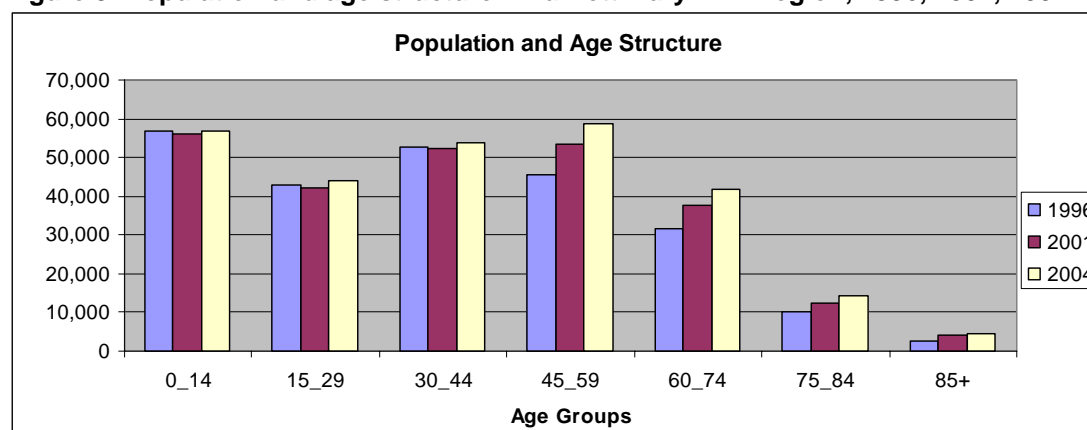
	Region	Queensland	Region as a percentage of Queensland
Area (km <sup>2</sup> )	50,000	1,734,157	3%
1996	242553	3,338,721	7.3%
2001	257934	3,635,121	7.1%
2004	274309	3,882,037	7.1%
<b>Annual average change 1996-2004 (%)</b>	<b>1.6</b>	<b>2.0</b>	.....
<b>Annual average change 2001-2004 (%)</b>	<b>2.1</b>	<b>2.3</b>	.....

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

#### Population and age structure

Figure 3 shows a population increase in all age groups in the Burnett Mary NRM region, with a much larger increase in the older age groups. Between 1996 and 2004 the 45-59 age group had increased by approximately 29%, the 60-74 age group had increased by approximately 33%, the 75-84 age group by 41%, and the 85+ age group by 63%. In contrast the 0-14 age group increased by just 0.2%, the 15-29 age group by 2.8%, and the 30-44 age group by 2%.

**Figure 3: Population and age structure – Burnett Mary 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 – Burnett Mary NRM Region

### Employment

#### Employment by Industry

The four industries employing the greatest percentage of the labour force in the Burnett Mary NRM region in 2001 were Retail Trade (16%), Agriculture, Forestry and Fishing (13.7%), Manufacturing (10.6%), and Health and Community Services (10.3%) (see Table 3).

The number of people employed increased between 1996 and 2001 for 14 out of 17 of the listed industries. Increases were greatest in Retail Trade (17%), Cultural and Recreational Services (17%), and Health and Community Services (15%).

**Table 3: Employment by Industry – Burnett Mary 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	11,872	14.0%	12,283	13.7%	3%
Mining	662	0.8%	561	0.6%	-15%
Manufacturing	9,041	10.6%	9,556	10.6%	6%
Electricity, Gas and Water Supply	930	1.1%	966	1.1%	4%
Construction	5,755	6.8%	5,786	6.4%	1%
Wholesale Trade	3,804	4.4%	4,073	4.5%	7%
Retail Trade	12,278	14.4%	14,421	16.0%	17%
Accommodation, Cafes and Restaurants	4,259	4.9%	4,710	5.2%	11%
Transport and Storage	3,202	3.8%	3,469	3.9%	8%
Communication and Services	1,024	1.2%	966	1.1%	-6%
Finance and Insurance	1,640	1.9%	1,462	1.6%	-11%
Property and Business Services	5,310	6.2%	5,324	5.9%	0%
Govt. Admin and Defence	3,408	4.0%	3,491	3.9%	2%
Education	6,567	7.7%	7,283	8.1%	11%
Health and Community Services	8,111	9.5%	9,288	10.3%	15%
Cultural and Recreational Services	1,198	1.4%	1,400	1.7%	17%
Personal and Other Services	2,491	2.9%	2,646	2.9%	6%
Not Stated	2,067	2.9%	1,927	2.1%	-7%
Non Classifiable	1,264	1.5%	351	0.4%	-72%
<b>Total</b>	<b>84,883</b>	<b>100%</b>	<b>89,963</b>	<b>100%</b>	

