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# AUSTRALIAN FISHERIES AND AQUACULTURE INDUSTRY 2017/18: ECONOMIC AND SOCIAL CONTRIBUTIONS SUMMARY

Presented by the Fisheries Research and Development  
Corporation and the Institute for Marine and Antarctic Studies.  
Economic estimates provided by BDO EconSearch.



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*Australian Fisheries and Aquaculture Industry  
2017/18: Economic and Social Contributions Summary*  
FRDC project 2017-210  
2019

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BDO EconSearch and IMAS have relied heavily on the cooperation of fisheries and aquaculture data custodians in each of the states, the Northern Territory and the Commonwealth. Without this assistance, the compilation and estimation of economic contribution would not have been possible. Thanks also to the researchers whose work contributed to illustrating industry's contributions to regional social and economic wellbeing.

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## IMAGE CREDITS

Cover and inside cover: FRDC. Page 6: South Australian Oysters Growers Association. Page 7: Shutterstock. Page 8 (l-r):FRDC, QLD DAF. Page 9 (l-r): Mr Mussel, Bill Fraser. Page 10 (l-r): Victorian Bay and Inlet Fisheries Association, Southwest Marine Debris Cleanup.

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## PREFACE

This report presents a summary of the economic contribution of Australia's fisheries and aquaculture industries to the Australian community. It also provides a snapshot of the unique contributions fisheries and aquaculture industries make to social and economic wellbeing of regional communities in different parts of Australia, based on previous regional studies.

This work is an exciting step forward that lays the groundwork for the seafood industry to celebrate its economic and other contributions and to showcase these to its communities and to Australians in general. It also provides the starting point for monitoring contributions to Australia's economic prosperity over time.

The FRDC on behalf of the Australian Government funded the *National Fisheries and Aquaculture Industry Contributions Study (FRDC project 2017-210)* to produce evidence of industry's contributions. The project was undertaken by the Institute for Marine and Antarctic Studies, University of Tasmania.

As part of this project, BDO EconSearch was commissioned to provide an estimate of the economic contribution of Australia's fisheries and aquaculture industries to the Australian community that is aimed at helping industry tell the story of its contribution.

This is the first time the national economic contribution of the Australian seafood industry has been reported. Estimates are based on the best available data and most appropriate methods given data availability. Full results are provided in the *Australian Fisheries and Aquaculture Industry 2017/18: Economic Contributions Estimate Report* and demonstrate the nationally consistent approach.

**Project Steering Committee, National Fisheries and Aquaculture Industry Contributions Study (FRDC project 2017-210)**

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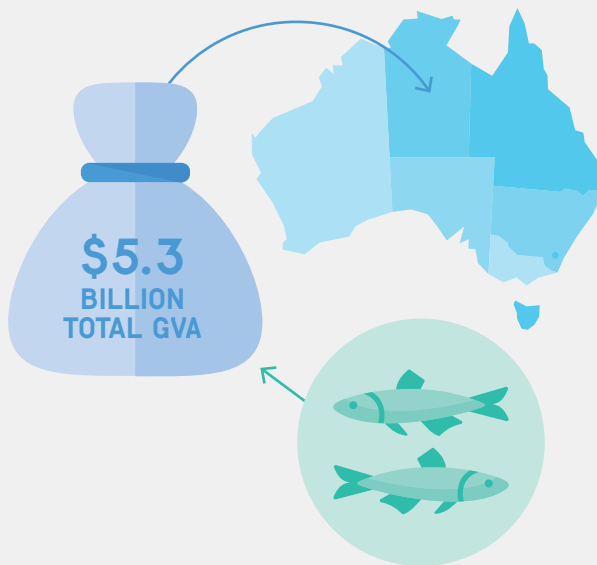
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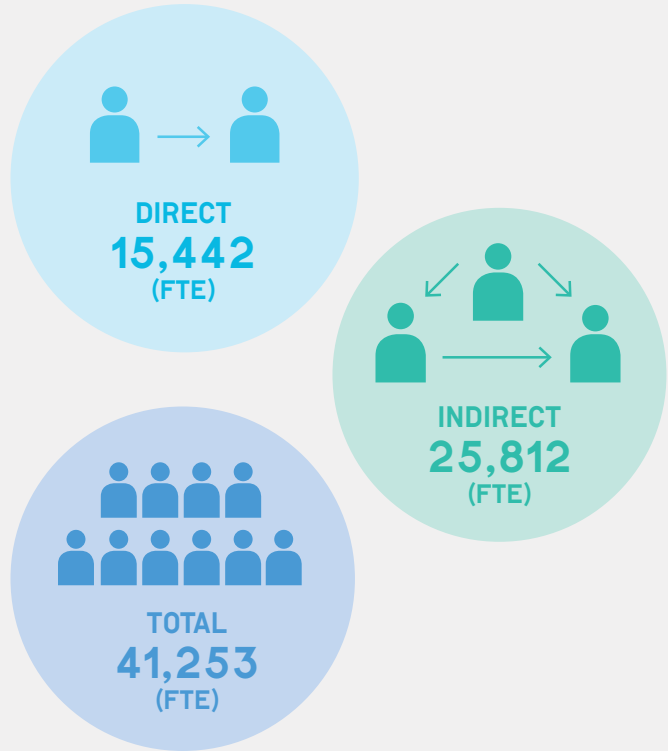
# CONTRIBUTING TO AUSTRALIA'S ECONOMIC PROSPERITY

