

Ross Lobegeiger report to farmers

Aquaculture production summary for Queensland 2021–22

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

Enquiries and feedback regarding this document can be made as follows:

Email: info@daf.qld.gov.au

Telephone: 13 25 23 (cost of a local call within Australia)

Monday, Tuesday, Wednesday and Friday: 8 am to 5 pm, Thursday: 9 am to 5 pm

Post: Department of Agriculture and Fisheries GPO Box 46 BRISBANE QLD 4001 AUSTRALIA

Website: daf.qld.gov.au

Interpreter statement

The Queensland Government is committed to providing accessible services to Queenslanders from all culturally and linguistically diverse backgrounds. If you need an interpreter to help you understand this document, call **13 25 23** or visit daf.qld.gov.au and search for 'interpreter'.

© State of Queensland, 2022.

The Queensland Government supports and encourages the dissemination and exchange of its information. The copyright in this publication is licensed under a Creative Commons Attribution 4.0 International (CC BY 4.0) licence.

Under this licence you are free, without having to seek our permission, to use this publication in accordance with the licence terms.



You must keep intact the copyright notice and attribute the State of Queensland as the source of the publication.

Note: Some content in this publication may have different licence terms as indicated.

For more information on this licence, visit creativecommons.org/licenses/by/4.0.

The information contained herein is subject to change without notice. The Queensland Government shall not be liable for technical or other errors or omissions contained herein. The reader/user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using this information.

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.



Table of contents

1	Queensland aquaculture industry summary 2021–22	1
2	Overall value and production	2
3	Return methods	4
4	Aquaculture sector production and value	5
5	Regional summary	7

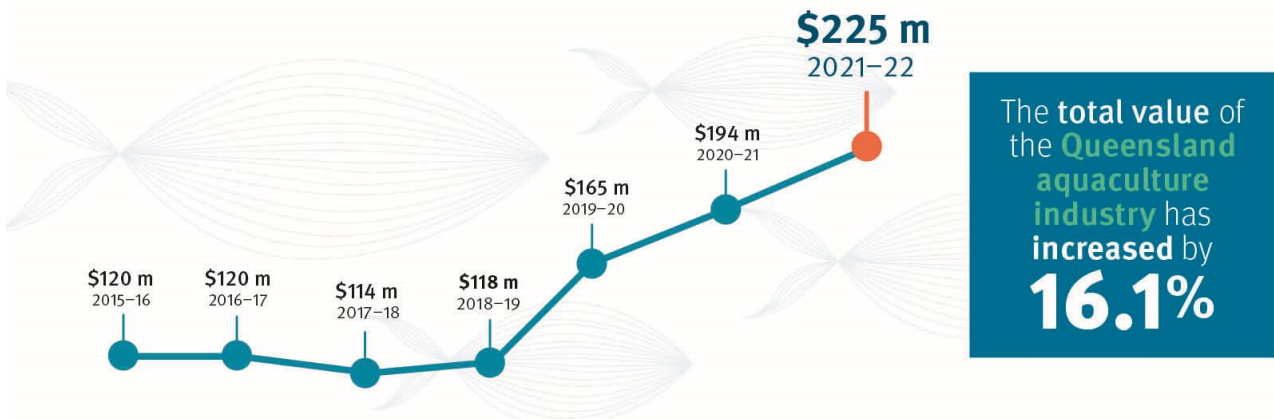
Table of figures

Figure 1 – Trend in value (\$ million) of Queensland aquaculture production	3
Figure 2 – Trend in Queensland aquaculture total production (tonnes)	3
Figure 3 – Value of aquaculture (\$ million) for each Australian Bureau of Statistics statistical division within Queensland.....	7

Table of tables

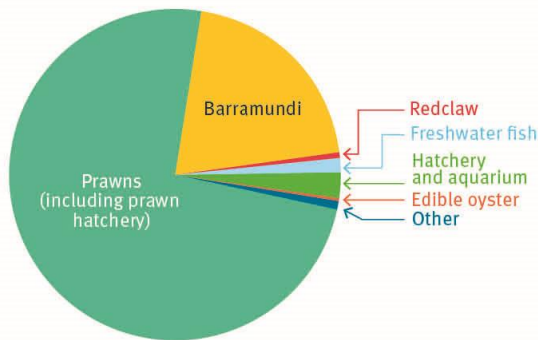
Table 1 – Queensland fisheries production—gross value (2015–16 to 2021–22)	2
Table 2 – Queensland aquaculture production—gross value by sector (\$ million)	5
Table 3 – Queensland aquaculture production (tonnes) by sector	6
Table 4 – Production, ponded area, employment and total production value of the Queensland aquaculture industry (2021–22)	8

