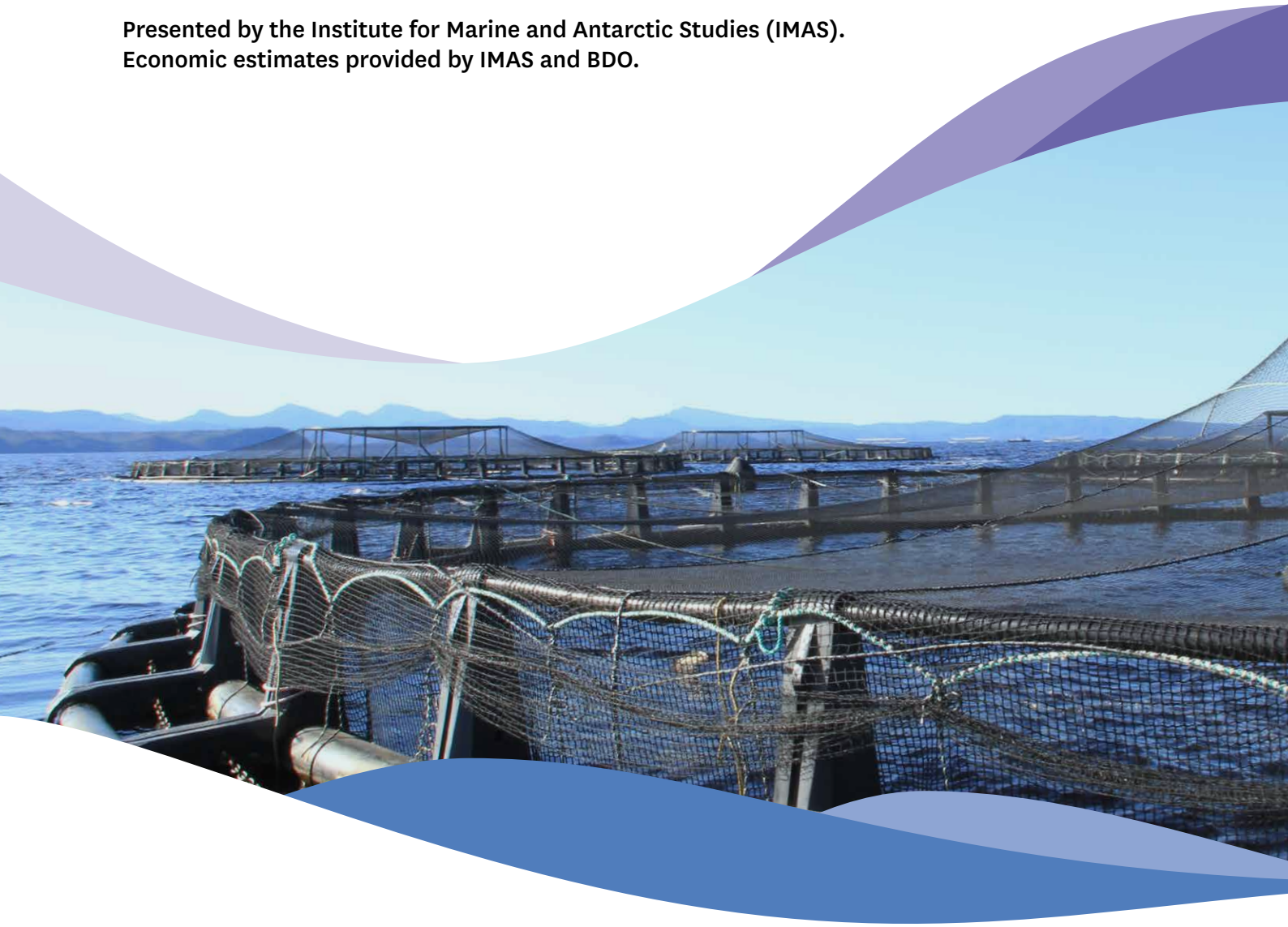
DECEMBER 2023

TASMANIAN FISHERIES AND AQUACULTURE INDUSTRY 2020/21: ECONOMIC CONTRIBUTIONS – KEY SECTORS

Presented by the Institute for Marine and Antarctic Studies (IMAS).
Economic estimates provided by IMAS and BDO.