## ECONOMY

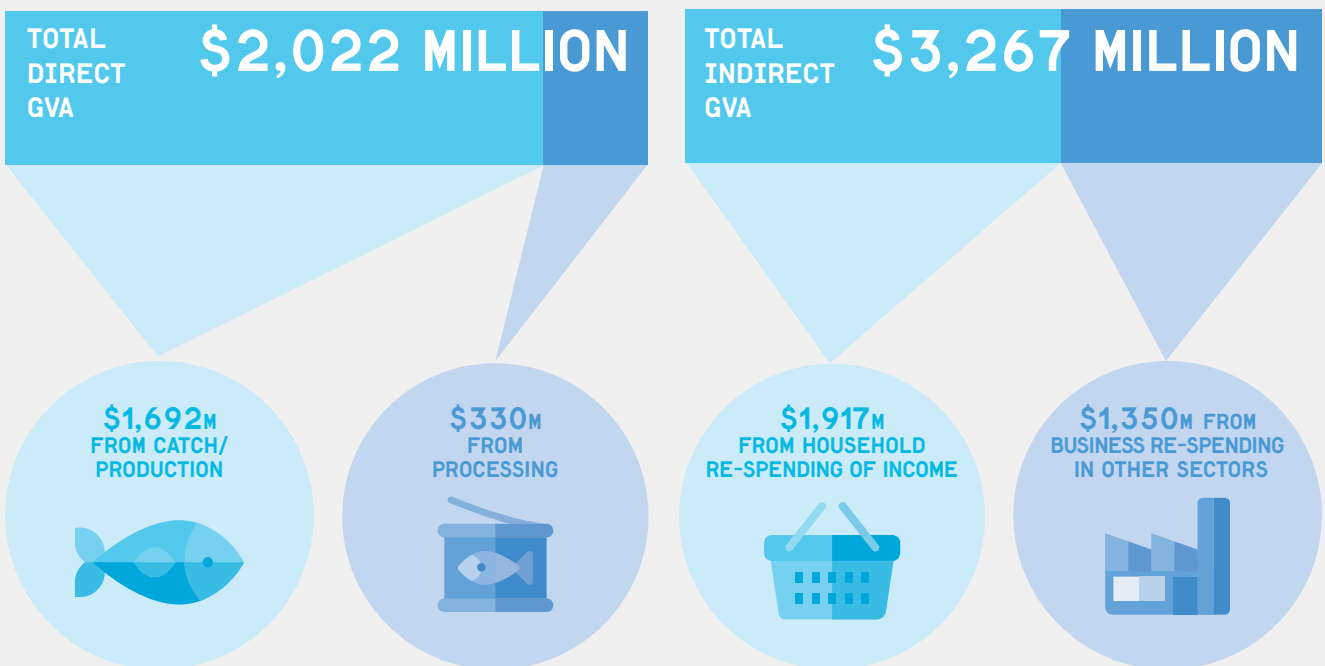
In 2017/18, Australia's fishing, aquaculture and associated processing industries contributed over five billion dollars to the national economy.



## EMPLOYMENT



## ADDING VALUE



# ECONOMIC CONTRIBUTIONS

## GROSS VALUE ADDED

In 2017/18, total fishery and aquaculture GVA in Australia was **\$5,289 million**

**\$1,692 million** generated by fishing and aquaculture

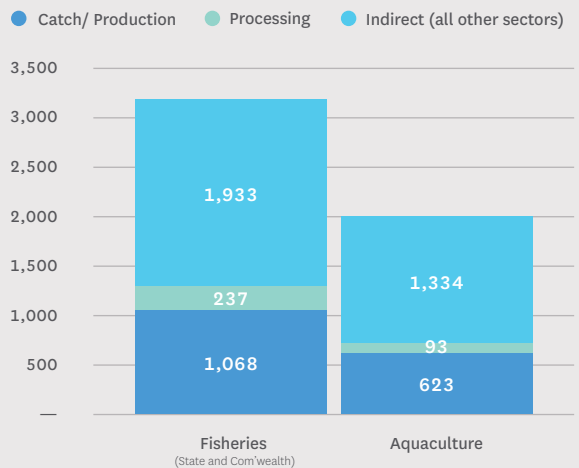
**\$330 million** generated by associated seafood processing activities

**\$3,267 million** generated by flow-on business activity in other sectors of the economy

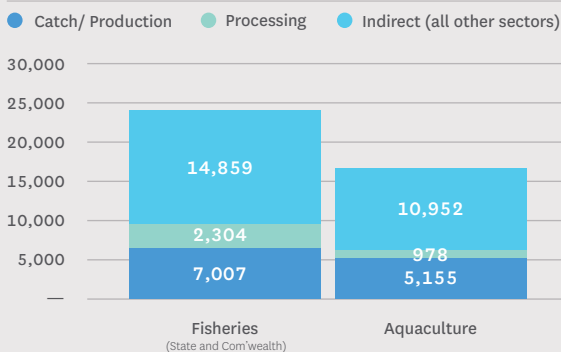
Major sectors that receive payments directly from Australian fisheries and aquaculture are machinery and equipment manufacturing, scientific and technical services, fish feed and bait production and road transport

**Gross Value Added (GVA)** represents the value of all goods and services produced in an industry, minus the cost of all inputs and raw materials used to produce that good or service. It provides a measure of the net contribution of an activity to the State/Territory and national economies, excluding net taxes.

### GROSS VALUE ADDED 2017/18 (\$ MILLIONS)



### EMPLOYMENT 2017/18 (FTE JOBS)



## EMPLOYMENT

In 2017/18, total fisheries and aquaculture employment contribution in Australia was estimated to be **41,254 FTE jobs**.

**12,162 FTE jobs** contributed by fisheries and aquaculture

**3,280 FTE jobs** contributed by associated seafood processing

**25,812 FTE jobs** contributed by flow-on business activity in other sectors

## HOUSEHOLD INCOME

In 2017/18, total household income contribution in Australia was **\$2,796 million**

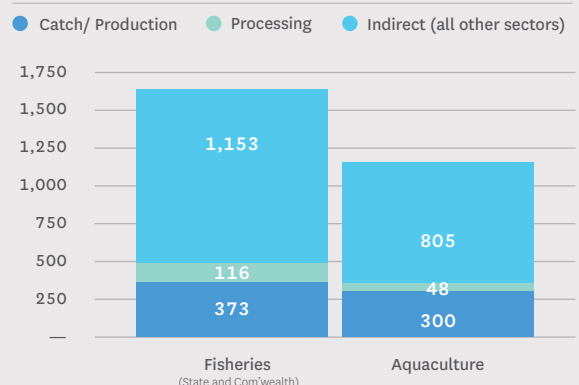
**\$673 million** earned as income in fishing and aquaculture

**\$165 million** earned in associated seafood processing

**\$1,958 million** earned in other businesses in Australia as a result of fishing, aquaculture and associated processing activities

**Household income** is a measure of wages and salaries paid in cash and in kind, drawings by owner operators and other payments to labour. It includes overtime payments, employer's superannuation contributions and income tax, but excludes payroll tax.

