Ross Lobegeiger Report to Farmers

Aquaculture production summary for Queensland 2015-16

Queensland Government

This publication has been compiled by Michael Heidenreich of Fisheries Queensland, Department of Agriculture and Fisheries.

Dedication

In 2011 there was widespread support for the renaming of this report to the *Ross Lobegeiger Report to farmers*. This change was to help acknowledge and honour the pivotal role that Ross played in developing and supporting the Queensland aquaculture industry. As Supervising Extension Officer, Ross provided the aquaculture industry with almost 20 years of dedicated service. Ross was responsible, as co-author, for producing the very first annual edition of this report in 1991. He then went on to produce a total of 19 issues. As such, Ross Lobegeiger's name has become intrinsically linked with the report and it seems only fitting for the publication to continue to carry his name.

Tragically, Ross Lobegeiger passed away on Saturday 9 October 2010. Ross was such a well-known and enormously liked individual that his loss has been felt deeply by a great many people from all facets of Ross' extensive social and professional network, including the aquaculture industry.

Table of contents

Table of figures

Table of tables

1 Overall value and production

The total value of the Queensland aquaculture industry had increased by 0.25%, with the value of production increasing from $119.9 million in 2014–15 to $120.2 million in 2015–16.

In 2015–16, the total value of fisheries production in Queensland decreased by 5.3% to $298.3 million. While the total value of aquaculture production increased in 2015–16, the wild harvest fishery in Queensland had declined to $178.1 million in 2015-16 (Table 1). Therefore, the relative importance of aquaculture to Queensland's total fisheries production has increased, from 38.1% in 2014–15 to 40.3% in 2015-16. Similar trends in Queensland's fisheries and aquaculture production can be seen in the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) figures (Note: difference in ABARES figures to Queensland figures due to ABARES exclusion of hatchery production that is sold to supply aquaculture grow out operations).

Table 1 – Queensland fisheries production – gross value (2010-11 to 2015-16).

	Queensland figures (1)		
Year	**Total fisheries ($m)**	**Aquaculture ($m)**	**Aquaculture (%)**
2010-11	275.9	86.3	31.3
2011-12	276.8	86.6	31.5
2012-13	269.5	87.6	32.5
2013-14	276.5	94.5	34.2
2014-15	314.9	119.9	38.1
2015-16	298.3	120.2	40.3
	ABARES figures (1)		
Year	**Total fisheries ($m)**	**Aquaculture ($m)**	**Aquaculture (%)**
2010–11	273.5	83.9	30.6
2011-12	275.7	83.1	31.3
2012-13	265	82.9	31.2
2013-14	271.2	89.2	32.9
2014-15	309.3	114.3	36.9
2015-16	293.2	115.5	39.4

Notes:
(1) The Queensland figures include hatchery production for farm stocking and impoundment stocking. Farm stocking details and product supplied to aquaculture growout operations are excluded from the figures used by ABARES.
Sources: ABARES and Fisheries Queensland, part of the Department of Agriculture and Fisheries.

The trend of aquaculture industry growth in Queensland over the past seven (7) years can be seen in Figure 1. The most valuable sectors of the Queensland aquaculture industry continue to be prawn and barramundi (*Lates calcarifer*) respectively. Actual dollar value of each sector is given in Table 2. Acknowledging that there will always be some degree of fluctuation between years (due to climatic issues etc.), there is still a clear trend that the overall industry value has been increasing at a rate of 5.3% per annum since 1999 -2000. Gains in value in the 2015-16 financial year have been in the barramundi, freshwater fish,

redclaw (Cherax *quadricarinatus*), oysters, prawn hatchery and other sectors. The prawn, and aquarium and hatchery sectors have recorded a declined in value.

