

Ross Lobegeiger Report to Farmers

Aquaculture production summary for Queensland 2014-15

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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.



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1.0 Overall value and production

The total value of the Queensland aquaculture industry had significantly increased by 27.0%, with the value of production increasing from \$94.5million in 2013–14 to \$119.9 million in 2014–15. This increase was largely due to a 33.9% increase achieved by the prawn sector, with the value of the prawn sector rising from \$61.7 million to \$82.6 million.

In 2014–15, the total value of fisheries production in Queensland increased by 13.8% to \$314.9 million. While the total value of aquaculture production increased in 2014–15, the wild harvest fishery in Queensland had remained at \$195 million in 2014–15 (Table 1). Therefore, the relative importance of aquaculture to Queensland's total fisheries production has increased, from 34.2% in 2013–14 to 38.1% in 2014-15. 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 ABARE figures to Queensland figures due to ABARE exclusion of hatchery production that is sold to supply aquaculture grow out operations).

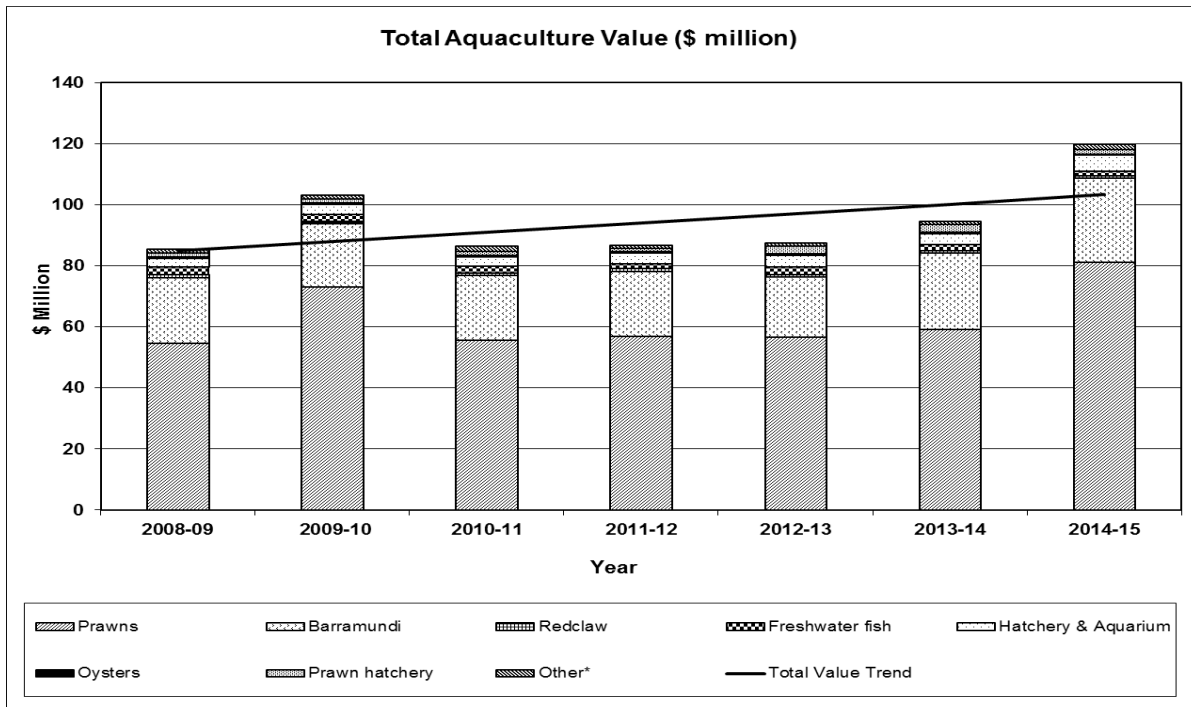
Table 1: Queensland fisheries production – gross value (2008-09 to 2014-15).