### HOUSEHOLD INCOME 2017/18 (\$ MILLIONS)



**TABLE 1. ECONOMIC CONTRIBUTION OF COMMERCIAL FISHING AND AQUACULTURE TO AUSTRALIA, 2017/18**

|   | GROSS VALUE ADDED (\$M) | EMPLOYMENT (FTE JOBS) | HOUSEHOLD INCOME (\$M) | GVP (\$M)    |
|---|-------------------------|-----------------------|------------------------|--------------|
| <b>FISHING (STATE FISHERIES)</b>                |                         |                       |                        |              |
| <b>DIRECT</b>                                   |                         |                       |                        |              |
| Fishing   | 887                     | 5,533                 | 286                    | 1,363        |
| Processing                                      | 193                     | 1,806                 | 94                     | 432          |
| <b>INDIRECT (ALL OTHER SECTORS)<sup>A</sup></b> |                         |                       |                        |              |
| Production induced                              | 673                     | 5,351                 | 427                    | —            |
| Consumption induced                             | 853                     | 6,269                 | 473                    | —            |
| <b>Total indirect</b>                           | <b>1,526</b>            | <b>11,621</b>         | <b>900</b>             | <b>—</b>     |
| <b>TOTAL<sup>B</sup></b>                        | <b>2,607</b>            | <b>18,959</b>         | <b>1,280</b>           | <b>1,795</b> |
| <b>FISHING (COMMONWEALTH FISHERIES)</b>         |                         |                       |                        |              |
| <b>DIRECT</b>                                   |                         |                       |                        |              |
| Fishing   | 181                     | 1,474                 | 87                     | 375          |
| Processing                                      | 44                      | 496                   | 22                     | 115          |
| <b>INDIRECT (ALL OTHER SECTORS)<sup>A</sup></b> |                         |                       |                        |              |
| Production induced                              | 170                     | 1,481                 | 121                    | —            |
| Consumption induced                             | 237                     | 1,757                 | 132                    | —            |
| <b>Total indirect</b>                           | <b>407</b>              | <b>3,238</b>          | <b>253</b>             | <b>—</b>     |
| <b>TOTAL<sup>B</sup></b>                        | <b>632</b>              | <b>5,209</b>          | <b>362</b>             | <b>489</b>   |
| <b>AQUACULTURE</b>                              |                         |                       |                        |              |
| <b>DIRECT</b>                                   |                         |                       |                        |              |
| Fishing   | 623                     | 5,155                 | 300                    | 1,457        |
| Processing                                      | 93                      | 978                   | 48                     | 213          |
| <b>INDIRECT (ALL OTHER SECTORS)<sup>A</sup></b> |                         |                       |                        |              |
| Production induced                              | 507                     | 4,590                 | 340                    | —            |
| Consumption induced                             | 827                     | ,362                  | 466                    | —            |
| <b>Total indirect</b>                           | <b>1,334</b>            | <b>10,952</b>         | <b>805</b>             | <b>—</b>     |
| <b>TOTAL<sup>B</sup></b>                        | <b>2,050</b>            | <b>17,086</b>         | <b>1,153</b>           | <b>1,669</b> |
| <b>FISHING AND AQUACULTURE TOTAL</b>            |                         |                       |                        |              |
| <b>DIRECT</b>                                   |                         |                       |                        |              |
| Fishing   | 1,692                   | 12,162                | 673                    | 3,195        |
| Processing                                      | 330                     | 3,280                 | 165                    | 759          |
| <b>INDIRECT (ALL OTHER SECTORS)<sup>A</sup></b> |                         |                       |                        |              |
| Production induced                              | 1,350                   | 11,423                | 888                    | —            |
| Consumption induced                             | 1,917                   | 14,389                | 1,070                  | —            |
| <b>Total indirect</b>                           | <b>3,267</b>            | <b>25,811</b>         | <b>1,958</b>           | <b>—</b>     |
| <b>TOTAL<sup>B</sup></b>                        | <b>5,289</b>            | <b>41,254</b>         | <b>2,796</b>           | <b>3,954</b> |

A Indirect GVP effects are excluded to avoid double counting.  
 B Totals may not sum due to rounding.

Source: ABARES, NSW DPI, Barclay et al. (2016), Voyer et al. (2016), VFA, QDAF, PIRSA, WA DPIRD, ACIL Allen (2017), Tas. DPIPWE, IMAS, NT DPIR, and BDO EconSearch Analysis.

# TECHNICAL SUMMARY

The full report of economic estimates is the *Australian Fisheries and Aquaculture Industry 2017/18: Economic Contributions Estimates Report*. Full description of the steps and technical details of producing estimates is available in the *Australian Fisheries and Aquaculture Industry: Economic Contributions Estimates Practitioner Guidelines 2019*.

## SCOPE

The estimates reported includes economic contributions of: commercial fishing activity; aquaculture activity; associated processing activity.

These estimates are for economic contributions of these activities in the State or Territory in which they occur to the national economy. Contributions of these activities to State and Territory economies are reported in the full report.

Commercial activities by Indigenous fishing and aquaculture businesses are included in commercial fishing and aquaculture. Commercial charter fishing activity is excluded. Fishery and aquaculture sector management activity (other than where these costs are recovered through licence fees) is excluded. Seafood processing of locally produced seafood is included and is attributed to the state/territory economy in which they occur. Processing of imported seafood is excluded.