(a) The values in this column represent the percent of all people employed in the Burnett Mary 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 – Burnett Mary 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 Burnett Mary NRM region. Table 4 gives a breakdown of the Agriculture, Forestry and Fishing industry; in 2001 agriculture (87%) was by far the main employer within this industry. Forestry and logging (5%) was the second largest employer in the industry in 2001.

**Table 4: Employment - Agriculture, Forestry and Fishing - Burnett Mary NRM region, 1996, 2001**

Agriculture, Forestry and Fishing	1996		2001		1996 to 2001 % change
	No. employed	% <sup>a</sup>	No. employed	% <sup>a</sup>	
Agriculture	10,249	86%	10,641	87%	4%
Services to Agriculture Hunting & Trapping	523	4%	461	3%	-12%
Forestry and Logging	552	5%	645	5%	17%
Commercial Fishing	474	4%	431	4%	-9%
Agriculture Forestry & Fishing, undef	74	1%	105	1%	42%

(a) The values in this column represent the percentage of the Burnett Mary NRM region's Agriculture, Forestry and Fishing labour force that was 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 Burnett Mary NRM region. Metal ore mining (39%) was the largest employer in the Burnett Mary NRM region in 2001 followed by coal mining (33%).

**Table 5: Employment - Mining - Burnett Mary NRM region, 1996, 2001**

Mining	1996		2001		1996 to 2001 % change
	No. employed	% <sup>a</sup>	No. employed	% <sup>a</sup>	
Coal Mining	276	42%	187	33%	-32%
Oil and Gas Extraction	14	2%	11	2%	-21%
Metal Ore Mining	120	18%	218	39%	82%
Other Mining	159	24%	84	15%	-47%
Services to Mining	67	10%	39	7%	-42%
Mining, undef	26	4%	22	4%	-15%

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

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

## Regional Agricultural Profile – Burnett Mary NRM Region

The main employer in the manufacturing industry in 2001 in the Burnett Mary NRM region was the food; beverage and tobacco manufacturing sector (29%). The second largest manufacturing employers in the Burnett Mary NRM region in 2001 were wood and paper products manufacturing (16%) and machinery and equipment manufacturing (16%).

**Table 6: Employment - Manufacturing - Burnett Mary 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	2,434	27%	2,726	29%	12%
Textile Clothing Footwear & Leather Mfg	313	3%	346	3%	11%
Wood & Paper Products Mfg	1,692	19%	1,503	16%	-11%
Printing, Publishing & Recorded Media	653	7%	526	6%	-19%
Petroleum Coal Chemical & Ass Prod Mfg	206	2%	327	3%	59%
Non-Metallic Mineral Prod Mfg	541	6%	466	5%	-14%
Metal Product Manufacturing	1,070	12%	974	10%	-9%
Machinery & Equipment Mfg	1,482	16%	1,543	16%	4%
Other Manufacturing	429	5%	480	5%	12%
Manufacturing, undef	221	3%	665	7%	201%

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

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

The majority of the employees employed in the electricity, gas and water industry in 2001 were employed in electricity and gas supply (71%). Twenty-nine per cent were employed in water supply, sewerage and drainage services in 2001.

**Table 7: Employment - Electricity Gas and Water - Burnett Mary 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	719	77%	685	71%	-5%
Water Supply Sewerage & Drainage Serv	211	23%	281	29%	33%
Electricity Gas Water Supply undef	0	0%	0	0%	-

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

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

## Regional Agricultural Profile – Burnett Mary 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 (61%). Rail transport employees made up the second largest group (14%) in 2001.

