DECEMBER 2019

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

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

FRDC UNIVERSITY of TASMANIA IMAS BDO

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

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ACKNOWLEDGMENTS

BDO EconSearch and IMAS have relied on the cooperation of data custodians at the Primary Industries and Regions South Australia.

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PREFACE

This report presents a summary of the economic contribution of South Australia's fisheries and aquaculture industries to the South Australian community.

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 in each state and territory to the Australian community, and to the relevant state or territory community, that is aimed at helping industry tell the story of its contribution.

This summary presents the results of this study for South Australia.

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 Estimates 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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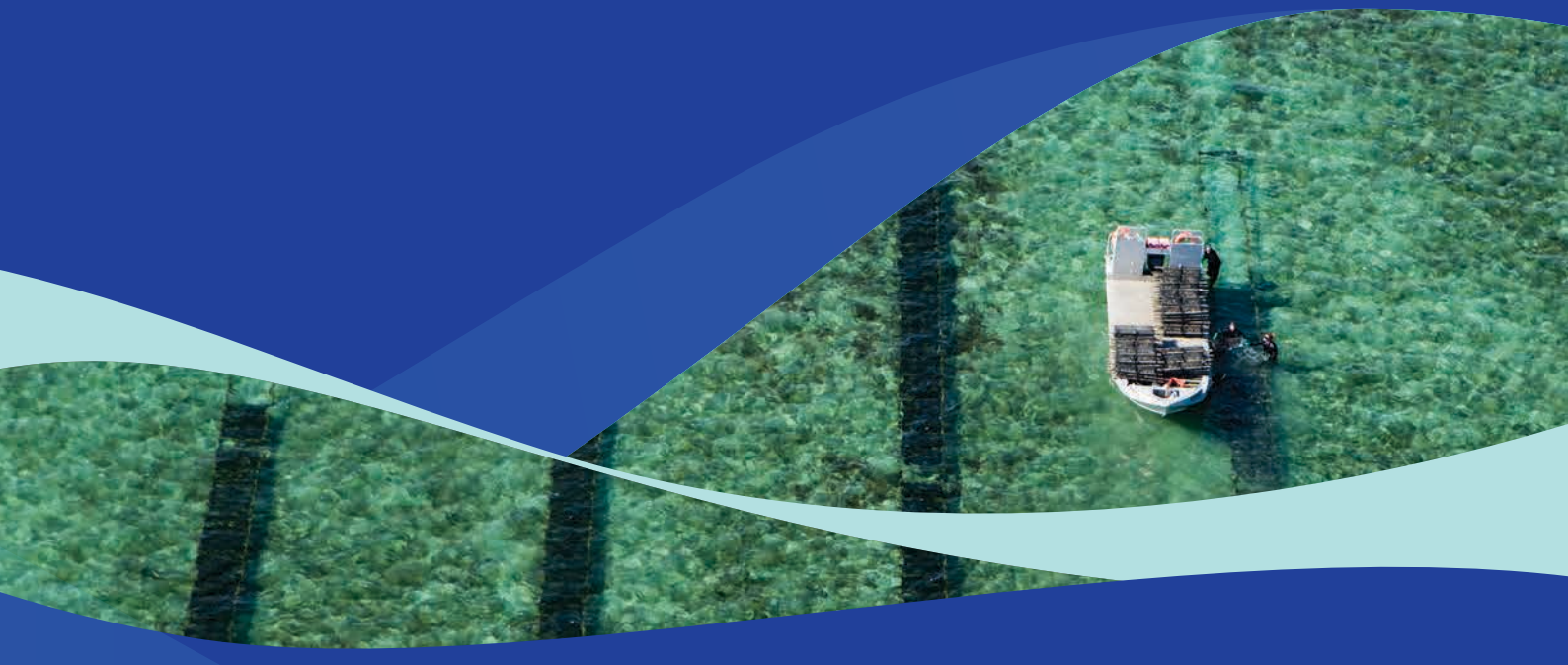
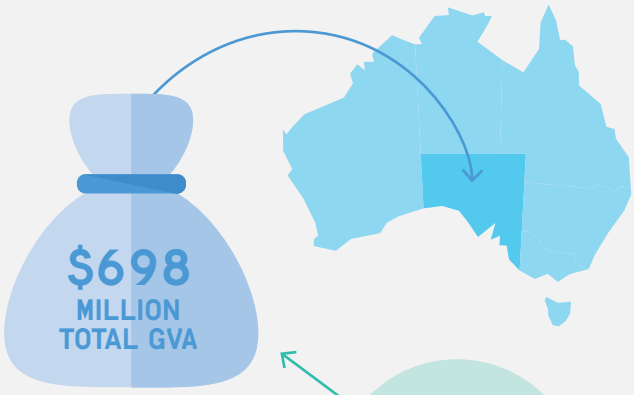