“The economic activity of sectors that supply goods and services to the commercial fishing and aquaculture industry are included in the analysis as the flow-on effects from the expenditures by the commercial fishing and aquaculture industry. This includes fishing support services and aquaculture support services. Inter-state trade flows (e.g. contribution of South Australian-produced aquaculture to the Victorian economy) are captured and reported.

## DATA

Best available data for 2017/18 was used to produce estimates of GVP, and of direct employment, GVA, GSP/GDP and household income. Secondary data was collected from primary sources (databases) and published sources, where available, for the individual fisheries/aquaculture sub-sectors. This data included: wild catch/farm production, product prices, cost of production, licence fees and employment. Further information on data sources and validation is provided in the *Australian Fisheries and Aquaculture Industry Economic Contributions – Data Framework 2019*.

Where cost data was not available for a particular sub-sector, it was matched with an equivalent sub-sector for which data was available and cost data was then imputed based on available activity data (including: production, GVP, total days fished, average vessel length, active vessels).

## MODEL APPROACH

The flow-on effects of State fisheries, Commonwealth fisheries and aquaculture sectors for each jurisdiction were estimated using multi-region input-output (MRIO) analysis. An extended input-output model known as the RISE model (Regional Industry Structure and Employment) was used. The model includes one region for each State and Territory in Australia and captures the interstate trade effects between them.

## LIMITATIONS

The main limitations are due to data gaps and issues with data quality for some sectors. These were identified in the process of building the national data framework which supports the estimation of contributions.

Limited data was available to estimate the contributions of the processing sector, and the estimates of the processing sector should be regarded as preliminary. Similarly, the estimates present an incomplete profile of economic contributions made along the seafood supply chain, as secondary processing and retail sectors are not included due to lack of data. Addressing this by collecting data on these sectors presents an opportunity to produce more comprehensive estimates in future.

## COMPARISON

These estimates of contribution can be used to compare the level of contributions of the fisheries, aquaculture and processing industries in different states or territories. Comparisons of these estimates can also be made with other productive industries (for example, beef or sheep). These will be less reliable due to differences in the number of sectors included (this study included only the catch/production and processing sectors), data availability and quality, and modelling across various studies.

The use of these estimates to predict the impact of changes in the level of activity of the fisheries and aquaculture industries is not advised. While results can be used to highlight the possible size and nature of impacts, further analysis would be required to estimate the actual impact on the economic measures of such changes.

Comparisons of the economic contributions of commercial fisheries and recreational fisheries (made as fishing-related expenditures generate direct and indirect economic impacts) need to be made very cautiously. The two activities are fundamentally different and require different input-output modelling approaches, and comparison can only be made where estimates are comprehensive. For commercial fisheries this requires that estimates include backward and forward linked sectors (for example, boat building sectors, as well as seafood retail sectors). For recreational fisheries this requires that only expenditures that are directly attributable to fishing are included in the estimate.

The use of estimates of economic contributions to predict the impact on a state or territory economy of changes in resource allocation between commercial and recreational fisheries can complement economic benefit or efficiency analysis. However, it will require further knowledge to determine how inputs would be redeployed in the economy by other sectors were commercial fishing no longer occurring, and how recreational fishers would spend their discretionary income on substitutable activities were they not able to recreationally fish.

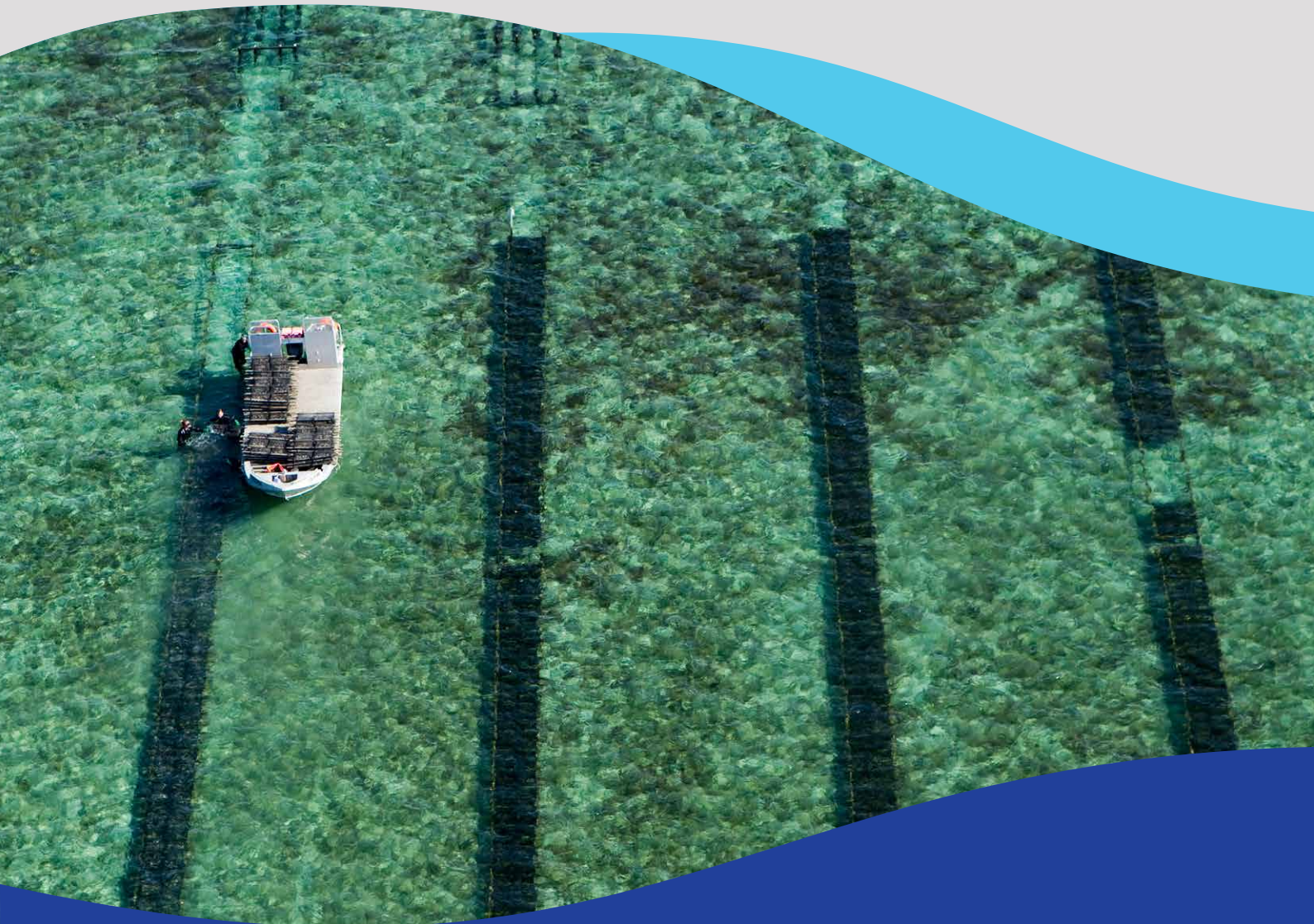
This project also supports the ability for individual industries and jurisdictions to monitor trends in the size of contributions over time.