**Table 8: Employment - Transport - Burnett Mary NRM region, 1996, 2001**

Transport	1996		2001		1996 to 2001 % change
	No. employed	% <sup>a</sup>	No. employed	% <sup>a</sup>	
Road Transport	1,743	54%	2,109	61%	21%
Rail Transport	645	20%	501	14%	-22%
Water Transport	129	4%	133	4%	3%
Air and Space Transport	67	2%	92	3%	37%
Other Transport	13	1%	0	0%	-100%
Services to Transport	410	13%	325	9%	-21%
Storage	95	3%	48	1%	-49%
Transport & Storage, undef	100	3%	261	8%	161%

(a) The values in this column represent the percentage of the Burnett Mary NRM region's transport labour force that was 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 employers in the agricultural industry in the Burnett Mary NRM region in 2001 were the beef cattle farming sector (21%), the fruit growing sector (15.2%), the sugar cane growing sector (13.1%), and the vegetable growing sector (10.6%).

The number of people employed in the beef cattle farming sector, the grain growing sector, the vegetable growing sector and the fruit growing 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 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.

Dairy cattle farming experienced a 21% decline in numbers of people employed between 1996 and 2001, and plant nurseries experienced a 34% decline in numbers of people employed between 1996 and 2001.

## Regional Agricultural Profile – Burnett Mary NRM Region

**Table 9: Employment by agricultural sector – Burnett Mary 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	14	0.1%	37	0.3%	164%
Sheep Farming	13	0.1%	38	0.3%	192%
Beef Cattle Farming	983	8.3%	2561	21.0%	161%
Dairy Cattle Farming	1018	8.6%	805	6.6%	-21%
Pig Farming	229	1.9%	296	2.4%	29%
Horse Farming	23	0.2%	19	0.2%	-17%
Deer Farming	6	0.1%	3	0.0%	-50%
Livestock Farming, nec	94	0.8%	107	0.9%	14%
Other Livestock Farming, undef	6	0.1%	0	0.0%	-100%
Poultry Farming, undef	14	0.1%	14	0.1%	0%
Poultry Farming (Meat)	10	0.1%	10	0.1%	0%
Poultry Farming (Eggs)	12	0.1%	30	0.2%	150%
<b>Total Livestock Production<sup>b</sup></b>	<b>2422</b>	<b>20.5%</b>	<b>3920</b>	<b>32.1%</b>	
<b>Crop Production</b>					
Grain Growing	94	0.8%	288	2.4%	206%
Cotton Growing	12	0.1%	33	0.3%	175%
Sugar Cane Growing	1,520	12.9%	1601	13.1%	5%
Horticulture & Fruit Growing, undef	591	5.0%	290	2.4%	-51%
Plant Nurseries	334	2.8%	221	1.8%	-34%
Cut Flower & Flower Seed Growing	103	0.9%	158	1.3%	53%
Vegetable Growing	283	2.4%	1296	10.6%	358%
Grape Growing	22	0.2%	77	0.6%	250%
Apple & Pear Growing	4	0.0%	3	0.0%	-25%
Stone Fruit Growing	34	0.3%	42	0.3%	24%
Fruit Growing, nec	1116	9.4%	1852	15.2%	66%
Crop & Plant Growing, nec	175	1.5%	197	1.7%	13%
Other Crop Growing, undef	106	0.9%	0	0.0%	-100%
<b>Total Crop Production<sup>b</sup></b>	<b>4394</b>	<b>37.2%</b>	<b>6058</b>	<b>49.7%</b>	
<b>Services to Agriculture</b>					
Cotton Ginning	0	0.0%	0	0.0%	-
Shearing Services	3	0.0%	0	0.0%	-100%
Serv to Agricltr Huntng Trappng undef	0	0.0%	3	0.0%	-
Services to Agriculture, undef	9	0.1%	12	0.2%	33%
Aerial Agricultural Services	7	0.1%	3	0.0%	-57%
Services to Agriculture, nec	504	4.3%	443	3.6%	-12%
<b>Total Services to Agriculture<sup>b</sup></b>	<b>523</b>	<b>4.5%</b>	<b>461</b>	<b>3.8%</b>	