1 Queensland aquaculture industry summary 2021–22

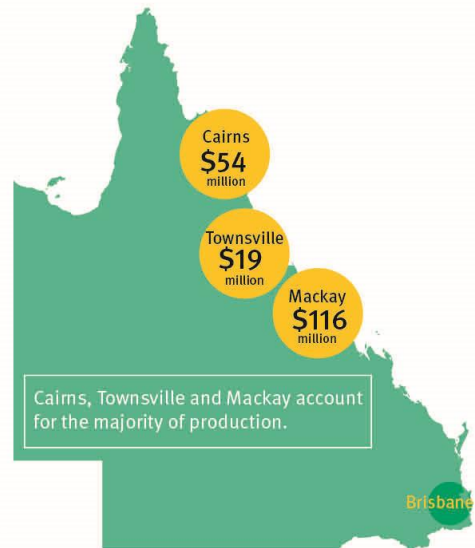


Production (tonnes)		2020-21	2021-22	Production (tonnes)		2020-21	2021-22
	↑	8,003	8,727		↓	224	197
	↓	33	31		↓	87	76
	↑	3,478	3,992	TOTAL	↑	11,825	13,023

Production value

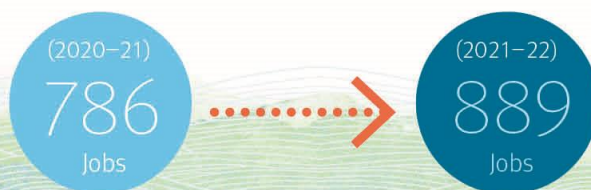


Regional summary



The combined Queensland aquaculture industry employed:

Labour



DAF1830 11/22



2 Overall value and production

The total value of the Queensland aquaculture industry has increased by 16.1%, with the value of production increasing from \$193.5 million in 2020–21 to a new record high of \$224.7 million in 2021–22.

The total value of fisheries production in Queensland for 2021-22 was unavailable at the time of publication, therefore the Aquaculture production value from 2021-22 was compared to the Queensland total fisheries production from 2020-21. The relative importance of aquaculture to Queensland's total fisheries production has increased from 55.3% in 2020–21 to 64.2% in 2021–22.

Table 1 – Queensland fisheries production—gross value (2015–16 to 2021–22)

Queensland figures ⁽¹⁾			
Year	Total fisheries (\$m)	Aquaculture (\$m)	Aquaculture (%)
2015–16	\$296.6 (figure updated)	\$120.2	40.5 (figure updated)
2016–17	\$313.1 (figure updated)	\$119.7	38.2 (figure updated)
2017–18	\$294.8 (figure updated)	\$114.2	38.7 (figure updated)
2018–19	\$277.3 (figure updated)	\$118.4	42.7 (figure updated)
2019–20	\$321.5 (figure updated)	\$164.9	51.4 (figure updated)
2020–21	\$350.6 (figure updated)	\$193.5	55.2 (figure updated)
2021–22	Figure unavailable at the time of publication	\$224.7	Figure unavailable at the time of publication

The trend of aquaculture industry growth in Queensland over the past seven years can be seen in Figure 1 (page 3). 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 (page 5). 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, on average, at a rate of 7.7% per annum since 1999–2000.

Gains in value in the 2021–22 financial year have been in the prawn and barramundi sectors. The redclaw, freshwater fish, and other sectors recorded a decline in value from the previous year.