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# CONTRIBUTING TO AUSTRALIA'S REGIONAL SOCIAL AND ECONOMIC WELLBEING

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Australia's fishing and aquaculture industry contributes a lot more than can be measured in economic terms. It contributes to the social as well as economic wellbeing of people and communities within Australia not directly involved in the industry, particularly in regional areas.





# ECONOMIC RESILIENCE AND DIVERSITY FOR REGIONAL COMMUNITIES

In coastal regions of Australia, the fishing and aquaculture sectors provide employment opportunities for a diversity of people in seafood production, whether that is on the boat, the farm or in the office.

Employment is also created for people in associated businesses which transport, process, and sell seafood products in these regions.

Fishing and aquaculture sectors contribute to the economic stability of these regional communities through providing a baseline of economic activity throughout the year where other industries operate seasonally, such as tourism.

## LIVELIHOODS AND INCOME FOR TRADITIONAL OWNERS, TORRES STRAIT AND MILINGIMBI, NT



Commercial fishing for species such as Tropical Rock Lobster and Spanish Mackerel by the Torres Strait Islander and Aboriginal peoples is one of the most economically important activities for traditional Islander communities. The Yolŋu peoples of the modern Crocodile Islands have had marine-focused economies for millennia. Commercial fishing by elders provides an opportunity to create jobs and a source of income through local sales.

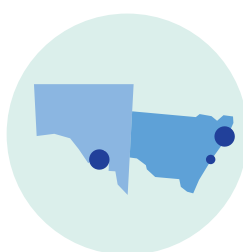
“We have strong cultural, social and economic links to the sea; it is a part of our community. Fishing for trade and food has been an important part of our history and it will continue to be a critical part of our future and the future of our children and grandchildren.”

Torres Strait Commercial Fisheries: Torres Strait Regional Authority

“The Yolŋu commercial fishers generally target garkuyi... and malmurju... There is a clear economic benefit here which is widely appreciated, as most people do not have a boat with which they can do this sort of fishing... and so the fish sold in the shop is an important source of affordable protein for the majority of people.”

Livelihood values of indigenous customary fishing: Final report to the FRDC (FRDC Project 2015-205)

## PROVIDING REGIONAL EMPLOYMENT, NSW AND SA



In NSW, oyster farms along the Mid North and Central Coast regions offer a range of employment opportunities, including entry-level employment which is typically labour-intensive work. Around a third of the jobs in aquaculture specifically employed young people who might have difficulty finding work elsewhere, and who through training and experience in oyster aquaculture, became more employable.

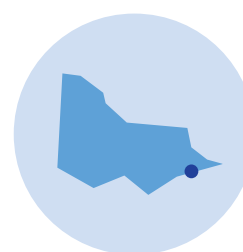
“So it does help the socially disadvantaged people in terms of as long as they’re young, strong and able to work. Of course, it has a flow on effect to them because they get a job. They feel better. They contribute to their community.”

Social and economic evaluation of NSW coastal aquaculture (FRDC project 2014-301)

The Spencer Gulf prawn fishery directly and indirectly keeps families in regional communities. In 2016/17, the fishery generated 301 full-time equivalent direct and indirect jobs regionally, which maintains local households, helps to keep families in regional towns and maintain regional services like schools. It is estimated that among the families employed in the Spencer Gulf Prawn fishery, there are 182 children living in regional communities under the age of 18, with 100 children attending local schools. A further 278 close family members (parents, partners and children over 18) also live in regional communities around the Spencer Gulf.

Economic Indicators for the Spencer Gulf & West Coast Prawn Fisheries 2016/17

## PROVIDING ECONOMIC STABILITY, VIC



Lakes Entrance, on the East Gippsland coast, is home to the largest fishing fleet in Victoria and a highly seasonal tourism sector. The employment and economic activities generated by the fishing industry is widely acknowledged by the community to provide a base of economic stability which “keeps the town going” in the tourist off-season.



“Fishing plays a role year-round here... If there was no fishing, you’d be putting out the immediate workers, but also the workers in the transport companies, and all the other companies that rely on fishing. The shops would suffer, because people wouldn’t be spending.”

Valuing Victoria’s wild-catch fisheries and aquaculture industries (FRDC project 2017-092)

# LOCALLY-PRODUCED SEAFOOD FOR AUSTRALIANS

Australian caught and farmed seafood is an important contributor to food supply because it provides a high quality, sustainable, locally produced alternative to imported seafood and other Australian-produced sources of protein.

The diversity of Australian seafood species caught and farmed is important to Australia's culturally diverse marketplace.