## Regional Agricultural Profile – Burnett Mary NRM Region

**Table 9 continued**

Sector	1996		2001		Change - 1996 to 2001 (%)
	No. employed	% <sup>a</sup>	No. employed	% <sup>a</sup>	
<b>Forestry</b>					
Forestry & Logging, undef	0	0.0%	34	0.3%	-
Forestry	136	1.2%	315	2.6%	132%
Logging	222	1.8%	202	1.6%	-9%
Services to Forestry	190	1.6%	106	0.9%	-44%
<b>Total Forestry<sup>b</sup></b>	<b>548</b>	<b>4.6%</b>	<b>657</b>	<b>5.4%</b>	
<b>Fishing</b>					
Commercial Fishing undef	243	2.1%	123	1.0%	-49%
Marine Fishing, undef	43	0.3%	57	0.5%	33%
Rock Lobster Fishing	0	0.0%	0	0.0%	-
Prawn Fishing	30	0.3%	84	0.7%	180%
Finfish Trawling	12	0.1%	27	0.2%	125%
Squid Jigging	0	0.0%	0	0.0%	-
Line Fishing	21	0.2%	9	0.1%	-57%
Marine Fishing, nec	48	0.3%	35	0.3%	-27%
Aquaculture	81	0.7%	102	0.8%	26%
<b>Total Fishing<sup>b</sup></b>	<b>478</b>	<b>4.0%</b>	<b>437</b>	<b>3.6%</b>	
<b>Other</b>					
Grain Sheep Bf Cattle Farm undef	327	2.8%	39	0.4%	-88%
Grain-Sheep Grain-Bf Cattle Farm	144	1.2%	186	1.5%	29%
Hunting & Trapping	9	0.1%	4	0.0%	-56%
Agriculture, undef <sup>c</sup>	2969	25.1%	425	3.5%	-86%
<b>Total Other<sup>b</sup></b>	<b>3449</b>	<b>29.2%</b>	<b>654</b>	<b>5.4%</b>	

nec – not elsewhere classified

(a) The values in this column represent the percent of all the people employed in the agricultural sector in the Burnett Mary NRM region who are employed in each agricultural category.

(b) The 'total' rows represent the total number and the total percent of the Burnett Mary 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 QRBIS).

## Agricultural profile

### Introduction

The following agricultural profile includes information on the agricultural commodities produced in the Burnett Mary 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 Burnett Mary NRM region at November 2005 is 5253 (Australian Bureau of Statistics 2006).

### Commodities

#### Pastures and grasses

The majority of pastures in the Burnett Mary NRM region in 2000-01 were native or naturalised pastures. Sown pastures accounted for only 1% of the total agricultural holdings for the Burnett Mary region and pastures cut for hay accounted for only 0.2%. However pastures cut for hay in the region represented 20% of Queensland's total volume for pastures cut for hay.

**Table 10: Volume and value of pastures and grasses – Burnett Mary 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	58	9	0.2%	10,849	1%	20%	16%	20%	
Sown pastures	N/A	46	1%	N/A	N/A	N/A	1%	N/A	
Native or naturalised pasture	N/A	2,350	50%	N/A	N/A	N/A	4%	N/A	

N/A – Not Applicable

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

## Regional Agricultural Profile – Burnett Mary NRM Region

### Crops

The volume and value of crops produced in the Burnett Mary NRM region is represented below in Table 11. Vegetables (\$132m) produced the highest value of production for crops in the region (even taking into consideration ground truthing – see footnotes), fruit and nuts (\$124m) produced the second highest value of production (even taking into consideration ground truthing – see footnotes), and sugar cane (\$105m) produced the third highest value of production. Vegetable crops in the Burnett Mary NRM region represented 21% of Queensland's total value of production for vegetables in 2001, fruit and nuts and sugar cane both represented 17% of Queensland's total value of production for these commodities.