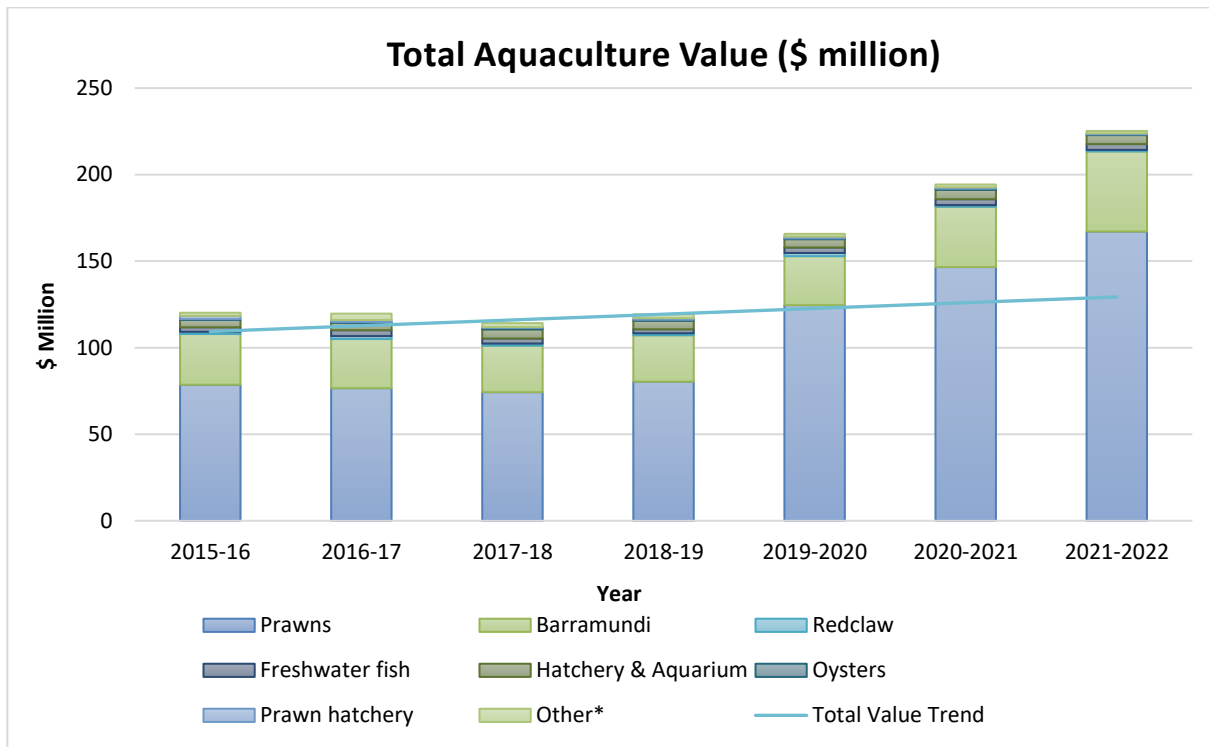


Figure 1 – Trend in value (\$ million) of Queensland aquaculture production

*Other' includes marine fish, algae, crustaceans and other bivalves.

In 2021–22, there was a 16.1% increase in total production compared to the previous year. The long term, 22-year average has the industry increasing at a rate of 7.6% per annum (Figure 2). Actual production figures (tonnes) for each sector are in Table 3 (page 6).