CONTRIBUTING TO SOUTH AUSTRALIA'S ECONOMIC PROSPERITY

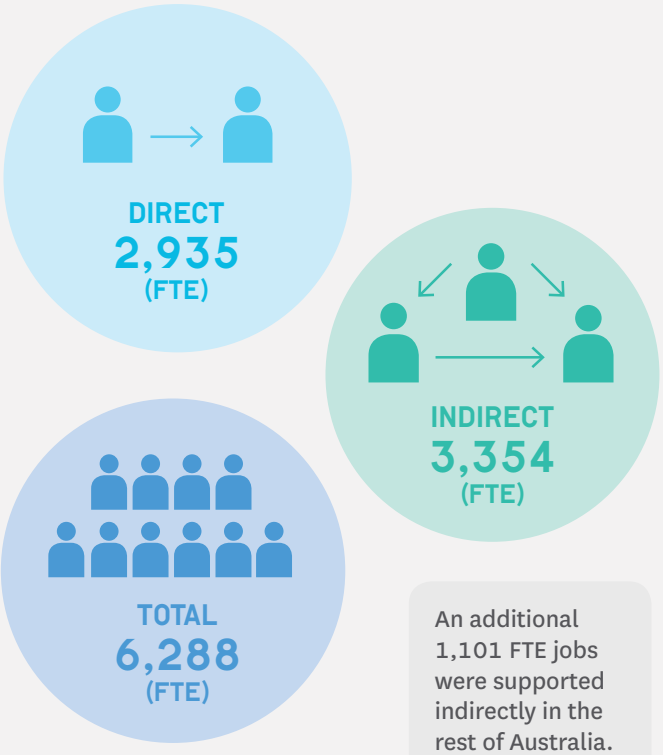
ECONOMY

In 2017/18, SA's fishing, aquaculture and associated processing industries contributed $698 million dollars (total GVA) to the SA economy.



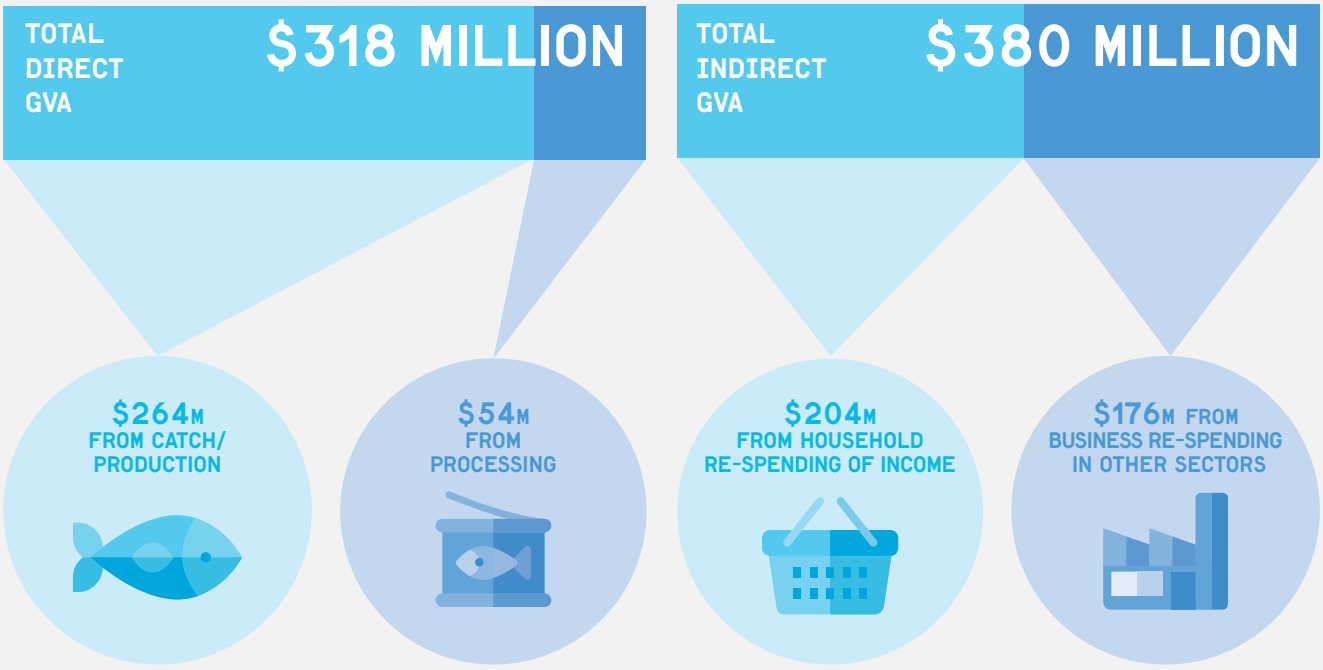
An additional $146 million GVA was generated indirectly in the rest of Australia.