In contrast soybeans and peanuts were less significant in terms of their contribution to the total value of production for the region, but represented a greater percentage of Queensland's total. Soybeans represented 33% of Queensland's total volume of soybeans and peanuts represented 52% of Queensland's total volume of peanuts.

**Table 11: Volume and value of crops – Burnett Mary 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>	105	52	1.09%	17,801	2%	4%	3%	4%	
Cotton-Irrigated <sup>ab</sup>	8	2	0.03%	6,056 <sup>c</sup>	1%	1%	1%	1%	
Cotton-Non-Irrigated <sup>b</sup>	3	2	0.05%	N/A	N/A	4%	5%	N/A	
Crops for hay	17	6	0.13%	N/A	N/A	10%	9%	N/A	
Soybeans	4.7	4	0.08%	2,196	0%	33%	32%	33%	
Peanuts	19	10	0.21%	11	1%	52%	61%	52%	
Sugar Cane <sup>d</sup>	4,520	60	1.28%	105,124	11%	17%	15%	17%	
Fruit and nuts <sup>e</sup>	N/A	14	0.29%	124,565	13%	N/A	26%	17%	
Vegetables <sup>e</sup>	N/A	6	0.13%	132,496	13%	N/A	16%	21%	
<b>Total</b>	<b>4,677</b>	<b>155</b>	<b>3.29%</b>	<b>388,250</b>	<b>41%</b>				

(a) Ground truthing has revealed that in 1999 all cropping in the Calliope Pt A, Chinchilla and Kilcoy Shires, and all irrigated cotton in the Chinchilla Shire lay outside the Burnett Mary NRM region. The data presented here may therefore overestimate cereal grain production and irrigated cotton production in the region.

(b) These values for irrigated and non-irrigated cotton represent lint and seed values combined.

(c) This value represents the value of both irrigated and non-irrigated cotton.

(d) These values represent sugar cane for crushing and sugar cane for plants.

(e) Ground truthing has revealed that in 1999 most fruit growing in the Calliope Pt A, Noosa Balance, Maroochy Balance, Nanango, Kilcoy, Caloundra Hinterland and Chinchilla Shires and all vegetable growing in the Chinchilla, Kilcoy, Maroochy Balance and Calliope Pt A Shires lay outside the Burnett Mary NRM region. Vegetable growing in the Noosa Balance and the Cooloola excl. Gympie shires lies wholly within the Burnett Mary NRM region. Overall the data presented here may overestimate fruit and vegetable production in the region.

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

## Regional Agricultural Profile – Burnett Mary NRM Region

### Livestock

The agricultural commodity producing the highest value of production in the Burnett Mary region in 2000-01 was beef cattle (\$372m); this represented 13% of the Queensland value of production for beef cattle. Pig production produced the second highest value of production for livestock in the region in 2000-01; pig production in the region represented 31% of the Queensland total.

**Table 12: Volume and value of livestock – Burnett Mary 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 <sup>a</sup>	1,071	372,482 <sup>b</sup>	38%	9%	13%	
Sheep & lambs	46	452 <sup>b</sup>	0.0%	1%	1%	
Pigs	185	54,863 <sup>b</sup>	6%	31%	31%	
Poultry	-	268 <sup>b</sup>	0.03%	0%	0%	

(a) The number of stock for cattle and calves includes meat cattle and dairy cattle combined.

(b) These values represent the value of all slaughtered animals not the value of total livestock.

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

### Livestock Products

The highest value of production from livestock products in 2000-01 came from cows' milk (even considering ground truthing – see footnotes) production (\$102m). The production of cows' milk in the Burnett Mary NRM region represented 31% of the total Queensland volume for cows' milk. In comparison wool and egg production in the region only represented 1% of the Queensland total.