UNIVERSITY of TASMANIA
IMAS
Institute for Marine and Antarctic Studies
BDO

ISBN 978-1-922708-61-8

Tasmanian Fisheries and Aquaculture Industry 2020/21: Economic Contributions Summary 2023

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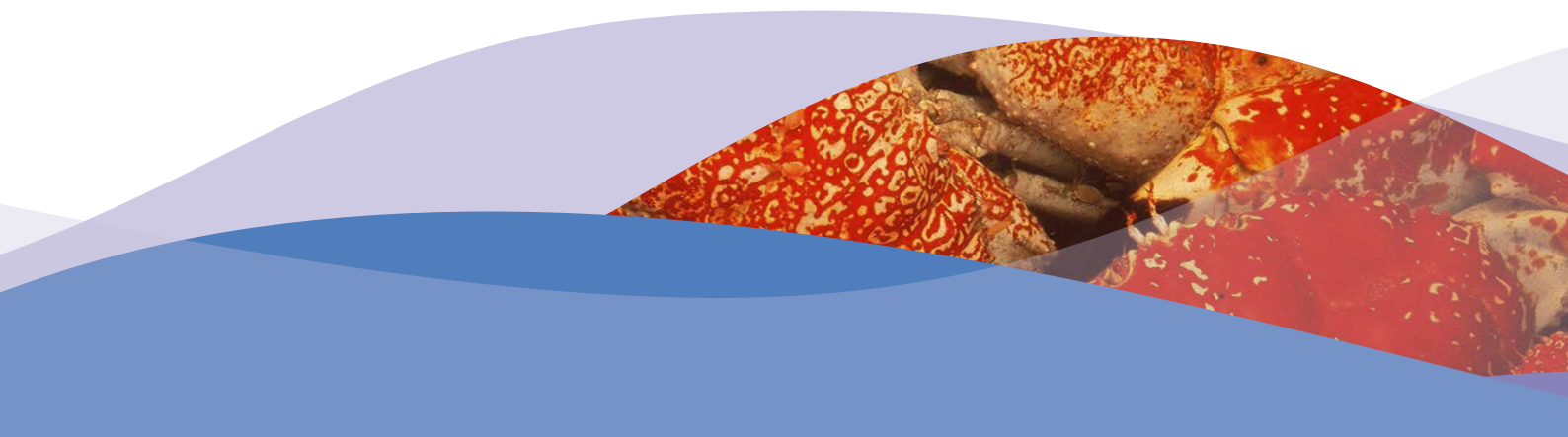
ACKNOWLEDGMENTS

BDO and IMAS have relied on the cooperation of data custodians at the Department of Natural Resources and the Environment, Tasmania.

DESIGN AND IMAGE CREDITS

Design: Stephanie Morison Design.
Images throughout: IMAS.



PREFACE

This report presents a summary of the economic contribution of six (6) key fisheries and aquaculture production sectors to the Tasmanian economy for the 2020/21 financial year:

— Tasmanian Rock Lobster Fishery
— Tasmanian Abalone Fishery
— Tasmanian Scalefish Fishery
— Tasmanian Salmonid Aquaculture
— Tasmanian Pacific Oyster Aquaculture
— Tasmanian Abalone Aquaculture

It details each of the above production sectors' contribution to the State economy for the 2020/21 financial year. The contribution of fish processing sectors and farm gate retail activity is not included.

This work was undertaken by the Institute for Marine and Antarctic Studies at the University of Tasmania in collaboration with BDO and builds on the foundations and approach set out in *2017/18 National Fisheries and Aquaculture Industry Contributions Study (FRDC project 2017-210)*.

Together with earlier assesssments, it provides a means of measuring and monitoring the contribution of Tasmania's seafood production activities to the economic prosperity and wellbeing of the Tasmanian community over time.

Estimates are based on the best available data and most appropriate methods given that data. Full results and discussion are provided in *Tasmanian Fisheries and Aquaculture Industry 2020/21: Economic Contributions Technical Report*.

Future work will expand this analysis to include other seafood and supply chain sectors (e.g., seafood processing).

This report considers the economic contribution of key fishery and aquaculture industries in Tasmania. Comparisons of these measures to economic contributions reported for recreational fisheries should not be made.

Generally speaking, the estimates of commercial fisheries are narrower in scope than those currently available for recreational fishing. Commercial fisheries estimates exclude flow-on activity in seafood processing, wholesaling and transportation, and in food services. This means the direct comparison of commercial estimates with any currently available recreational fishing results is not supported.

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FISHERIES PRODUCTION

TASMANIAN ROCK LOBSTER FISHERY PRODUCTION

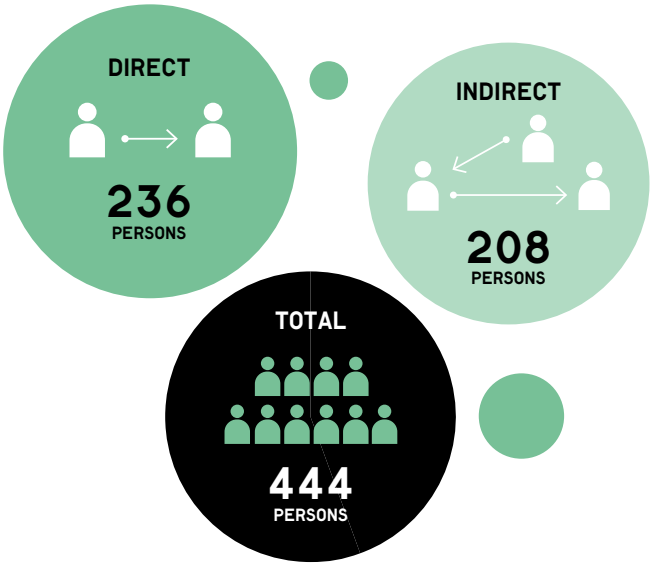
ECONOMIC CONTRIBUTION TO TASMANIA

In 2020/21, the Tasmanian Rock Lobster fishery contributed $51 million dollars (total GVA) to the Tasmanian economy.