EMPLOYMENT



An additional 1,101 FTE jobs were supported indirectly in the rest of Australia.

ADDING VALUE



Note, totals may not sum due to rounding. Some sub-sectors have not been included in the estimates due to data not being available. See Table 3 for details.

ECONOMIC CONTRIBUTIONS

GROSS VALUE ADDED

In 2017/18, total fishery and aquaculture GVA in SA was $698 million

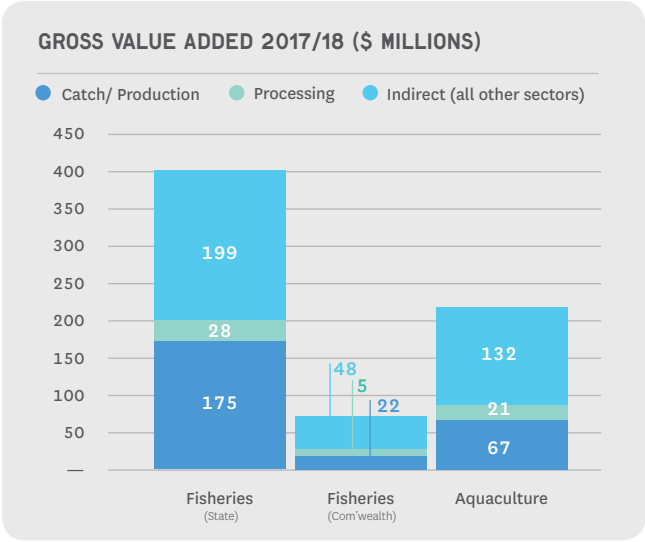
$264 million generated by fishing and aquaculture

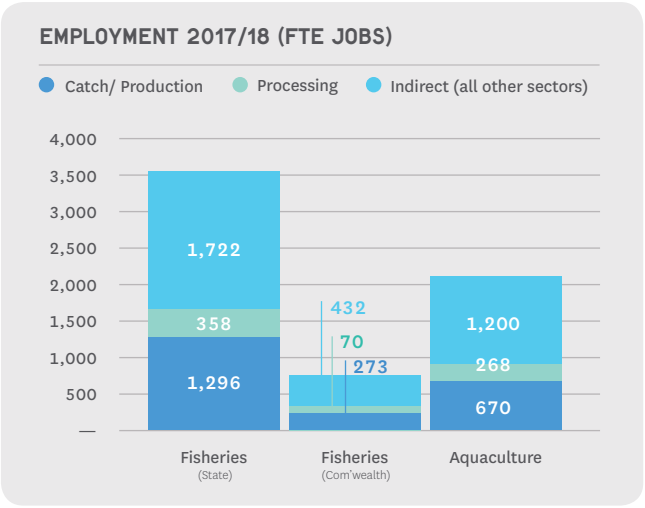
$54 million generated by associated seafood processing activities

$380 million generated by flow-on business activity in other sectors of the economy

An additional $146 million generated by SA fishing, aquaculture and associated processing in other states and territories of Australia

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 economies, excluding net taxes.