**Table 13: Volume and value of livestock products – Burnett Mary 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	1,055	0.1%	1%	1%	
Cow milk production (L) <sup>a</sup>	268,930	102,569	10%	31%	44%	
Eggs (dz)	351	534	0.1%	1%	1%	

(a) Ground truthing has revealed that in 1999 all dairy in the Calliope Pt A, Kilcoy and Chinchilla Shires lay outside the Burnett Mary NRM region, and all dairy in the Cooloola excl. Gympie Shire lay within the region. Overall the data presented here may overestimate the production of cows' milk in the region.

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

## Regional Agricultural Profile – Burnett Mary NRM Region

### Agricultural practices

#### Cultivation Techniques

In total approximately 124,000 ha of land, 2.6% of total agricultural holdings in the area, was prepared for the sowing of crops in the Burnett Mary NRM region during 2000-01. Thirty-nine per cent was cultivated once or twice, no cultivation was used on 14%, and on 47% other cultivation techniques were used.

The area of land prepared for sowing in the region represented 6% of the total area prepared for sowing in Queensland.

**Table 14: Cultivation technique – Burnett Mary 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>	18	14%	3%
1 or 2 cultivations <sup>a</sup>	48	39%	6%
Other cultivation technique <sup>a</sup>	58	47%	9%

(a) Ground truthing has revealed that in 1999 most irrigated agriculture in the Maroochy Balance, Cooloola excl. Gympie, and Nanango shires lay within the Burnett Mary NRM region, while most irrigated agriculture in the Kilcoy, Calliope Pt A, Chinchilla, and Caloundra Hinterland Shires lay outside of the Burnett Mary NRM region. Overall the data presented here may overestimate the area cultivated within the Burnett Mary NRM region.

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

#### Treatment of stubble

The most common treatment of crop stubble in the Burnett Mary NRM region during 2000-01 was the ploughing of stubble into the soil, this accounted for 48% of all crop stubble treated in the area. In comparison 17% of crop stubble was left intact, and 14% of crop stubble was mulched.

**Table 15: Treatment of stubble – Burnett Mary 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>	51	48%	7%
Stubble mulched <sup>a</sup>	14	14%	5%
Stubble left intact <sup>a</sup>	18	17%	3%
Stubble removed by hot burn <sup>a</sup>	2	2%	7%
Stubble removed by cool burn <sup>a</sup>	0.5	0%	1%
Stubble removed by baling or heavy grazing <sup>a</sup>	13	13%	8%
All other methods <sup>a</sup>	6	6%	8%

(a) Ground truthing has revealed that in 1999 most irrigated agriculture in the Maroochy Balance, Cooloola excl. Gympie, and Nanango shires lay within the Burnett Mary NRM region, while most irrigated agriculture in the Kilcoy, Calliope Pt A, Chinchilla, and Caloundra Hinterland Shires lay outside of the Burnett Mary NRM region. Overall the data presented here may overestimate the area of stubble treated within the Burnett Mary NRM region.

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

## Regional Agricultural Profile – Burnett Mary NRM Region

### Fertiliser use

Fertiliser use in the Burnett Mary NRM region accounts for 13% of the total volume of fertiliser used in Queensland, while the area of total agricultural holding in the region represents only 3% of the total agricultural holdings for Queensland. Urea was the most common fertiliser used in the Burnett Mary NRM region in 2000-01 both in terms of volume and area treated.

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

**Table 16: Fertiliser use – Burnett Mary 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>	17.8	76.3	2%	8%	9%	
Ammonium Sulphate <sup>a</sup>	1.0	4.8	0%	12%	10%	
Ammonium Nitrate <sup>a</sup>	0.9	2.6	0%	16%	21%	
Anhydrous Ammonia <sup>a</sup>	0.3	3.5	0%	2%	1%	
Single Superphosphate <sup>a</sup>	4.4	22.1	0%	27%	29%	
Double Superphosphate <sup>a</sup>	0.3	1.6	0%	11%	16%	
Triple Superphosphate <sup>a</sup>	0.5	0.9	0%	6%	26%	
Muriate of Potash <sup>a</sup>	2.5	15.3	0%	10%	13%	
Potassium Sulphate <sup>a</sup>	2.5	5.9	0%	23%	33%	
Potassium Nitrate <sup>a</sup>	0.8	3.0	0%	17%	17%	
Mono Ammonium Phosphate <sup>a</sup>	0.7	14.0	0%	4%	4%	
Di Ammonium Phosphate <sup>a</sup>	3.5	23.8	1%	14%	16%	
Other <sup>a</sup>	39.1	90.4	2%	16%	17%	
<b>Total<sup>a</sup></b>	<b>74.3</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>13%</b>	