Queensland figures ⁽¹⁾			
Year	Total fisheries (\$m)	Aquaculture (\$m)	Aquaculture (%)
2009-10	325.7	103.0	31.6
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
ABARES figures ⁽¹⁾			
Year	Total fisheries (\$m)	Aquaculture (\$m)	Aquaculture (%)
2009–10	323.3	100.6	31.1
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

(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 Fisheries and Forestry

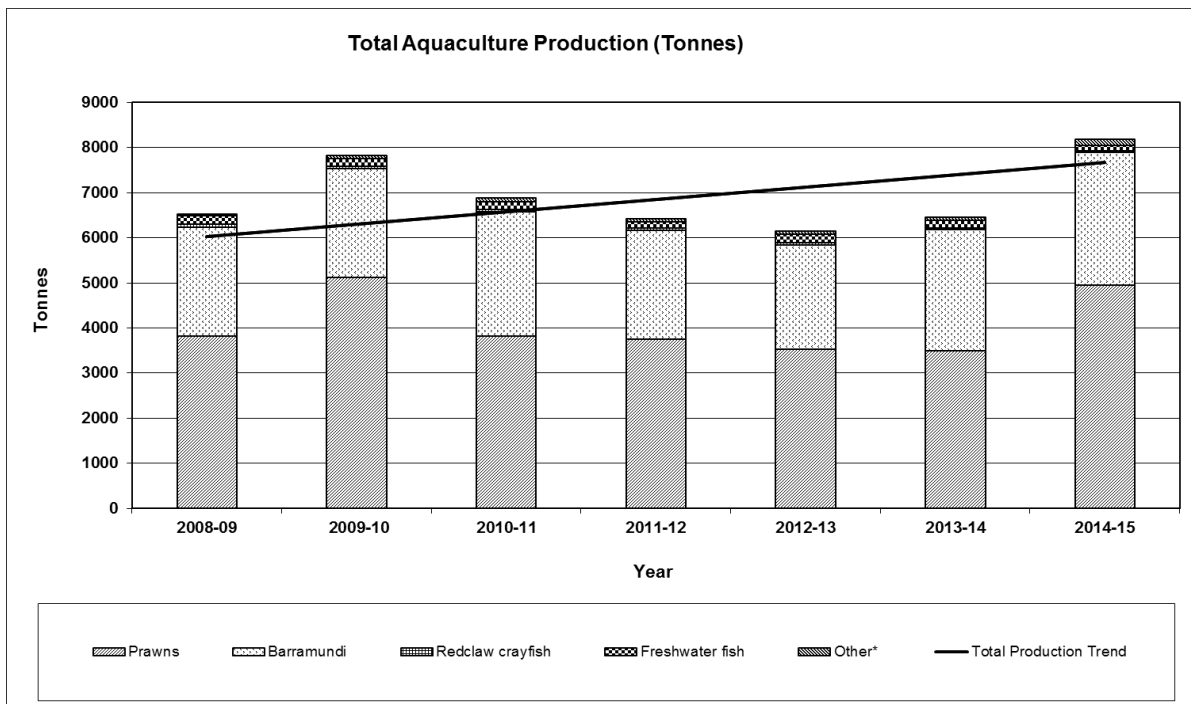
The trend of aquaculture industry growth in Queensland over the past seven (7) years can be seen in Figure 1. The most valuable sectors of the Queensland Aquaculture Industry continue to be prawn and barramundi (*Lates calcarifer*) respectively. Actual dollar value of each sector is given in Table 2. 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 6.0% per annum since 1999 -2000. Gains in value in the 2014-15 financial year has been in the prawn, barramundi, hatchery and aquarium, redclaw (*Cherax quadricarinatus*) and other sectors. The edible oyster, prawn hatchery and freshwater fish sectors have all recorded a declined in value.



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

Figure 1: Trend in value (\$million) of Queensland aquaculture production.

In 2014-15, there was a considerable increase in total production compared to the previous year (2013-14). This increase in production has set a new peak for the aquaculture industry, surpassing the previous highest total back in 2009-10. This positive sign indicates that the industry has completely recovered from the environmental impacts it had sustained in 2010. The long term sixteen (16) year average has the industry increasing at a rate 6.0% per annum (Figure 2). Actual production figures (tonnes) for each sector are given in Table 3.