The fishing industry provides access to Australia's wild-caught seafood not otherwise available to those who do not catch fish recreationally.

## MEETING DEMAND FOR AUSTRALIAN SEAFOOD, EAST COAST OF AUSTRALIA



Between 85-90% of Australian respondents said they preferred to buy Australian seafood, based on studies in Victoria, NSW and Queensland (2014-2019). People who live in regional coastal communities where there is fishing and aquaculture indicated they prefer local seafood because it is considered higher quality, it confers support for the local seafood industry, and it limits food miles.

**"If you go down the street, especially on weekends, there's a queue... anywhere that's selling prawns off the wharf. A lot of people... they've got no need to go through our town, but they divert into town to get prawns."**

Social and economic evaluation of NSW coastal aquaculture (FRDC project 2014-301)

Beyond GVP: The value of inshore commercial fisheries to fishers and consumers in regional communities on Queensland's east coast (FRDC project 2013-301)

## PROVIDING LOCAL WILD CAUGHT BARRAMUNDI, QLD



On the east coast of Queensland, barramundi is a key species caught by the East coast inshore finfish fishery. A willingness to pay study in 2014 showed that Queensland consumers are willing to pay more for locally-caught wild Barramundi, both because it was perceived to be fresher but also because of the fact it was locally caught.

Beyond GVP: The value of inshore commercial fisheries to fishers and consumers in regional communities on Queensland's east coast (FRDC project 2013-301)



## CATCHING FOR CULTURALLY-DIVERSE MARKETS, NSW



NSW wild catch fisheries play an important role in supplying a diversity of seafood products to meet the needs of a culturally diverse market place. This has opened up new markets for NSW fishers and increased the popularity of a range of traditionally low-value products, such as mud crab, mullet, sardines and turban fish.



**"I've sold a lot of mullet to Islanders, Tongans and Samoans, primarily. Big families. Buy a lot of mullet from us and yeah, they just really enjoy that social aspect of being able to get together with their family and eat seafood"**

Social and Economic Evaluation of NSW Coastal Professional Wild-Catch Fisheries (FRDC project 2014-301)

# EXPERIENCES AND SERVICES FOR COASTAL TOURISM AND RECREATION

Fishing and aquaculture sectors contribute to the tourism industry in regional Australia because they offer tourism attractions and character to coastal towns, as well as seafood experiences for both international and domestic visitors.

Fishing and aquaculture sectors provide sources of local bait and information on fishing locations

and conditions to recreational fishers. The marine infrastructure services they support are often available for other users.

Commercial fishing vessel skippers and marine farm operators provide assistance and rescues to recreational users of the sea, supporting maritime safety for all.

## LOCAL SEAFOOD EXPERIENCES, VIC



A public survey in 2019 revealed that 88% of Victorians expect to eat local seafood from the local region while visiting the coast, 81% of Victorians believe that eating local seafood is an important part of their coastal holiday experience.



“... nothing is more powerful than to be able to say to people - ‘well see those little dots in the water out there? They are actually the mussel farms.’ All of a sudden people go, ‘Wow! Wow, I’m eating that...it was caught there and it’s on the plate here’. It is local. It is fresh.”

[Valuing Victoria’s wild-catch fisheries and aquaculture industries \(FRDC project 2017-092\)](#)

## PROVIDING LOCAL BAIT TO RECREATIONAL FISHERS, NSW AND VIC



Between 78%-85% of recreational fishers surveyed in NSW (2015) and Victoria (2019) said they prefer to use local bait when they go fishing, even if it is more expensive. They buy local bait to support the local fishing industry, and also see it as better for the environment and their catch rates.

[Social and economic evaluation of NSW coastal aquaculture \(FRDC project 2014-301\)](#)

[Valuing Victoria’s wild-catch fisheries and aquaculture industries \(FRDC project 2017-092\)](#)

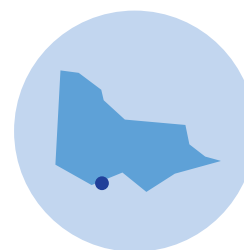
## RESCUING RECREATIONAL USERS, WA



Skippers of commercial fishing vessels are providers of vital voluntary marine rescue services and contribute to the safety of recreational users. In 2017, a survey of 139 West Australian commercial fishing skippers found that 55% of skippers reported they provided assistance to recreational users (e.g. fishers, windsurfers, jetskiers, swimmers) at least once in the past 5 years.

[Sustainable Fishing Families: Developing Industry Human Capital through health, wellbeing, safety and resilience \(FRDC project 2016-400\)](#)

## ATTRACTING TOURISTS, VIC



In Victoria, a 2019 survey revealed that 69% of Victorians are interested to watch commercial fishers at work while on holiday. In Apollo Bay, the working harbour is popular with tourists, who walk down the wharves, watch the fishers work on their boats and see what they have caught.

“That’s how the fishing industry meshes with the tourism industry. A lot of people on holidays will just wander down to the wharf and often there’ll be fishermen coming in and unloading their catches and that’s all part of the Apollo Bay village experience because that’s what they want to see. I take tourists through there...and I feel like I need to show them my industry...”

[Valuing Victoria’s wild-catch fisheries and aquaculture industries \(FRDC project 2017-092\)](#)



# HEALTHY MARINE AND FRESHWATER ENVIRONMENTS FOR ALL AUSTRALIANS

The fishing and aquaculture sectors are actively involved in improving the health of Australia's aquatic environment through voluntary activities to reduce their environmental footprint. These include participating in environmental monitoring, conservation activities and projects to improve the health of freshwater and marine environments.

Fishers and aquaculture operators are sharing their accumulated local ecological knowledge with researchers and students, organisations, decision-makers and communities to benefit the health of marine and freshwater environments.