(a) Ground truthing has revealed that in 1999 most irrigated agriculture in the Maroochy Balance, Cooloola excl. Gympie, and Nanango shires lay within the Burnett Mary NRM region, while most irrigated agriculture in the Kilcoy, Calliope Pt A, Chinchilla, and Caloundra Hinterland Shires lay outside of the Burnett Mary NRM region. Overall the data presented here may overestimate fertiliser use within the Burnett Mary NRM region.

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

## Regional Agricultural Profile – Burnett Mary NRM Region

### Soil conditioner use

The most common soil conditioner used in the Burnett Mary NRM region in 2000-01 was lime (58.2%), and gypsum (10.4%) was the second most common soil conditioner used. Soil conditioner was used predominantly to treat soil acidity rather than physical soil problems.

The volume of lime used in the Burnett Mary NRM region represented 24% percent of Queensland's total volume, dolomite to correct soil acidity represented 21%, dolomite to correct physical soil problems represented 18%, and gypsum used in the region represented 9% of Queensland's total.

**Table 17: Soil conditioner use – Burnett Mary 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>	17	9	0.20%	28%	24%	
Dolomite - to correct or stabilise soil acidity <sup>a</sup>	3	2	0.04%	22%	21%	
Dolomite - to correct physical soil problems <sup>a</sup>	1	1	0.02%	19%	18%	
Gypsum - to correct physical soil problems <sup>a</sup>	6	4	0.09%	12%	9%	

(a) Ground truthing has revealed that in 1999 most irrigated agriculture in the Maroochy Balance, Cooloola excl. Gympie, and Nanango shires lay within the Burnett Mary NRM region, while most irrigated agriculture in the Kilcoy, Calliope Pt A, Chinchilla, and Caloundra Hinterland Shires lay outside of the Burnett Mary NRM region. Overall the data presented here may overestimate soil conditioner use within the Burnett Mary NRM region.

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

## Regional Agricultural Profile – Burnett Mary NRM Region

### Area irrigated

The total area of land irrigated in the Burnett Mary NRM region in 2000-01 represented only 1.9% of the total area of agricultural holding in the area. However while the total area of agricultural holding in the region represented only 3% of Queensland's total agricultural holding, the total area irrigated in the region represented 17% of the total area irrigated across Queensland.

**Table 18: Area irrigated – Burnett Mary 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	4,733	100%	3%
Irrigated - total area <sup>a</sup>	91	1.9%	17%
Non-irrigated - total area <sup>a</sup>	4,642	98.1%	3%

(a) Ground truthing has revealed that in 1999 most irrigated agriculture in the Maroochy Balance, Cooloola excl. Gympie, and Nanango shires lay within the Burnett Mary NRM region, while most irrigated agriculture in the Kilcoy, Calliope Pt A, Chinchilla, and Caloundra Hinterland Shires lay outside of the Burnett Mary NRM region. Overall the data presented here may overestimate the area irrigated within the Burnett Mary NRM region.

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

## Natural resource management profile

### Fencing to exclude grazing

Twenty-five percent of fencing built during the year ending June 2001 to exclude grazing in the Burnett Mary NRM region was to protect remnant native vegetation, while fencing to protect creeks and rivers accounted for 23%, and fencing to protect planted trees and shrubs accounted for 15%. Thirty-six percent of fencing to exclude grazing was constructed for reasons other than natural resource management.