EMPLOYMENT

In 2017/18, total employment contribution to SA was 6,288 full-time equivalent (FTE) jobs.

2,239 FTE jobs contributed by fisheries and aquaculture

696 FTE jobs contributed by associated seafood processing

3,354 FTE jobs contributed by flow-on business activity in other sectors

An additional 1,101FTE jobs generated by SA fishing, aquaculture and associated processing indirectly in other states and territories of Australia

HOUSEHOLD INCOME

In 2017/18, total household income contribution in SA was $385 million

$124 million earned as income in fishing and aquaculture

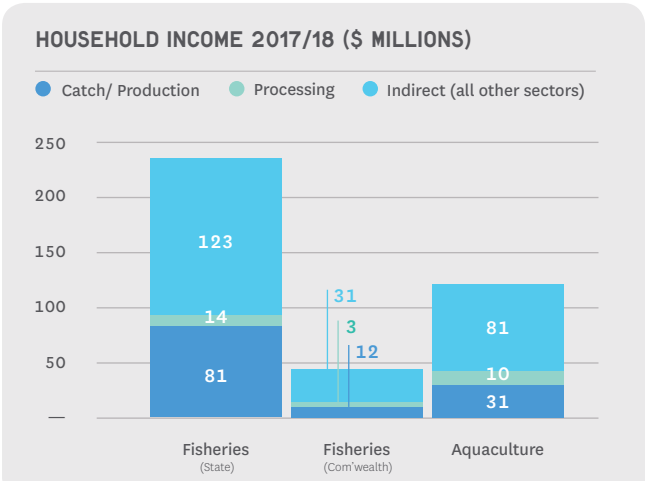
$27 million earned in associated seafood processing

$234 million earned in other businesses in SA as a result of fishing, aquaculture and associated processing activities

An additional $88 million generated by SA fishing, aquaculture and associated processing indirectly in other states and territories of Australia

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.

Note, totals may not sum due to rounding.



ECONOMIC ACTIVITY

GROSS VALUE OF PRODUCTION

In 2017/18, GVP of SA fisheries, aquaculture and associated seafood processing was $667 million

