

Ross Lobegeiger report to farmers

Aquaculture production summary for Queensland 2017–18

This publication has been compiled by Rebecca Schofield of Fisheries Queensland, Department of Agriculture and Fisheries.

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Dedication

In 2011, there was widespread support to rename this report the *Ross Lobegeiger report to farmers* to acknowledge and honour the pivotal role that Ross played in developing and supporting the Queensland aquaculture industry. Ross provided the aquaculture industry with almost 20 years of dedicated service and was responsible, as co-author, for producing the very first edition of this annual report in 1991. Overall he produced 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 in 2010. He was such a well-known and enormously liked individual that his loss has been felt deeply by a great many people in his professional network and the aquaculture industry.



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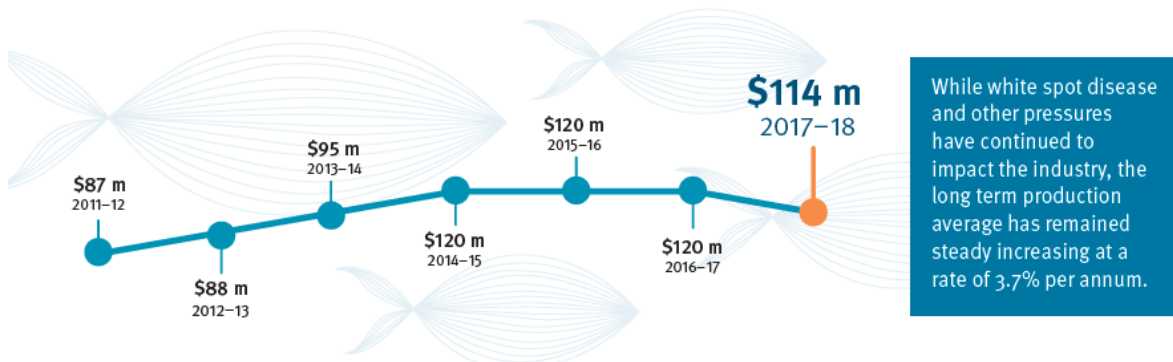
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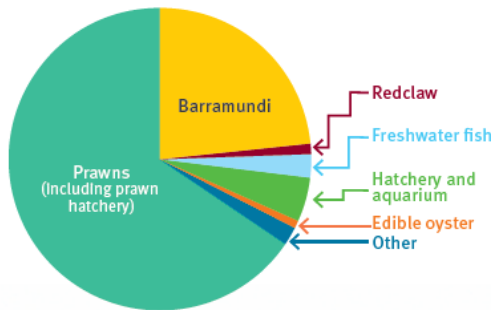
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1 Queensland aquaculture industry summary 2017–18

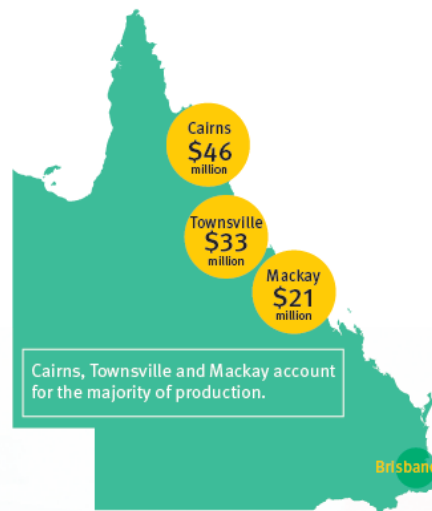


Production (tonnes)		2016-17	2017-18	Production (tonnes)		2016-17	2017-18
	↓	4264	3921		↓	269	232
	↓	65	49		↓	284	176
	↑	2987	3061	TOTAL	↓	7869	7439

Production value



Regional summary



The combined Queensland aquaculture industry employed:

Labour



CS9022 02/19



2 Overall value and production

The Queensland aquaculture industry's total production value decreased to around \$114 million in 2017–18. While white spot disease and other pressures continued to impact the industry, the long term production average has remained steady increasing at a rate of 3.7% per annum and the overall industry value has been increasing at a rate of 3% per annum.