The length of fencing built during the year ending June 2001 to protect remnant native vegetation in the region accounted for 59% of the Queensland total built for this purpose in the year ending June 2001. Fencing built in the region to protect planted trees and shrubs accounted for 47% of the Queensland total built for this purpose in the year ending June 2001.

**Table 19: Fencing to exclude grazing – Burnett Mary 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	328	25%	59%
To protect planted trees and shrubs	194	15%	47%
To protect creeks and rivers	305	23%	15%
To protect saline areas	2	0%	1%
To protect other degraded areas	16	1%	3%
To protect other areas	462	36%	13%
<b>Total fencing for all reasons</b>	<b>1,307</b>	<b>100%</b>	

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

## Regional Agricultural Profile – Burnett Mary NRM Region

### Tree seedlings planted

Seventy-two percent of the tree seedlings planted in the Burnett Mary NRM region during 2000-01 were planted for timber and wood pulp. Seedlings planted for nature conservation represented 10% of the total number of seedlings planted in 2000-01. The number of seedlings planted for timber and wood pulp in the region during 2000-01 represented 53% of the Queensland total planted for this purpose during 2000-01. The number of seedlings planted for the protection of land and water in the region during 2000-01 represented 20% of the Queensland total planted for this purpose during 2000-01.

**Table 20: Tree seedlings planted – Burnett Mary 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	36	10%	375	0%	13%	29%
Seedlings planted for timber and wood pulp	263	72%	197	0%	53%	39%
Seedlings planted for enhanced production	21	6%	491	0%	16%	31%
Seedlings planted for protection of land and water	26	7%	131	0%	20%	20%
Seedlings planted for all other purposes	19	5%	31	0%	15%	11%

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

## Conclusions

The Burnett Mary NRM region represents approximately 3% of the total area of Queensland, and 7.1% of Queensland's total population. The population of the region increased at a rate of approximately 1.6% percent per year between 1996 and 2004; this rate of increase is slightly below Queensland's 2.0% rate of increase for this period.

Fourteen percent of the labour force in the Burnett Mary NRM region in 2000-01 was employed in the Agriculture, Forestry and Fishing industry, compared with 5.8% of the Queensland labour force employed in Agriculture, Forestry and Fishing. The four main areas of agricultural production, both in terms of employment and output, were the beef, fruit, vegetable, and sugar cane industries. Beef production (\$372m) produced the highest value of production for the region and vegetable production (\$132m) produced the second highest value of production for the region. While producing a lower value of production, crops for hay and peanuts represented a large percentage of Queensland's total volume for these commodities.

In 2000-01 2.6% of the total agricultural holdings in the region were prepared for sowing; this represented 6% of all the land prepared for sowing in Queensland. On most of the land prepared for sowing in the region some form of cultivation was used, and the most common treatment of crop stubble in the region was to plough stubble into the soil.

The quantity of fertiliser used in the region in 2000-01 represented 13% of Queensland's total, while soil conditioner use represented a greater percentage of the Queensland total; lime represented 24%, dolomite to correct soil acidity represented 21%, dolomite to correct

## Regional Agricultural Profile – Burnett Mary NRM Region

physical soil problems represented 18%, and gypsum represented 9%. Irrigated land in the region represented 17% of all irrigated land in Queensland.

The largest percentage of fencing built to exclude grazing in the region during the year ending June 2001 was for reasons other than to protect natural resource values. Fencing built to protect remnant native vegetation during the year ending June 2001 however accounted for 25% of fencing to exclude grazing built in the region during this year, and represented 59% of all fencing to protect remnant native vegetation built in Queensland during this year.

Similarly a larger percentage of seedlings planted in the region during the year ending June 2001 were planted for timber and wood pulp rather than to improve natural resource values. Seedlings planted for timber and wood pulp in the region during 2000-01 represented 53% of the Queensland total of seedlings planted for this purpose during 2000-01. Seedlings planted for the protection of land and water in the region during 2000-01 represented 20% of the Queensland total of seedlings planted for this purpose during 2000-01.

This report has provided a basic social and agricultural profile of the Burnett Mary 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.