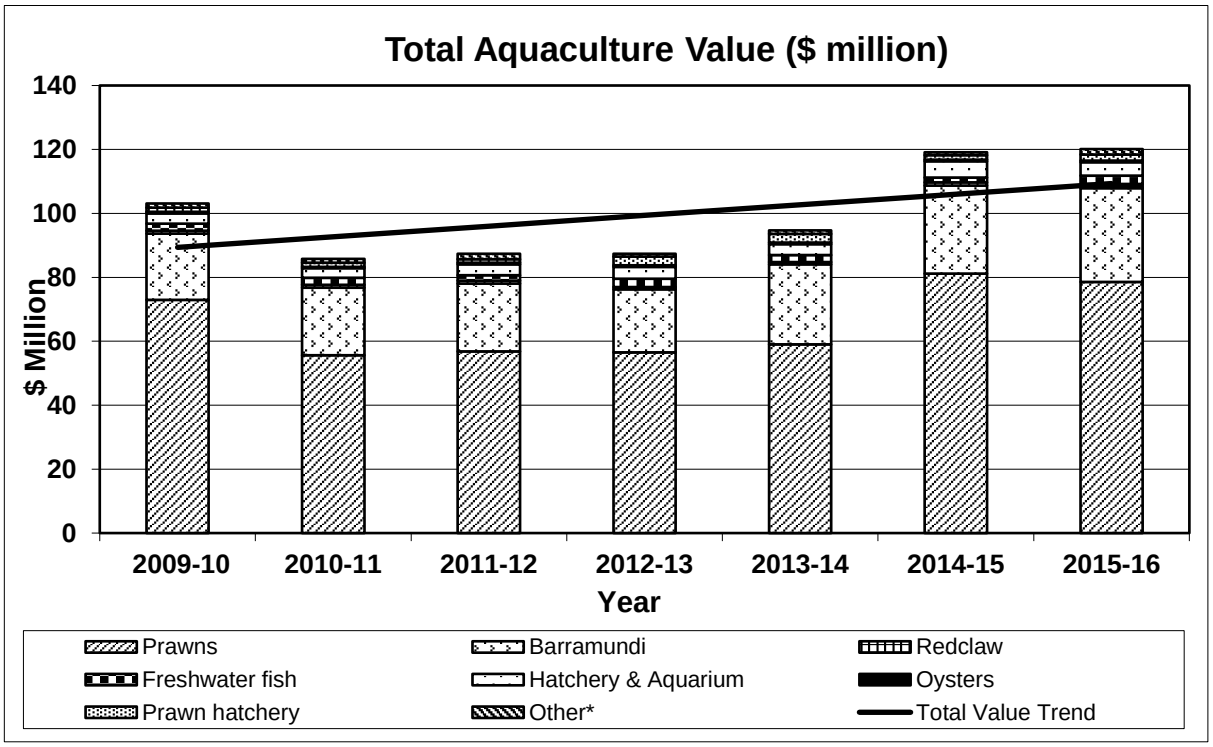

Figure 1 – Trend in value ($million) of Queensland aquaculture production

In 2015-16, there was a small decline in total production compared to the previous year (2014-15). However, the long term seventeen (17) year average has the industry increasing at a rate 6.5% per annum (Figure 2). Actual production figures (tonnes) for each sector are given in Table 3.