A number of the prawn farms impacted by white spot disease have commenced restocking growout ponds with the expectation to harvest stock in the 2018-19 financial year. This, in addition with the purchase of two existing aquaculture farms, in Proserpine and Mission Beach, by Australian salmon aquaculture company Tassal Pty. Ltd. and the release of six Aquaculture Development Areas (totalling approximately 7048 hectares, for the purpose of land-based marine aquaculture) on the 30th of January 2019, is anticipated to significantly increase the total value of the Queensland aquaculture industry in the coming years.

The total value of the Queensland aquaculture industry decreased by 4.6%, with the value of production decreasing from \$119.7 million in 2016–17 to \$114.2 million in 2017–18.

In 2017–18, the total value of fisheries production in Queensland decreased by 4.0% to \$299.2 million. The wild harvest fishery in Queensland decreased to \$185 million in 2017–18 (Table 1). Therefore, the relative importance of aquaculture to Queensland's total fisheries production has decreased, from 38.4% in 2016–17 to 38.2% in 2017–18. 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: the difference in ABARES figures compared to Queensland figures is due to ABARES exclusion of hatchery production, which is sold to supply aquaculture growout operations).

Table 1 – Queensland fisheries production—gross value (2011-12 to 2017–18)

	Queensland figures ⁽¹⁾		
Year	Total fisheries (\$m)	Aquaculture (\$m)	Aquaculture (%)
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
2016–17	311.7	119.7	38.4
2017–18	299.2	114.2	38.2
	ABARES figures ⁽¹⁾		
Year	Total fisheries (\$m)	Aquaculture (\$m)	Aquaculture (%)
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
2016–17	307.4	115.4	37.5
2017–18	294.6	109.6	37.2

Note: (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, Department of Agriculture and Fisheries.

The trend of aquaculture industry growth in Queensland over the past seven years can be seen in Figure 1 (overleaf). The most valuable sectors of the Queensland aquaculture industry continue to be prawn and barramundi (*Lates calcarifer*) respectively. The actual dollar value of each sector is given in Table 2 (overleaf). Acknowledging that there will always be some degree of fluctuation between years (for example, due to climatic issues), there is still a clear trend that the overall industry value has been increasing at a rate of 3% per annum since 1999–2000. Gains in value in the 2017–18 financial year have been in the aquarium and hatchery and oyster sectors. The barramundi, prawn, prawn hatchery, redclaw, freshwater fish and other sectors recorded a decline in value.