## INLET FISHERS RESTORING SEAGRASS HABITAT, VIC



Seagrass is a critical habitat for key commercial and recreationally-caught fish species and for ecosystem health. Seagrass in Corner Inlet has been in decline due to poor water quality flowing from the surrounding catchment. In 2013 researchers collaborated with Corner Inlet commercial fishers, and used fishers' local ecological knowledge to understand, map and monitor ecosystem changes and seagrass threats. The fishers are actively working with farmers, government, traditional owners and local communities on solutions to protect and improve the Inlet habitat.



**“Without seagrasses in Corner Inlet the whole system, all the birds and aquatic life, they wouldn't be here and that would then flow on to the recreation fishers and commercial fishers, they wouldn't have anything for their pursuits.”**

Using local knowledge to understand and manage ecosystem-related decline in fisheries productivity (FRDC project 2013-021)

Protect your catchment, protect your catch (FRDC project 2016-254)

## ABALONE DIVERS RESTORING REEFS, VIC AND TAS



Over the past decades the distribution of the long-spined urchin (*Centrostephanus rodgersii*) has expanded from NSW south to Victoria and Tasmania. In high densities the urchins are destructive, stripping the macroalgae necessary for a healthy reef ecosystem. Abalone divers in Eastern Victoria and Tasmania have been working with scientists and governments to test and implement effective eradication methods, including culling by hand. In Mallacoota, Victorian divers have culled approximately 1.5 million urchins and have seen large-scale recovery of marine reefs.

**“Just being in the water, as I have been, over the past 20 years I've witnessed the steady loss of our kelp forests – we estimate we've lost 50 per cent in Victorian waters over this period...We are part of this environment so a lot of what we are doing comes very much from a strong sense of stewardship and responsibility.”**

Limiting impacts of the spread of urchins by rebuilding abalone populations (FRDC project 2012-058)

Monitoring abalone juvenile abundance following removal of *Centrostephanus* and translocation (FRDC project 2017-049)

Trial of an industry implemented, spatially discrete eradication/control program for *Centrostephanus rodgersii* in Tasmania (FRDC project 2011-087)

## FISHING FOR LITTER, TAS



Since the late 1990s, Tasmanian commercial lobster and abalone fishers have been collaborating on the Southwest Marine Debris Cleanup. The fishing industry got involved to help with the collection and transportation of the litter from these remote locations back to Hobart using their boats. Hundreds of thousands of pieces of debris have been removed from Tasmanian beaches. The data collected has also helped to understand the sources, distribution and fate of marine debris in Australia.

[Understanding the types, sources and at-sea distribution of marine debris in Australian waters](#)

[wha-marinedebris.blogspot.com](http://wha-marinedebris.blogspot.com)



# APPENDIX 1

## CONTRIBUTIONS OF STATES AND NORTHERN TERRITORY TO THE AUSTRALIAN ECONOMY 2017/18

**TABLE 2: CONTRIBUTION (GVA - \$M) BY JURISDICTION OF COMMERCIAL FISHING, AQUACULTURE AND ASSOCIATED PROCESSING TO AUSTRALIA, 2017/18**

| GROSS VALUE<br>ADDED (\$M)                          | JURISDICTION |            |            |            |              |              |            | TOTAL<br>STATE AND<br>TERRITORIES |
|---|--------------|------------|------------|------------|--------------|--------------|------------|-----------------------------------|
|   | NSW          | VIC        | QLD        | SA         | WA           | TAS          | NT         |                                   |
| <b>DIRECT</b>                                       |              |            |            |            |              |              |            |                                   |
| Production  | 130          | 110        | 234        | 264        | 411          | 490          | 52         | 1,692                             |
| Processing  | 46           | 44         | 16         | 54         | 119          | 44           | 8          | 330                               |
| <b>(1) Total direct</b>                             | <b>176</b>   | <b>154</b> | <b>250</b> | <b>318</b> | <b>530</b>   | <b>534</b>   | <b>60</b>  | <b>2,022</b>                      |
| <b>INDIRECT<br/>WITHIN JURISDICTION</b>             |              |            |            |            |              |              |            |                                   |
| Production induced                                  | 68           | 87         | 101        | 176        | 245          | 307          | 23         | 1,007                             |
| Consumption induced                                 | 130          | 114        | 128        | 204        | 214          | 308          | 54         | 1,152                             |
| <b>(2) Total indirect<br/>(within jurisdiction)</b> | <b>198</b>   | <b>201</b> | <b>229</b> | <b>380</b> | <b>458</b>   | <b>615</b>   | <b>76</b>  | <b>2,159</b>                      |
| <b>(1+2) TOTAL<br/>(WITHIN JURISDICTION)</b>        | <b>374</b>   | <b>355</b> | <b>479</b> | <b>698</b> | <b>989</b>   | <b>1,150</b> | <b>136</b> | <b>4,181</b>                      |
| <b>INDIRECT<br/>REST OF AUSTRALIA</b>               |              |            |            |            |              |              |            |                                   |
| Production induced                                  | 10           | 39         | 21         | 23         | 191          | 56           | 2          | 342                               |
| Consumption induced                                 | 18           | 36         | 58         | 123        | 203          | 308          | 20         | 765                               |
| <b>(3) Total indirect<br/>(rest of Australia)</b>   | <b>28</b>    | <b>75</b>  | <b>79</b>  | <b>146</b> | <b>394</b>   | <b>364</b>   | <b>22</b>  | <b>1,108</b>                      |
| <b>(1+2+3) TOTAL<br/>(WITHIN AUSTRALIA)</b>         | <b>402</b>   | <b>430</b> | <b>558</b> | <b>844</b> | <b>1,383</b> | <b>1,513</b> | <b>159</b> | <b>5,289</b>                      |

Source: Australian Fisheries and Aquaculture Industry  
2017/18: Economic Contributions Estimates Report (BDO 2019)