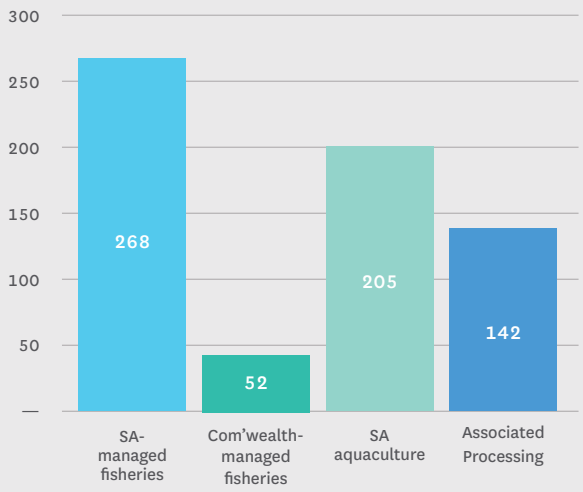
40% from SA-managed fisheries catch

8% from Commonwealth-managed fisheries catch landed in SA

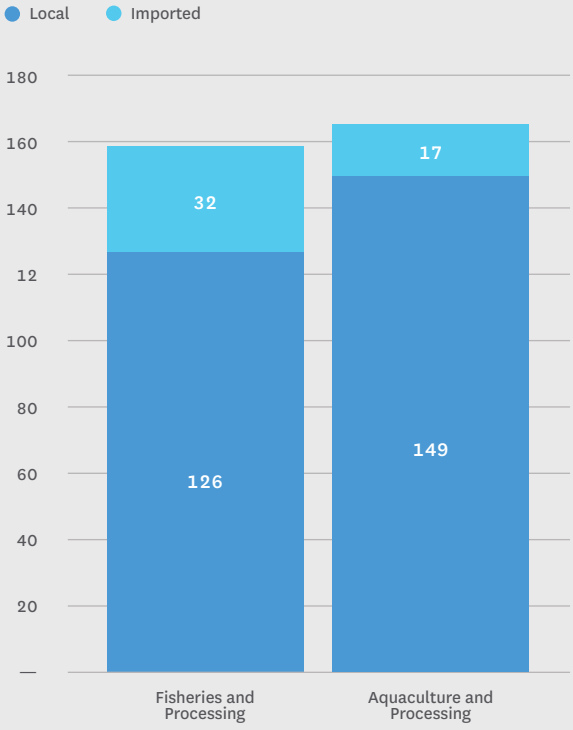
31% from SA aquaculture production

21% from associated seafood processing

GVP OF CATCH/PRODUCTION AND PROCESSING ($ MILLIONS)



EXPENDITURE ($ MILLIONS)



EXPENDITURE

In 2017/18, total (non-wage) expenditure by SA fishing, aquaculture and processing businesses was $324 million

80% of total initial expenditure by fisheries and associated seafood processing was local

90% of total initial expenditure by aquaculture and associated seafood processing was local

Major sectors receiving payments from SA fisheries, aquaculture and associated processing were:

- Professional Scientific and Technical Services
- Machinery and Equipment
- Food Products (Fish Feed)
- Government and Regulatory Services
- Wholesale Trade

Local expenditure excludes: wages, imports (i.e. diesel), indirect taxes (i.e. fuel excise), intra-industry purchases (i.e. fish for bait or processing) and items that represent a return to capital (i.e. quota leasing, insurance and interest). A margin was included for some of these items. Defining expenditure this way avoids overstating flow-on economic contributions.

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

	GROSS VALUE ADDED ($M)	EMPLOYMENT (FTE JOBS)	HOUSEHOLD INCOME ($M)	GVP ($M)
FISHING (SA MANAGED)				
DIRECT				
Fishing	175	1,296	81	268
Processing	28	358	14	73
INDIRECT (ALL OTHER SECTORS)[A]				
Production induced	84	828	60	—
Consumption induced	115	894	63	—
Total indirect	**199**	**1,722**	**123**	—
TOTAL[B]	**402**	**3,375**	**217**	**341**
FISHING (COMMONWEALTH MANAGED)				
DIRECT				
Fishing	22	273	12	52
Processing	5	70	3	14
INDIRECT (ALL OTHER SECTORS)[A]				
Production induced	24	244	18	—
Consumption induced	24	188	13	—
Total indirect	**48**	**432**	**31**	—
TOTAL[B]	**76**	**774**	**46**	**66**
AQUACULTURE				
DIRECT				
Production	67	670	31	67
Processing	21	268	10	55
INDIRECT (ALL OTHER SECTORS)[A]				
Production induced	68	699	46	—
Consumption induced	64	501	35	—
Total indirect	**132**	**1,200**	**81**	—
TOTAL[B]	**220**	**2,138**	**122**	**260**
FISHING AND AQUACULTURE TOTAL				
DIRECT				
Catch and Production	264	2,239	124	525
Processing	54	696	27	142
INDIRECT (ALL OTHER SECTORS)[A]				
Production induced	176	1,771	123	—
Consumption induced	204	1,582	111	—
Total indirect	**380**	**3,354**	**234**	—
TOTAL[B]	**698**	**6,288**	**385**	**667**

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

Source: PIRSA, BDO EconSearch (2019a-d,f-j,l), Bath et al. (2018) and BDO EconSearch analysis.

TECHNICAL SUMMARY

This is a summary of the economic contributions of South Australia's fisheries, aquaculture and associated processing industries to the South Australian economy. The full national report of economic estimates is the *Australian Fisheries and Aquaculture Industry 2017/18: Economic Contributions Estimates Report*.

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 South Australia to the South Australian economy.