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

Figure 2: Trend in Queensland aquaculture total production (tonnes).



2.0 Survey Methods

Production statistics for the 2014-15 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 453 current registered aquaculture authority holders in Queensland, 447 producers completed the production survey this year. This is a response rate of 98.7%. A great deal of effort was expended in following up on producers to ensure that a meaningful statistical return was received, the response rate reflected this effort with an increase in response rate from 94.6% 2013-14 to 98.7%.

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 aquaculture development.

The following are conversion factors and definition 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 FTEs are calculated by adding the total permanent labour units to the casual labour units converted to FTEs. Forty hours per week casual labour for 48 weeks per year is considered one FTE labour unit.

3.0 Aquaculture sector production and value

Queensland's marine prawn industry produced three species of prawns—black tiger (*Penaeus monodon*), banana (*Fenneropenaeus merguensis*) and eastern king (*Melicertus plebejus*). Production in the prawn sector had a considerable increase by 42% (from 3487.09 tonnes in 2013–14 to 4951.5 in 2014-15), while the value increased by 33.9% (from \$61.7 million in 2013–14 to \$82.6 million in 2014-15). This increase in production was helped by the expansion of ponded area dedicated to prawn farming, 552.4 hectares in 2013–14 to 569.1 hectares in 2014–15. Hatchery sales of prawns for the year were \$1.4 million, which is down from \$2.7 million in 2013-14. The number of post larvae (PL) produced had increased from 241,044,835 in 2013-14 to 278,811,166 in 2014-15. There were 22 producing farms for 2014-15, this was same number as previous financial year

Barramundi production increased by 9.3%, with 2682 tonnes sold in 2013-14 and 2930.9 tonnes sold in 2014-15. The value of the barramundi sector increased by 9.5%, from \$25.1 million in 2013–14 to \$27.5 million in 2014–15. Over this period the average price (whole fish basis) has remain much the same, from \$9.36/kg in 2013-14 to \$9.38/kg in 2014-15. The majority of barramundi production is in pond-based systems. There were 23 producing farms in 2014-15, this is the same number as the previous year. The total feed used in ponds and tanks increased from 4325 tonnes in 2013-14 to 4462 tonnes in 2014-15. The estimated average feed conversion ratio in the 2014-15 was 1.5:1 which is slightly lower than 1.6:1 for 2013-14.

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

	2008–09	2009–10	2010–11	2011-12	2012-13	2013-14	2014-15
Prawns (includes prawn hatchery)	\$55.8	\$74.3	\$56.9	\$57.9	\$59.3	\$61.7	\$82.6
Barramundi	\$21.4	\$20.7	\$21.2	\$21.3	\$19.7	\$25.1	\$27.5
Redclaw crayfish	\$1.1	\$1.0	\$0.9	\$0.9	\$0.8	\$0.7	\$1.0
Freshwater fish	\$2.6	\$2.2	\$2.2	\$1.7	\$2.5	\$2.2	\$1.5
Hatchery and aquarium	\$2.7	\$3.2	\$2.9	\$3.4	\$3.8	\$3.4	\$5.2
Edible oysters	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.4
Other ⁽¹⁾	\$1.5	\$1.2	\$1.7	\$0.9	\$1.1	\$0.9	\$1.7
Total	\$85.5	\$103.0	\$86.3	\$86.6	\$87.6	\$94.5	\$119.9

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

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

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 120.7 tonnes, which has decreased from the 180.4 tonnes produced in 2013–14. The value of the sector also decreased to \$1.5 million, down from \$2.2 million in 2013-14. This decline in production of freshwater fish species is a result of the drought that much of the state has experience for the last three years.

Silver perch production has decreased this reporting season to 53.2 tonnes, down from 97.2 tonnes for 2013-14. The value of the silver perch sector decreased from \$1.1 million in 2013-14 to \$626,000. For silver perch production the total food used decreased from 265 tonnes in 2013-14 to 93.5 tonnes in 2014-15. Based on the silver perch harvest figures, this equates to a FCR of 1.7:1.