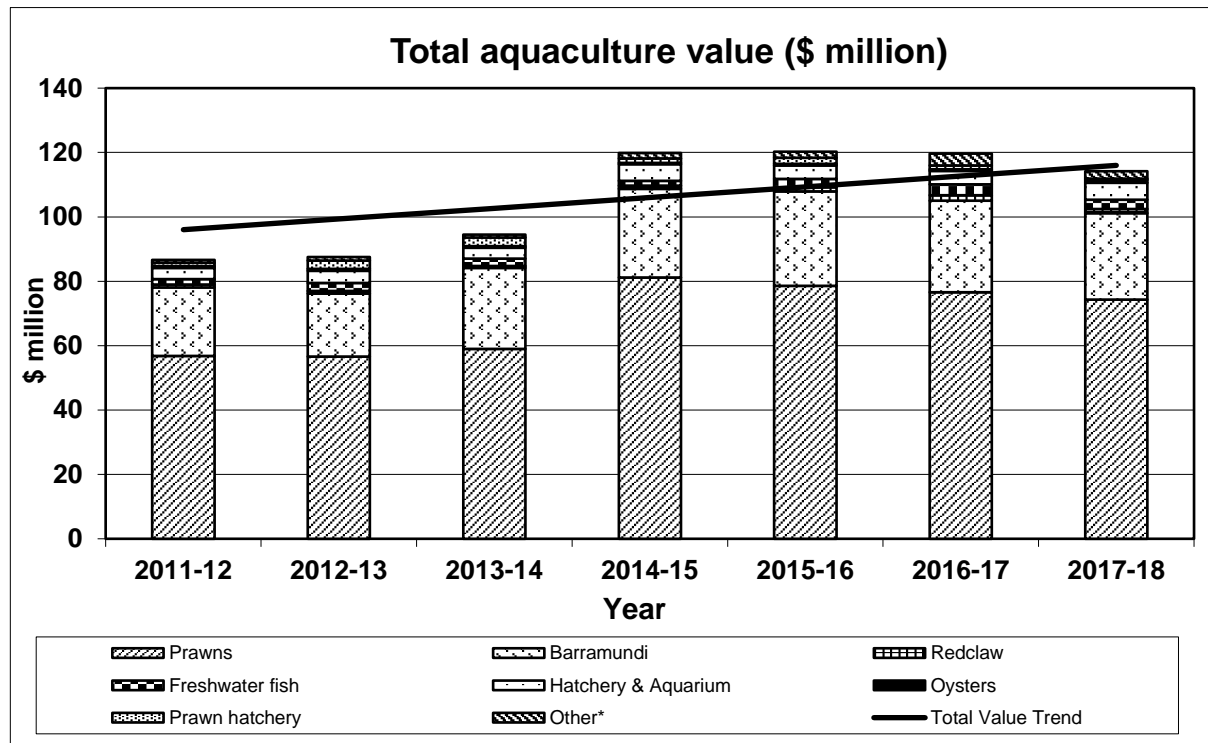


Figure 1 – Trend in value (\$ million) of Queensland aquaculture production

In 2017–18, there was a 5.5% decrease in total production compared to the previous year (2016–17). The long term 17-year average has the industry increasing at a rate of 3.7% per annum (Figure 2). Actual production figures (tonnes) for each sector are in Table 3 (p. 6).

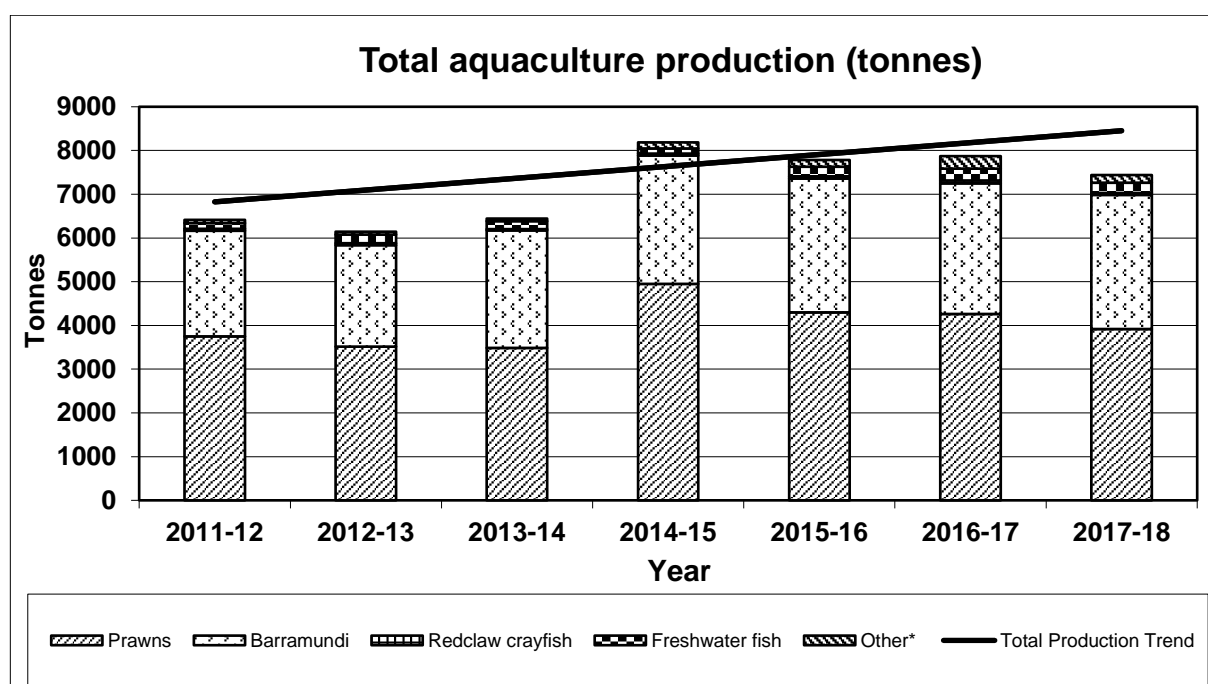


Figure 2 – Trend in Queensland aquaculture total production (tonnes)