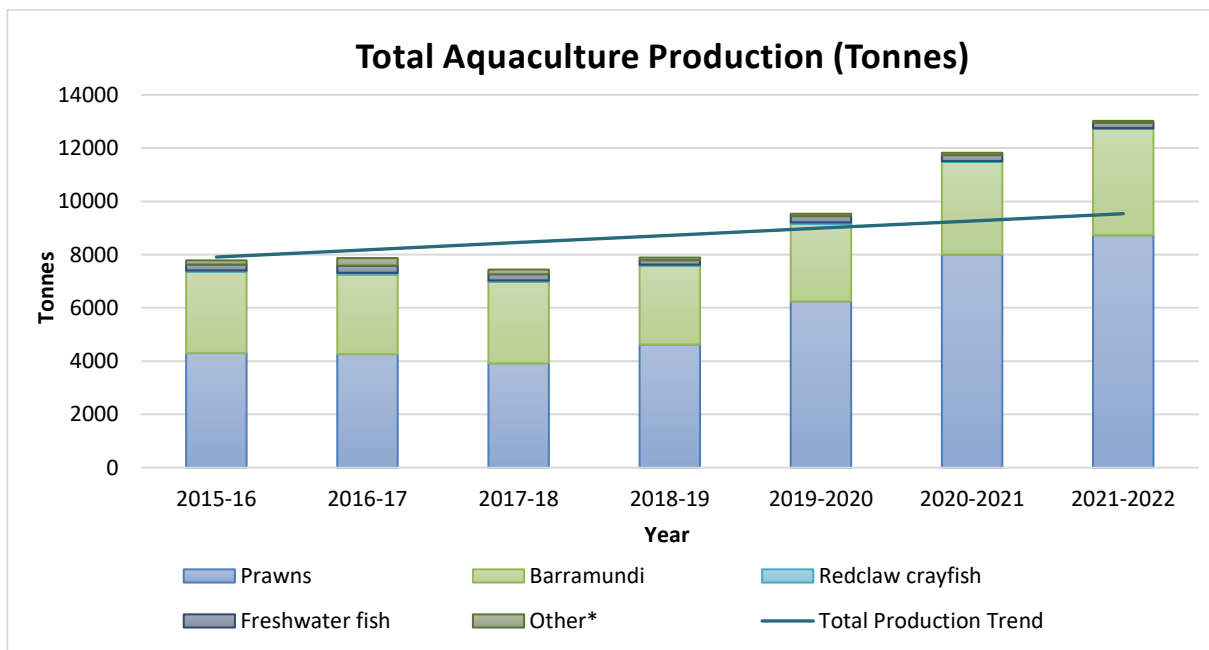


Figure 2 – Trend in Queensland aquaculture total production (tonnes)

*Other' includes marine fish, algae, crustaceans and other bivalves.

3 Return methods

Production statistics for the 2021–22 financial year were collected from all sectors of the Queensland aquaculture industry. The requirement to complete the production survey is a mandatory condition for all holders of a current aquaculture development authority.

Of the 400 current registered aquaculture authority holders in Queensland, 386 producers completed the production survey this year—a response rate of 96.5%. The results presented reflect the information provided by the industry through these statistical returns.

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, these ratios are only estimates as they are reported as direct ratios of the weight of feed provided versus 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.
- **Labour conversion**
Labour Full Time Equivalent (FTE) employees are calculated by adding the total permanent labour units to the casual labour units and then converting 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 two species of prawns—black tiger (*Penaeus monodon*) and banana (*Fenneropenaeus merguensis*). Production in the prawn sector increased by 9.1% (from 8002.7 tonnes in 2020–21 to 8727.5 tonnes in 2021–22), while the value increased by 14% (from \$146.6 million in 2020–21 to \$167.1 million in 2021–22). Hatchery sales of prawns for the year were \$0.5 million, which is down from \$0.8 million in 2020–21. The number of post larvae produced increased from 455.9 million in 2020–21 to 468.9 million in 2021–22. The number of producing farms has decreased to 17 from 18 in 2020–21.

Barramundi

Barramundi production increased by 14.8%, from 3477.9 tonnes sold in 2020–21 to 3991.6 tonnes sold in 2021–22. The value of the barramundi sector increased by 32.6%, from \$34.9 million in 2020–21 to \$46.3 million in 2021–22. Over this period, the average price (whole fish basis) increased, from \$10.04/kg in 2020–21 to \$11.60/kg in 2021–22. The majority of barramundi production is in pond-based systems. The number of producing farms increased from 16 in 2020–21 to 17 in 2021–22. The total feed used in ponds and tanks increased from 5803.8 tonnes in 2020–21 to 6764.7 tonnes in 2021–22. The estimated average feed conversion ratio has remained the same from 1.7:1 in 2020–21.

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

	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22
Prawns (includes prawn hatchery)	\$80.5	\$77.8	\$74.7	\$80.4	\$124.6	\$146.6	\$167.1
Barramundi	\$29.3	\$28.4	\$26.9	\$26.8	\$28.3	\$34.9	\$46.3
Redclaw crayfish	\$1.3	\$1.7	\$1.3	\$1.2	\$1.8	\$0.9	\$0.9
Freshwater fish	\$2.6	\$3.4	\$2.9	\$2.3	\$3.2	\$3.4	\$3.4
Hatchery and aquarium	\$4.2	\$4.2	\$5.3	\$4.9	\$4.8	\$5.4	\$5.2
Edible oysters	\$0.5	\$0.5	\$0.9	\$0.6	\$0.5	\$0.7	\$0.4
Other ⁽¹⁾	\$1.8	\$3.7	\$2.3	\$2.2	\$1.6	\$1.6	\$1.4
Total	\$120.2	\$119.7	\$114.2	\$118.4	\$164.9	\$193.5	\$224.7

Note: (1) Not available for publication (included in 'Other'). 'Other' includes marine fish, algae, crustaceans and other bivalves.