Jade perch production decreased from 50.6 tonnes in 2013–14 to 44.5 tonnes for 2014–15. The value of jade perch sales totalled at \$498, 000, with an average price of \$11.19/kg. While Murray cod remains a contributor to the freshwater fish sector, in 2014–15 only a few growers produced Murray cod and detailed production data cannot be published due to client confidentiality.

Production of the redclaw crayfish sector increased by 27.8% (from 35.2 tonnes in 2013-14 to 45.0 tonnes in 2014-15). Value of the redclaw sector increased to \$1,043,000. (up from \$676,000 in 2013–14). The number of producing farms decreased from 27 to 26 for 2014–15. Average prices increased from \$19.18/kg in 2013–14 to \$23.17/kg.

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

	2008–09	2009–10	2010–11	2011-12	2012-13	2013-14	2014-15
Marine prawns	3821	5115	3822	3751	3518.7	3487.1	4951.5
Barramundi	2400	2410	2746	2416	2319.1	2681.7	2930.9
Redclaw crayfish	68	57	52	41	40.8	35.2	45.0
Freshwater fish	192	177	177	135	196.8	180.4	120.7
Other *	39	63	101	73	65	62	139.0
Total	6520	7822	6898	6416	6140	6446.4	8187.0

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

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 2014-15, 24.8 million fish were sold, this was 92.2% more than the 12.9 million fish sold during 2013–14. The value of the hatchery sector increased, from \$3.4 million for 2013-14 to \$5.2 million for 2014-15. Fingerling sales had increased for barramundi, Australian bass and Murray cod. There was a notable decline in fingerling sales for silver perch, golden perch and jade perch.

The value of fingerlings sold to the aquaculture sector for commercial grow out was \$2.1 million, this was a 16.7% increase in sales compared to 2013-14 at \$1.8 million. This increase in value was largely the result of improved sales of barramundi, up 30.4%.

Value of fingerlings sold for the state fish restocking program into public impoundments had increased by 42.3%, from \$880,000 in 2013-14 to \$1.2 million in 2014-15.

Ornamental sales increased by 22.6% from \$725,000 in 2013-14 to \$890,000 in 2014-15. This increase was largely due to total number of exotic ornamental fish produced which increased by more than 53% over the previous year.

Total edible oyster production has decrease by 28.2%, from 113,005 dozen in 2013-14 to 81,185 dozen in 2014-15. The value of the edible oyster industry decreased from \$522,101 in 2013-14 to \$424,045. Average price per dozen of oysters has increased from \$4.52 to \$5.22.

The combined Queensland aquaculture industry employed 449.7 full-time equivalents (FTEs)—calculated by combining numbers of permanent and casual labour. The prawn farming sector was the largest employer at 216.6 FTE workers or 48.2% of the industry's total labour force.

4.0 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.