**TABLE 3: CONTRIBUTION (HOUSEHOLD INCOME – \$M) BY JURISDICTION OF COMMERCIAL FISHING, AQUACULTURE AND ASSOCIATED PROCESSING TO AUSTRALIA, 2017/18**

| HOUSEHOLD INCOME (\$M)                          | JURISDICTION |            |            |            |            |            |           | TOTAL STATE AND TERRITORIES |
|---|--------------|------------|------------|------------|------------|------------|-----------|-----------------------------|
|   | NSW          | VIC        | QLD        | SA         | WA         | TAS        | NT        |                             |
| <b>DIRECT</b>                                   |              |            |            |            |            |            |           |                             |
| Production                                      | 76           | 52         | 92         | 124        | 106        | 196        | 27        | 673                         |
| Processing                                      | 25           | 21         | 9          | 27         | 57         | 24         | 2         | 165                         |
| <b>(1) Total direct</b>                         | <b>101</b>   | <b>73</b>  | <b>100</b> | <b>151</b> | <b>162</b> | <b>220</b> | <b>30</b> | <b>838</b>                  |
| <b>INDIRECT WITHIN JURISDICTION</b>             |              |            |            |            |            |            |           |                             |
| Production induced                              | 56           | 59         | 73         | 123        | 161        | 215        | 20        | 708                         |
| Consumption induced                             | 73           | 67         | 69         | 111        | 114        | 161        | 21        | 615                         |
| <b>(2) Total indirect (within jurisdiction)</b> | <b>129</b>   | <b>125</b> | <b>141</b> | <b>234</b> | <b>276</b> | <b>377</b> | <b>41</b> | <b>1,323</b>                |
| <b>(1+2) TOTAL (WITHIN JURISDICTION)</b>        | <b>230</b>   | <b>198</b> | <b>242</b> | <b>385</b> | <b>438</b> | <b>597</b> | <b>71</b> | <b>2,161</b>                |
| <b>INDIRECT REST OF AUSTRALIA</b>               |              |            |            |            |            |            |           |                             |
| Production induced                              | 6            | 22         | 12         | 14         | 94         | 32         | 1         | 180                         |
| Consumption induced                             | 10           | 20         | 34         | 74         | 116        | 189        | 12        | 455                         |
| <b>(3) Total indirect (rest of Australia)</b>   | <b>15</b>    | <b>42</b>  | <b>46</b>  | <b>88</b>  | <b>210</b> | <b>221</b> | <b>13</b> | <b>635</b>                  |
| <b>(1+2+3) TOTAL (WITHIN AUSTRALIA)</b>         | <b>246</b>   | <b>241</b> | <b>288</b> | <b>473</b> | <b>648</b> | <b>818</b> | <b>83</b> | <b>2,796</b>                |

Source: Australian Fisheries and Aquaculture Industry  
2017/18: Economic Contributions Estimates Report (BDO 2019)

**TABLE 4: CONTRIBUTION (EMPLOYMENT - FTE) BY JURISDICTION OF COMMERCIAL FISHING, AQUACULTURE AND ASSOCIATED PROCESSING TO AUSTRALIA, 2017/18**

| EMPLOYMENT (FTE)                                | JURISDICTION |              |              |              |              |               |              | TOTAL STATE AND TERRITORIES |
|---|--------------|--------------|--------------|--------------|--------------|---------------|--------------|-----------------------------|
|   | NSW          | VIC          | QLD          | SA           | WA           | TAS           | NT           |                             |
| <b>DIRECT</b>                                   |              |              |              |              |              |               |              |                             |
| Production                                      | 1,672        | 920          | 1,995        | 2,239        | 1,932        | 2,987         | 417          | 12,162                      |
| Processing                                      | 462          | 548          | 162          | 696          | 969          | 423           | 22           | 3,280                       |
| <b>(1) Total direct</b>                         | <b>2,134</b> | <b>1,467</b> | <b>2,157</b> | <b>2,934</b> | <b>2,900</b> | <b>3,410</b>  | <b>440</b>   | <b>15,442</b>               |
| <b>INDIRECT WITHIN JURISDICTION</b>             |              |              |              |              |              |               |              |                             |
| Production induced                              | 513          | 799          | 900          | 1,771        | 1,913        | 2,988         | 185          | 9,069                       |
| Consumption induced                             | 883          | 907          | 971          | 1,582        | 1,468        | 2,405         | 316          | 8,533                       |
| <b>(2) Total indirect (within jurisdiction)</b> | <b>1,396</b> | <b>1,706</b> | <b>1,871</b> | <b>3,354</b> | <b>3,381</b> | <b>5,393</b>  | <b>501</b>   | <b>17,602</b>               |
| <b>(1+2) TOTAL (WITHIN JURISDICTION)</b>        | <b>3,530</b> | <b>3,174</b> | <b>4,027</b> | <b>6,288</b> | <b>6,281</b> | <b>8,803</b>  | <b>941</b>   | <b>33,044</b>               |
| <b>INDIRECT REST OF AUSTRALIA</b>               |              |              |              |              |              |               |              |                             |
| Production induced                              | 64           | 253          | 136          | 150          | 1,357        | 381           | 13           | 2,354                       |
| Consumption induced                             | 129          | 247          | 413          | 951          | 1,500        | 2,463         | 153          | 5,856                       |
| <b>(3) Total indirect (rest of Australia)</b>   | <b>193</b>   | <b>500</b>   | <b>549</b>   | <b>1,101</b> | <b>2,857</b> | <b>2,844</b>  | <b>166</b>   | <b>8,209</b>                |
| <b>(1+2+3) TOTAL (WITHIN AUSTRALIA)</b>         | <b>3,723</b> | <b>3,674</b> | <b>4,576</b> | <b>7,389</b> | <b>9,138</b> | <b>11,647</b> | <b>1,107</b> | <b>41,254</b>               |

Source: Australian Fisheries and Aquaculture Industry 2017/18: Economic Contributions Estimates Report (BDO 2019)

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The background of the page is a solid dark blue. In the lower half, there are several overlapping, wavy, organic shapes in lighter shades of blue and cyan, creating a layered, wave-like effect. The text is positioned in the upper left quadrant, rendered in a clean, sans-serif font.