3 Return methods

Production statistics for the 2017–18 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 422 current registered aquaculture authority holders in Queensland, 412 producers completed the production survey this year—a response rate of 97.6%. The results presented 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 conversion factors and definitions are 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**
Estimated average feed conversion ratios 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 2–10 g range.
- **Juvenile crayfish**
Juvenile crayfish are immature crayfish in the 1–5 g range.
- **Labour conversion**
Labour full time employees (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.

4 Aquaculture sector production and value

Prawn

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 decreased by 8.0% (from 4264.1 tonnes in 2016–17 to 3921.2 tonnes in 2017–18), while the value decreased by 4.0% (from \$77.8 million in 2016–17 to \$74.7 million in 2017–18)—noting production in the Gold Coast region was impacted by white spot disease. Hatchery sales of prawns for the year were \$0.4 million, which is down from \$1.2 million in 2016–17. The number of post larvae produced decreased from 332,660,450 in 2016–17 to 209,824,465 in 2017–18. There were 16 producing farms for 2017–18, down five from the previous financial year.

Barramundi

Barramundi production increased by 2.5%, with 2987.4 tonnes sold in 2016–17 and 3060.9 tonnes sold in 2017–18. The value of the barramundi sector decreased by 5.3%, from \$28.4 million in 2016–17 to \$26.9 million in 2017–18. Over this period, the average price (whole fish basis) decreased, from \$9.47/kg in 2016–17 to \$8.77/kg in 2017–18. The majority of barramundi production is in pond-based systems. There were 26 producing farms in 2017–18, which is one more compared to the previous year. The total feed used in ponds and tanks increased from 4932 tonnes in 2016–17 to 5205.7 tonnes in 2017–18. The estimated average feed conversion ratio in 2017–18 was 1.7:1, up from 1.6:1 in 2016–17.

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

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
Prawns (includes prawn hatchery)	\$57.9	\$59.3	\$61.7	\$82.6	\$80.5	\$77.8	\$74.7
Barramundi	\$21.3	\$19.7	\$25.1	\$27.5	\$29.3	\$28.4	\$26.9
Redclaw crayfish	\$0.9	\$0.8	\$0.7	\$1.0	\$1.3	\$1.7	\$1.2
Freshwater fish	\$1.7	\$2.5	\$2.2	\$1.5	\$2.6	\$3.4	\$2.9
Hatchery and aquarium	\$3.4	\$3.8	\$3.4	\$5.2	\$4.2	\$4.2	\$5.3
Edible oysters	\$0.5	\$0.5	\$0.5	\$0.4	\$0.5	\$0.5	\$0.9
Other ⁽¹⁾	\$0.9	\$1.1	\$0.9	\$1.7	\$1.8	\$3.7	\$2.3
Total	\$86.6	\$87.6	\$94.5	\$119.9	\$120.2	\$119.7	\$114.2

Note: (1) Not available for publication (included in 'Other'). 'Other' includes marine fish, worms, sea cucumbers, algae and ulva, crustaceans and other bivalves in some years

Freshwater fish

The freshwater fish growout sector currently produces silver perch (*Bidyanus bidyanus*), jade perch (*Scortum barcoo*), Murray cod (*Maccullochella peelii peelii*) and eel-tailed catfish (*Tandanus tandanus*). The total production of freshwater fish (species other than barramundi) was 231.7 tonnes, which has decreased from the 268.6 tonnes produced in 2016–17. The value of the sector also decreased to \$2.9 million, down from \$3.4 million in 2016–17. The number of producing farms decreased from 14 to 12 in 2017–18.

Silver perch production decreased during this reporting season to 96 tonnes, down from 125 tonnes in 2016–17. The value of the silver perch sector decreased from \$1,503,220 in 2016–17 to \$1,032,224 with an average price of \$10.81/kg. For silver perch production, the total feed used decreased from 268.7 tonnes in 2016–17 to 186.2 in 2017–18. Based on the silver perch harvest figures, this equates to a feed conversion ratio of 1.9:1.