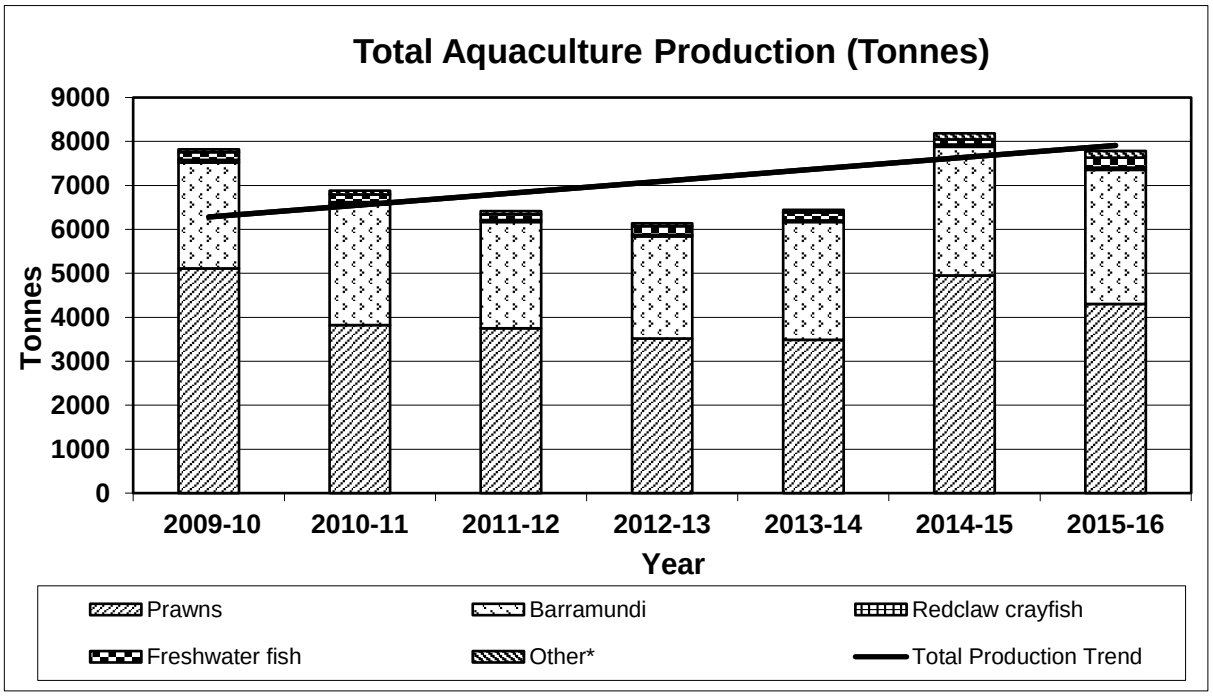

Figure 2 – Trend in Queensland aquaculture total production (tonnes)

2 Return Methods

Production statistics for the 2015-16 financial year were collected from all sectors of the Queensland aquaculture industry. The requirement to complete the production survey is a mandatory condition imposed on all holders of a current aquaculture development authority.

Of the 476 current registered aquaculture authority holders in Queensland, 461 producers completed the production survey this year. This is a response rate of 96.8%. The results presented in this report reflect the information provided by the industry through the statistical returns. Since this report is produced largely as a service to the Queensland aquaculture industry, we strongly encourage growers to participate in the yearly production return and remind them of the mandatory requirement to lodge production data as a condition of their development authority.

The following are conversion factors and definitions used in the report:

Conversion factors
Fish production is reported on a whole fish basis. For example, gilled and gutted barramundi to whole fish (0.89:1 on weight basis) and fillet barramundi to whole fish (0.48:1 on weight basis).

Feed Conversion ratio (FCR)
Estimated average FCRs are published for most species sectors. However this information is only an estimate as it is reported as a direct ratio of the weight of feed provided verse the weight of product sold. Therefore a number of other relevant factors, such as the weight of stock remaining in ponds at the end of the reporting period (i.e. fed but not yet harvested), are not considered.

Fingerling Fish
Fingerling fish are small fish in the 2 -10gram range.

Juvenile Crayfish
Juvenile crayfish are immature crayfish in the 1-5 gram range.

Labour Conversion
Labour Full Time Employee (FTEs) are calculated by adding the total permanent labour units to the casual labour units converted to FTEs. Forty (40) hours per week casual labour for forty eight (48) weeks per year is considered one FTE labour unit.