Freshwater fish

The freshwater fish growout sector produced silver perch (*Bidyanus bidyanus*), jade perch (*Scortum barcoo*), Murray cod (*Maccullochella peelii peelii*). The total production of freshwater fish (species other than barramundi) was 196.6 tonnes, which has decreased from the 224.2 tonnes produced in 2020–21. The value of the sector decreased to \$3.36 million, from \$3.38 million in 2020–21. The number of producing farms decreased to 14 from 15 in 2020–21.

Silver perch production decreased during this reporting season to 54 tonnes, down from 93 tonnes in 2020–21. The value of the silver perch sector decreased from \$1.3 million in 2020–21 to \$0.9 million with an average price of \$16.90/kg. For silver perch production, the total feed used decreased from 176.7 tonnes in 2020–21 to 138.8 tonnes in 2021–22. Based on the silver perch harvest figures, this equates to a feed conversion ratio of 2.6:1.

Jade perch production decreased from 83 tonnes in 2020–21 to 74 tonnes in 2021–22. The value of jade perch sales totalled \$1.1 million with an average price of \$15.718/kg.

While Murray cod contributes to the freshwater fish sector, in 2021–22 only two growers produced this species and detailed production data cannot be published due to client confidentiality.

Redclaw

Production of the redclaw crayfish sector decreased by 4.5% (from 32.5 tonnes in 2020–21 to 31.2 tonnes in 2021–22). Value of the redclaw sector decreased to \$0.85 million down from \$0.95 million in 2020–21. The number of producing farms for 2021–22 has remained the same, from 19 the previous financial year. Average prices decreased from \$29.12/kg in 2020–21 to \$27.25/kg.

Table 3 – Queensland aquaculture production (tonnes) by sector

	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21	2021-22
Marine prawns	4302	4264.1	3921.2	4630.0	6245.2	8002.7	8727.5
Barramundi	3052.7	2987.4	3060.9	2950.2	2904.4	3477.9	3991.6
Redclaw crayfish	51.3	64.8	48.8	44.9	61.6	32.5	31.2
Freshwater fish	222.7	268.6	231.7	168.3	235.3	224.2	196.6
Other ⁽¹⁾	154.8	284.3	176.4	96.9	89.3	87.3	76.1
Total	7783.5	7869.2	7439	7890.3	9535.8	11824.6	13023.0

Note: (1) 'Other' includes marine fish, algae, crustaceans and other bivalves.

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 2021–22, 10.5 million fish were sold. The value of the hatchery sector decreased, from \$4.8 million in 2020–21 to \$4.6 million in 2021–22. Fingerling sales increased for Silver perch, Jade perch, Golden perch and Australian bass, while there was a decline in fingerling sales for Barramundi.

The value of fingerlings sold to the aquaculture sector for commercial growout was \$3 million—this was an 9.4% decrease in sales compared to 2020–21 at \$3.4 million. Value of fingerlings sold for the state fish restocking program into public impoundments increased by 64.5%, from \$0.9 million in 2020–21 to \$1.5 million in 2021–22. Ornamental sales have decreased by 39.1%, from \$1.1 million (figure updated) in 2020–21 to \$0.7 million in 2021–22.

Oysters

Total edible oyster production decreased by 42.2%, from 87,407 dozen in 2020–21 to 50,547 dozen in 2021–22. The value of the edible oyster industry decreased from \$0.7 million in 2020–21 to \$0.4 million. Average price per dozen of oysters increased from \$8.03 to \$8.76.

Labour

The combined Queensland aquaculture industry employed 889.4 FTEs—calculated by combining numbers of permanent and casual labour. The prawn farming sector was the largest employer at 597.8 FTE workers or 67.2% 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 illustrates the majority of the industry value comes from the Cairns, Townsville, Mackay and Gold Coast statistical divisions.