Jade perch production increased from 101 tonnes in 2016–17 to 117 tonnes in 2017–18. The value of jade perch sales totalled \$1,462,360 with an average price of \$12.49/kg. While Murray cod and eel-tailed catfish are contributors to the freshwater fish sector, in 2017–18 only a few growers produced Murray cod and eel-tailed catfish and detailed production data cannot be published due to client confidentiality.

Redclaw

Production of the redclaw crayfish sector decreased by 24.7% (from 64.8 tonnes in 2016–17 to 48.8 tonnes in 2017–18). Value of the redclaw sector decreased to \$1,270,953 down from \$1,704,748 in 2016–17. The number of producing farms for 2017–18 was 29. Average prices decreased from \$26.29/kg in 2016–17 to \$26.06/kg.

Table 3 – Queensland aquaculture production (tonnes) by sector

	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18
Marine prawns	3751	3518.7	3487.1	4951.5	4302	4264.1	3921.2
Barramundi	2416	2319.1	2681.7	2930.9	3052.7	2987.4	3060.9
Redclaw crayfish	41	40.8	35.2	45.0	51.3	64.8	48.8
Freshwater fish	135	196.8	180.4	120.7	222.7	268.6	231.7
Other ⁽¹⁾	73	65	62	139.0	154.8	284.3	176.4
Total	6416	6140	6446.4	8187.1	7783.5	7869.2	7439

Note: (1) 'Other' includes marine fish, worms, sea cucumbers, algae and ulva, crustaceans and other bivalves in some years.

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 2017–18, 14 million fish were sold—this was 17.1% less than the 16.9 million fish sold during 2016–17. The value of the hatchery sector decreased, from \$6 million in 2016–17 to \$4.9 million in 2017–18. Fingerling sales increased for jade perch and barramundi, while there was a notable decline in fingerling sales for Murray cod, golden perch, Australian bass and silver perch.

The value of fingerlings sold to the aquaculture sector for commercial growout was \$3 million—this was a 49.5% increase in sales compared to 2016–17 at \$2 million. Value of fingerlings sold for the state fish restocking program into public impoundments increased by 4.4%, from \$1.1 million in 2016–17 to \$1.2 million in 2017–18. Ornamental sales increased by 10.3% from \$1 million in 2016–17 to \$1.1 million in 2017–18.

Oysters

Total edible oyster production increased by 44.3%, from 92,037 dozen in 2016–17 to 132,787 dozen in 2017–18. The value of the edible oyster industry increased from \$536,388 in 2016–17 to \$926,776. Average price per dozen of oysters increased from \$5.83 to \$6.98.

Labour

The combined Queensland aquaculture industry employed 525.1 full-time equivalents (FTEs)—calculated by combining numbers of permanent and casual labour. The prawn farming sector was the largest employer at 255.5 FTE workers or 48.7% of the industry's total labour force.

5 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 SA4 statistical division adopted by the Australian Bureau of Statistics. Figure 3 depicts the statistical divisions that account for the majority of the industry value and production (Cairns, Townsville and Mackay).