3 Aquaculture sector production and value

Prawn

Queensland's marine prawn industry produced three species of prawns—black tiger (*Penaeus monodon*), banana (*Fenneropenaeus merguiensis*) and eastern king (*Melicertus plebejus*). Production in the prawn sector decreased by 13.1% (from 4951.5 tonnes in 2014-15 to 4302 tonnes in 2015-16), while the value decreased by 2.5% (from $82.6 million in 2014–15 to $80.5 million in 2015-16). Hatchery sales of prawns for the year were $1.9 million, which is up from $1.4 million in 2014-15. The number of post larvae (PL) produced had increased from 278,811,166 in 2014-15 to 398,252,250 in 2015-16. There were 22 producing farms for 2015-16, this was same number as previous financial year

Barramundi

Barramundi production increased by 4.2%, with 2930.9 tonnes sold in 2014-15 and 3052.7 tonnes sold in 2015-16. The value of the barramundi sector increased by 6.5%, from $27.5 million in 2014–15 to $29.3 million in 2015–16. Over this period the average price (whole fish basis) has increased, from $9.38/kg in 2014-15 to $9.59/kg in 2015-16. The majority of barramundi production is in pond-based systems. There were 24 producing farms in 2015-16, this is one more compare to the previous year. The total feed used in ponds and tanks increased from 4462 tonnes in 2014-15 to 4635.5 tonnes in 2015-16. The estimated average feed conversion ratio (FCR) in the 2015-16 was 1.5:1 which was same as 2014-15.

Table 2 – Queensland aquaculture production – gross value by sector ($ million).

	2009–10	2010–11	2011-12	2012-13	2013-14	2014-15	2015-16
Prawns (includes prawn hatchery)	$74.3	$56.9	$57.9	$59.3	$61.7	$82.6	$80.5
Barramundi	$20.7	$21.2	$21.3	$19.7	$25.1	$27.5	$29.3
Redclaw crayfish	$1.0	$0.9	$0.9	$0.8	$0.7	$1.0	$1.3
Freshwater fish	$2.2	$2.2	$1.7	$2.5	$2.2	$1.5	$2.6
Hatchery and aquarium	$3.2	$2.9	$3.4	$3.8	$3.4	$5.2	$4.2
Edible oysters	$0.5	$0.5	$0.5	$0.5	$0.5	$0.4	$0.5
Other (1)	$1.2	$1.7	$0.9	$1.1	$0.9	$1.7	$1.8
Total	**$103.0**	**$86.3**	**$86.6**	**$87.6**	**$94.5**	**$119.9**	**$120.2**

Notes:

* Not available for publication (included in 'Other')

(1) Includes marine fish, eels, crabs and pearls in some years.

Freshwater Fish

The freshwater fish growout sector currently produces silver perch (*Bidyanus bidyanus*), jade perch (*Scortum barcoo*) and Murray cod (*Maccullochella peelii peelii*). The total production of freshwater fish (species other than barramundi) was 222.7 tonnes, which has increased from the 120.7 tonnes produced in 2014–15. The value of the sector also increased to $2.6 million, up from $1.5 million in 2014-15. The number of producing farms increased from 14 to 16 for 2015-16.

Silver perch production has increased this reporting season to 103 tonnes, up from 53.2 tonnes for 2014-15. The value of the silver perch sector increased from $626,000 in 2014-15 to $1,105,000, with an average price of $10.70/kg. For silver perch production the total

food used increased from 93.5 tonnes in 2014-15 to 245.7 tonnes in 2015-16. Based on the silver perch harvest figures, this equates to a FCR of 2.4:1.

Jade perch production increased from 44.5 tonnes in 2014-15 to 93.5 tonnes for 2015-16. The value of jade perch sales totalled at $1,124,000 with an average price of $12.01/kg. While Murray cod remains a contributor to the freshwater fish sector, in 2015–16 only a few growers produced Murray cod and detailed production data cannot be published due to client confidentiality.

Redclaw

Production of the redclaw crayfish sector increased by 14.0% (from 45.0 tonnes in 2014-15 to 51.3 tonnes in 2015-16). Value of the redclaw sector increased to $1,341,000. (up from $1,043,000 in 2014–15). The number of producing farms for 2015–16 was 25. Average prices increased from $23.17/kg in 2014–15 to $26.16/kg.