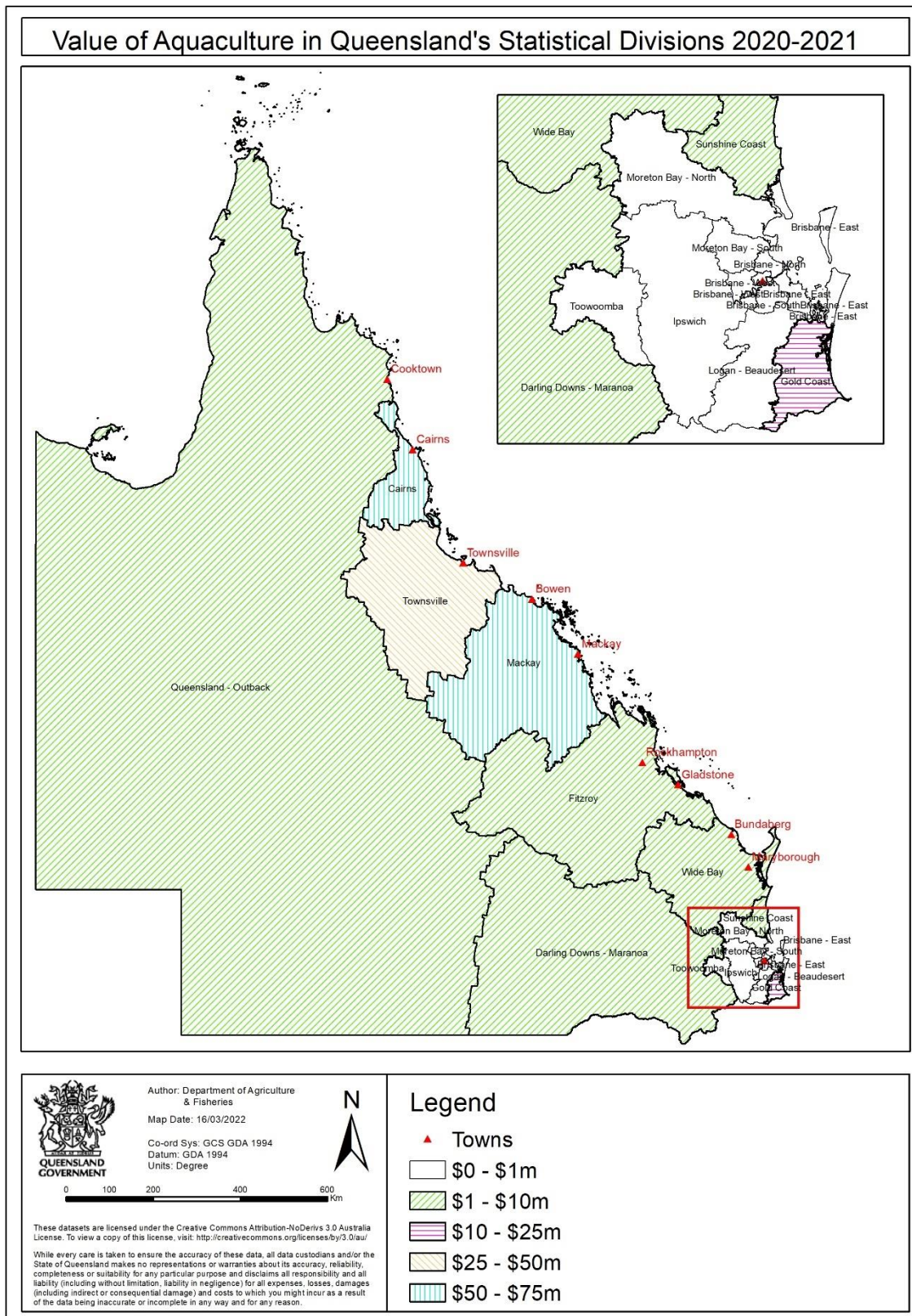


Figure 3 – Value of aquaculture (\$ million) for each Australian Bureau of Statistics statistical division within Queensland

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 (2021–22)

Statistical division	Production (tonnes)	Ponded area (hectares)	Employment (FTE)	Total production value (\$ million)
Brisbane – East			7.3	0.2
Brisbane – North				
Brisbane – West				
Cairns	3641.9	356.4	194.8	54
Darling Downs – Maranoa				
Central Queensland (formally known as Fitzroy)				
Gold Coast	1014.3	111.5	83.2	18.6
Ipswich				
Logan – Beaudesert				
Mackay	6367.5	367.0	271.5	116.3
Moreton Bay – North				
Moreton Bay – South				
Queensland – Outback			15.6	1.2
Sunshine Coast			3.5	0.2
Toowoomba				
Townsville	1275.6	107.4	218	19.4
Wide Bay-Burnett	272.4	159.3	60.7	7.3
Total	13022.7	1165.7	889.4	224.6

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