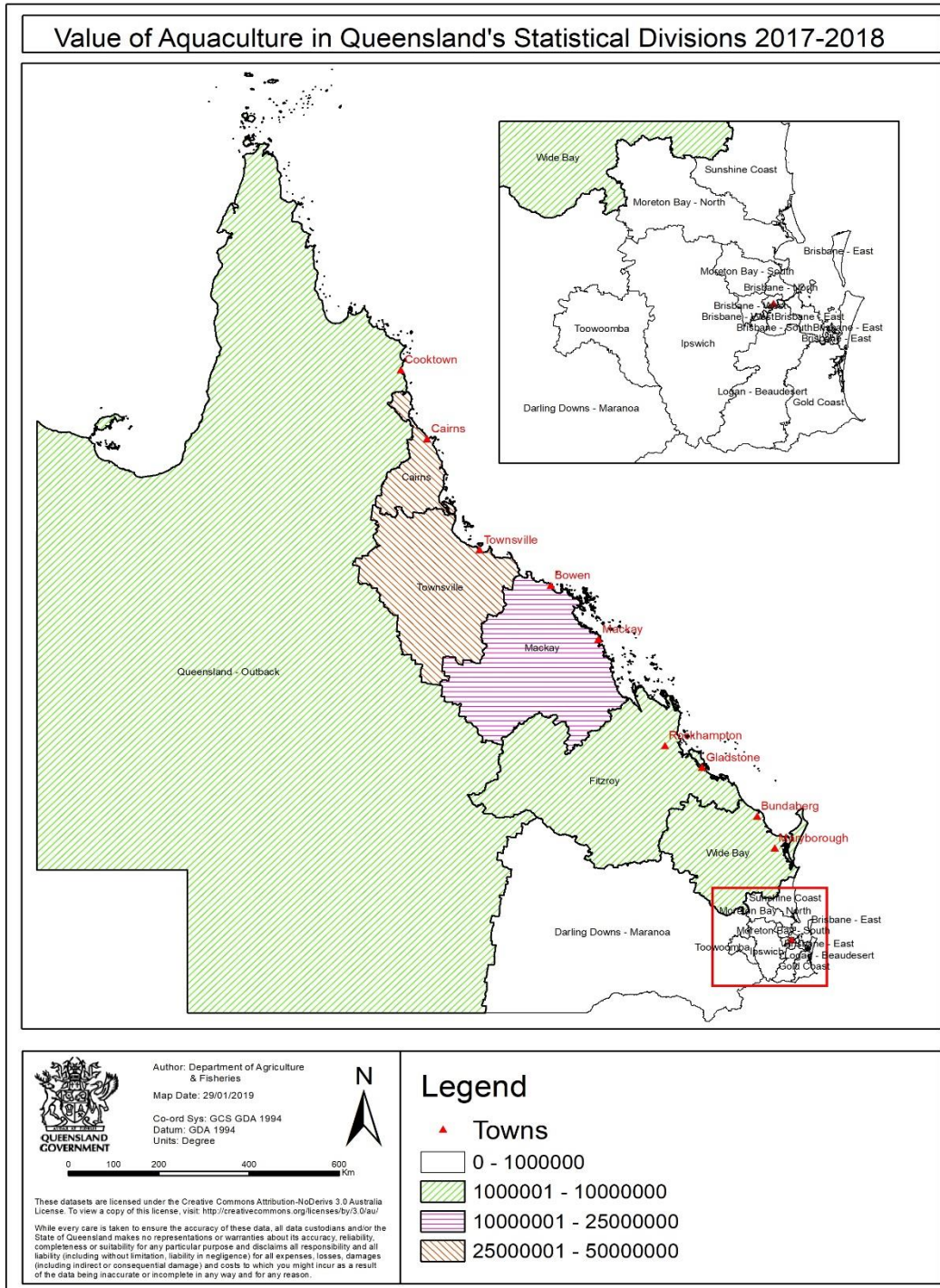


Figure 3 – Value of aquaculture for each Australian Bureau of Statistics statistical division within Queensland

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, labour and total production value are divided between the respective Australian Bureau of Statistics Queensland statistical divisions.

Table 4 – Production, ponded area, employment and total production value of the Queensland aquaculture industry (2017–18)

Statistical division	Production (tonnes)	Ponded area (hectares)	Employment (FTE)	Total production value (\$ million)
Brisbane – east			14.6	\$0.6
Brisbane – north				
Brisbane – west				
Cairns	3268.9	322.3	192.6	\$46.3
Darling Downs–Maranoa				
Fitzroy	123.8	30.7	12	\$2.8
Gold Coast	20		15.7	\$0.7
Ipswich				
Logan–Beaudesert				
Mackay	1453.4	78	71.3	\$21.2
Moreton Bay – north		0.08	1.1	\$0.1
Moreton Bay – south				
Queensland – outback	151	6.6	17.2	\$1.5
Sunshine Coast	9.2	3.8	13.8	\$0.6
Toowoomba				
Townsville	2020.4	143.4	85	\$33.1
Wide Bay–Burnett	318.6	91.2	47.3	\$5.5
Total	7439	695.6	523.7	\$114.2

Note: Due to client confidentiality, detailed production, ponded area, employment and total production value data cannot be published for all statistical divisions.