Table 3 – Queensland aquaculture production (tonnes) by sector.

	2009–10	2010–11	2011-12	2012-13	2013-14	2014-15	2015-16
Marine prawns	5115	3822	3751	3518.7	3487.1	4951.5	4302
Barramundi	2410	2746	2416	2319.1	2681.7	2930.9	3052.7
Redclaw crayfish	57	52	41	40.8	35.2	45.0	51.3
Freshwater fish	177	177	135	196.8	180.4	120.7	222.7
Other *	63	101	73	65	62	139.0	154.8
Total	**7822**	**6898**	**6416**	**6140**	**6446.4**	**8187.1**	**7783.5**

Notes:
* 'Other' includes marine fish, eels, sea scallops and crabs.

Hatchery and Aquarium

The hatchery and aquarium sector encompasses growers who produce ornamental aquarium species and native fish fingerlings for commercial growout (aquaculture) and stocking in public impoundments. In 2015-16, 16.3 million fish were sold, this was 34.3% less than the 24.8 million fish sold during 2014–15. The value of the hatchery sector decreased, from $5.2 million for 2014-15 to $4.2 million for 2015-16. Fingerling sales had increased for golden perch and jade perch. There was a notable decline in fingerling sales for barramundi, Australian bass, silver perch and Murray cod.

The value of fingerlings sold to the aquaculture sector for commercial grow out was $1.9 million, this was a 9.5% decrease in sales compared to 2014-15 at $2.1 million. Value of fingerlings sold for the state fish restocking program into public impoundments had decreased by 17.8%, from $1.2 million in 2014-15 to $968,000 million in 2015-16.

Ornamental sales increased by 46.0% from $890,000 in 2014-15 to $1.3 million in 2015-16. This increase was largely due to total number of exotic ornamental fish produced which increased by more than 10.3% over the previous year.

Oysters

Total edible oyster production has increase by 35%, from 81,185 dozen in 2014-15 to 109,577 dozen in 2015-16. The value of the edible oyster industry increased from $424,045 in 2014-15 to $563,970. Average price per dozen of oysters has decreased from $5.22 to $5.15.

Labour

The combined Queensland aquaculture industry employed 527.9 full-time equivalents (FTEs)—calculated by combining numbers of permanent and casual labour. The prawn farming sector was the largest employer at 298.8 FTE workers or 56.6% of the industry's total labour force.

4 Regional Summary

Information has been analysed to provide a regional overview of the aquaculture industry in Queensland. The regions are based on the Australian Statistical Geography Standard (ASGS) SA4 statistical division adopted by the Australian Bureau of Statistics (ABS). Figure three depicts the statistical divisions (Cairns, Townsville, Gold Coast and Mackay) which account for the majority of the industry value and production.