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 where it occurs within South Australia. 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. Contributions of South Australian fisheries and aquaculture to the rest of Australia are also 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. Data was collected from primary sources (databases) and published sources, where available, for the individual fisheries/aquaculture sectors. This data included: wild catch/farm production, product prices, cost of production, licence fees, employment. Further information on data sources and validation is provided in the Australian Fisheries and Aquaculture Industry Economic Contributions – Data Framework.

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).

Fisheries or aquaculture sub-sectors excluded from the analysis due to lack of data are listed in Table 4.

MODEL APPROACH

The flow-on effects of State and Territory fisheries, Commonwealth fisheries and aquaculture sectors for each State or Territory 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

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.

APPENDIX 1
BACKGROUND DATA

TABLE 2: CATCH, PRODUCTION AND GVP OF THE TOP FIVE CONTRIBUTORS (BY GVP) TO SA COMMERCIAL FISHING AND AQUACULTURE IN 2017/18

RANK	DESCRIPTION	CATCH/ PRODUCTION (T)	GVP ($M)	VALUE PER UNIT ($/KG)
	FISHERIES (SA MANAGED)			
1	Rock Lobster	1,554	121	77.82
2	Prawn	2,578	51	19.85
3	Abalone	700	27	38.88
4	Sardine	43,293	26	0.61
5	Marine Scalefish Fishery	2,303	23	9.88
	Other fisheries	6,994	20	2.82
	Total wild caught	**57,422**	**268**	—
	FISHERIES (COMMONWEALTH MANAGED)			
1	Southern Bluefin Tuna	5,512	42	7.63
2	Southern and Eastern Scalefish and Shark (Great Australian Bight Trawl Sector)	1,936	10	5.12
	Total wild caught	**7,448**	**52**	—
	AQUACULTURE			
1	Tuna	8,000	126	15.75
2	Marine Finfish	2,487	30	12.01
3	Oysters	2,177	20	9.26
4	Abalone	399	14	35.69
5	Freshwater Finfish	390	5	13.51
	Other sectors	2,533	9	3.68
	Total Production	**15,986**	**205**	—

Source: PIRSA, ABARES and BDO EconSearch analysis.

TABLE 3: SA OVERSEAS SEAFOOD EXPORTS, TOP CONTRIBUTORS BY EXPORT VALUE, 2017/18

RANK	SEAFOOD CATEGORY [A]	EXPORT QUANTITY		EXPORT VALUE [B]		AVERAGE VALUE ($/KG)
		(TONNES)	(%)	($M)	(%)	
1	Southern bluefin tuna	8,040	75	115.0	48	14.3
2	Rock lobster	605	6	57.2	24	94.5
3	Abalone	411	4	34.1	14	83.1
4	Other fresh fish	673	6	12.9	5	19.1
5	Other frozen fish	290	3	5.2	2	18.0
6	Other molluscs	32	0	4.4	2	140.2
7	Shrimp & prawns	88	1	2.0	1	23.0
8	Mussels	235	2	1.9	1	8.1
9	Atlantic & pacific salmon	80	1	1.5	1	18.3
10	Oysters	94	1	1.2	0	12.4
	Other	130	1	2.1	1	15.9
	Total [C]	**10,678**	**100**	**237.5**	**100**	**22.2**

A Ranked by export value. Seafood categories are defined in Appendix 3, Australian Fisheries and Aquaculture Industry 2017/18: Economic Contributions Estimates Report (BDO 2019). The analysis of exports was based on a customised report from the ABS for *International Merchandise Trade, 2017-18*. Exports (quantity and FOB value) were reported by species/category for each State of origin. The State of origin is the State/Territory in which the final stage of production or manufacture occurs and may not be the State/Territory where the fish was caught/produced.

B Export values are in terms of Free on Board (FOB) values. FOB values exclude the cost of freight and merchandise insurance involved in shipping the goods beyond the place of export up to the customs frontier of the importing country.

C Totals may not sum due to rounding.

Source: ABS (2019) and BDO EconSearch analysis.

TABLE 4: SA FISHERIES AND AQUACULTURE SUB-SECTORS EXCLUDED FROM THE ANALYSIS

FISHERY	REASON FOR EXCLUSION
Nil	—

AQUACULTURE SUB-SECTOR	REASON FOR EXCLUSION
Nil	—

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

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