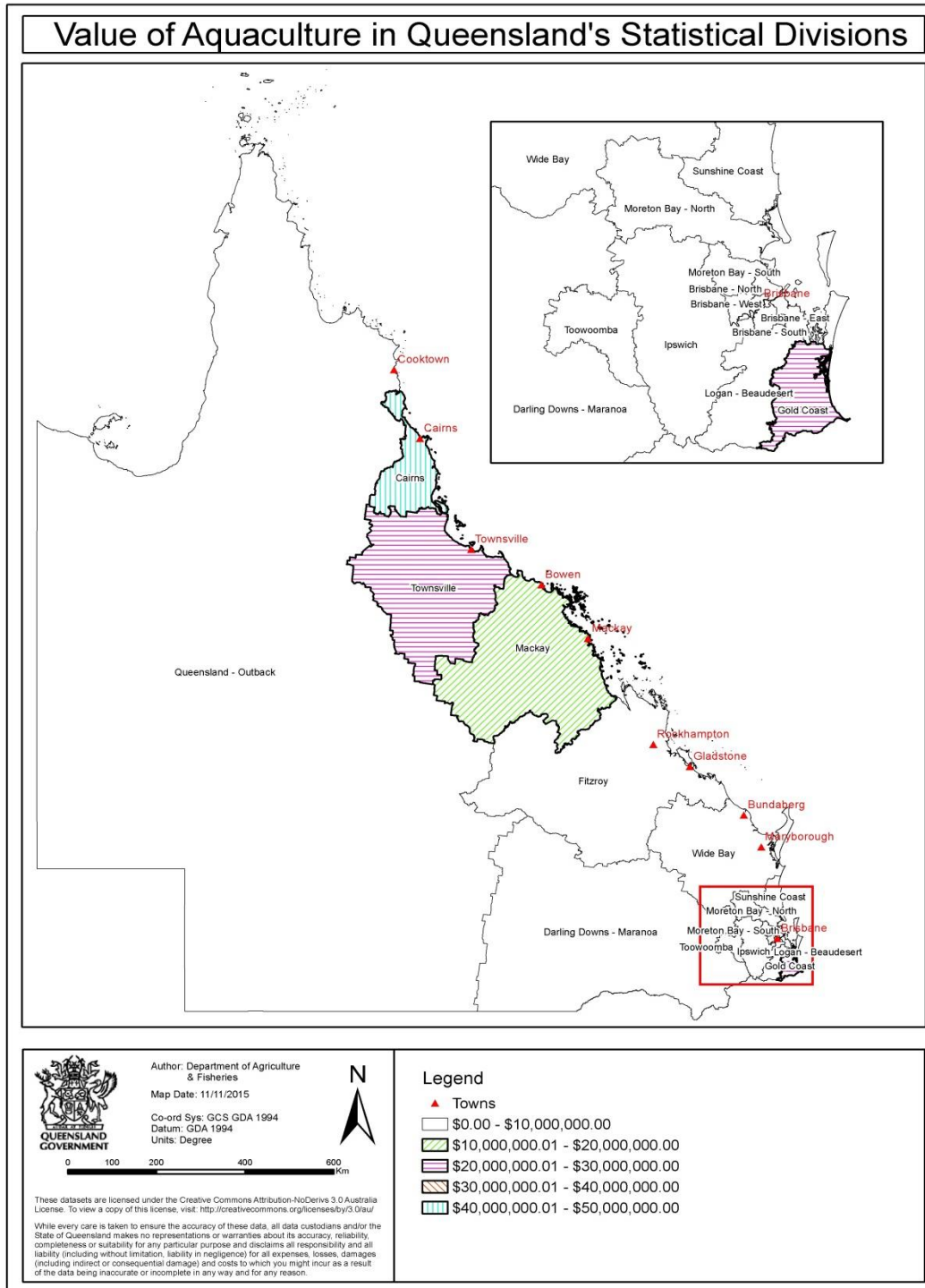


Figure 3. Value of Aquaculture for each Australian Bureau of Statistics statistical division within Queensland.

Information presented in table 4 was compiled from the annual production returns received from registered aquaculture authority holders. Table 4 demonstrate 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 (2014-15).

Statistical Division	Production (tonnes)	Ponded Area (Hectares)	Employment (FTE)
Brisbane - East			32.6
Brisbane - North			
Brisbane - West			
Cairns	3337.7	397	123.7
Darling Downs - Maranoa	39.4	17.2	7.5
Fitzroy	75.3	36.5	16.5
Gold Coast	1384.6	116.3	50.9
Ipswich	5.6	10.5	11.7
Logan - Beaudesert			3
Mackay	1254.3	62.5	85.5
Moreton Bay - North	7.3	4.0	3.7
Moreton Bay - South			
Queensland - Outback	187.3	7.9	15.5
Sunshine Coast		5.6	1.9
Toowoomba	13.0		3.5
Townsville	1707.7	131.8	62.85
Wide Bay-Burnett	175.1	80.4	30.8
Total	8187.3	869.7	449.7