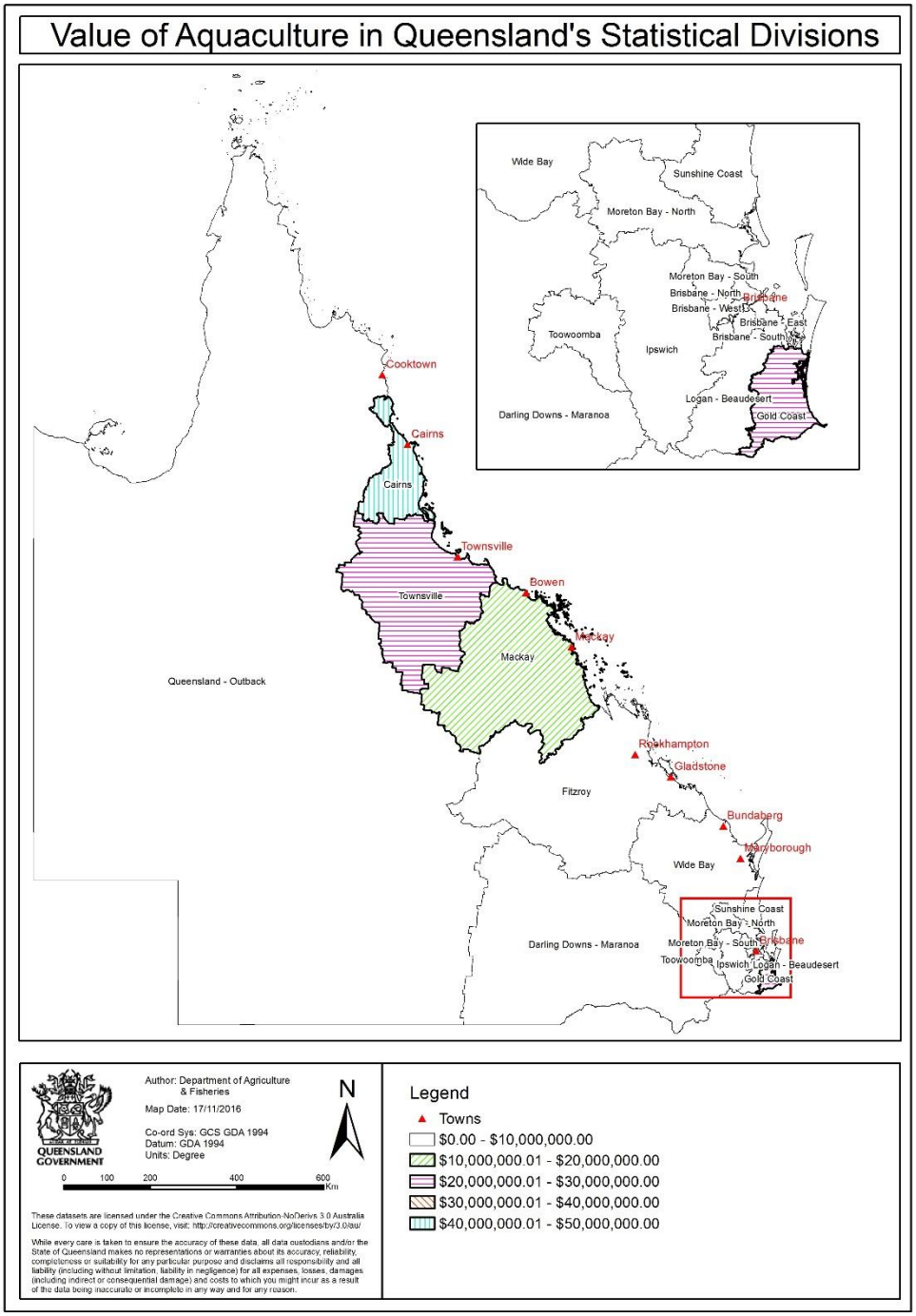

Figure 3 – Value of Aquaculture for each Australian Bureau of Statistics statistical division within Queensland.

Information presented in table 4 was compiled from the annual production returns received from registered aquaculture authority holders. Table 4 demonstrates how some of the major production parameters such as production, ponded area and labour are divided between the respective ABS Queensland statistical divisions.

Table 4 – Production, ponded area and employment-Queensland Aquaculture industry (2015-16).

Statistical Division	Production (tonnes)	Ponded Area (Hectares)	Employment (FTE)
Brisbane - East			15.5
Brisbane - North			
Brisbane - West			
Cairns	3201.9	327.6	186.7
Darling Downs - Maranoa	34.2	19.7	6
Fitzroy	80.8	30.6	13.5
Gold Coast	1172	115.5	56.7
Ipswich	10.9	10.4	11
Logan - Beaudesert			2
Mackay	1142.4	65.7	76.9
Moreton Bay - North	3.9	1.2	3.9
Moreton Bay - South			
Queensland - Outback	144.9	6.8	20.8
Sunshine Coast		7.3	6.8
Toowoomba	10.8		2
Townsville	1718.6	137.6	81.5
Wide Bay-Burnett	263.1	95.1	44.6
Total	**7783.5**	**817.5**	**527.9**