$51 MILLION

TOTAL GVA

CONTRIBUTION TO EMPLOYMENT IN TASMANIA



Contribution to Employment is measured as the total number of persons engaged directly or indirectly in production from the sector. It does not reflect the prevalence of part time work or those with irregular hours.

ADDING VALUE

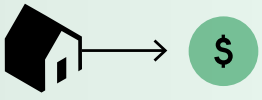
DIRECT GVA

$26.3 MILLION

FROM CATCH/PRODUCTION IN THE TASMANIAN ROCK LOBSTER FISHERY

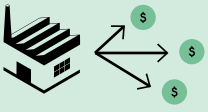
INDIRECT GVA

$24.6 MILLION



$14.2M

FROM HOUSEHOLD RE-SPENDING OF INCOME



$10.5M

FROM BUSINESS RE-SPENDING IN OTHER SECTORS

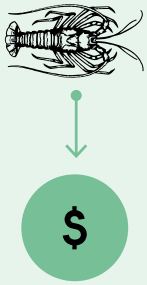
Gross Value Added (GVA) represents the value of all goods and services produced in an industry, minus the cost of all inputs and raw materials used to produce that good or service. It provides a measure of the net contribution of an activity to the State/Territory economies, excluding net taxes. **Note,** totals may not sum due to rounding.

HOUSEHOLD INCOME

TOTAL HOUSEHOLD INCOME

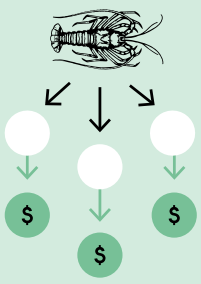
$26.9 MILLION

FROM THE TASMANIAN ROCK LOBSTER FISHERY



$12.9M

EARNED DIRECTLY AS INCOME BY FISHING HOUSEHOLDS



$14.0M

EARNED IN OTHER TAS HOUSEHOLDS AS A RESULT OF ROCK LOBSTER FISHING

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, employers' superannuation contributions and income tax, but excludes payroll tax. **Note,** totals may not sum due to rounding.

TASMANIAN ABALONE FISHERY PRODUCTION

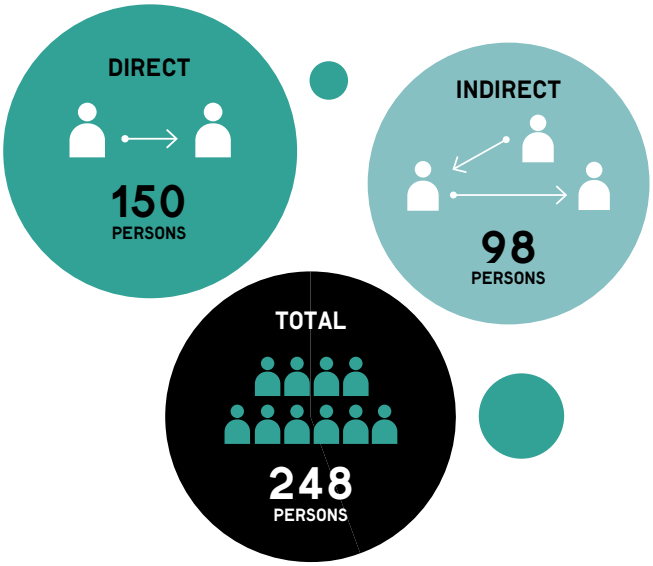
ECONOMIC CONTRIBUTION TO TASMANIA

In 2020/21, the Tasmanian Abalone fishery contributed $53 million dollars (total GVA) to the Tasmanian economy.

$53 MILLION

TOTAL GVA

CONTRIBUTION TO EMPLOYMENT IN TASMANIA



Contribution to Employment is measured as the total number of persons engaged directly or indirectly in production from the sector. It does not reflect the prevalence of part time work or those with irregular hours.

ADDING VALUE

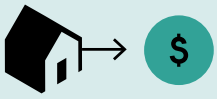
DIRECT GVA

$41.7 MILLION

FROM CATCH/PRODUCTION IN THE TASMANIAN ABALONE FISHERY

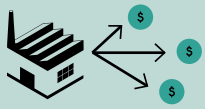
INDIRECT GVA

$11.4 MILLION



$7.0M

FROM HOUSEHOLD RE-SPENDING OF INCOME



$4.4M

FROM BUSINESS RE-SPENDING IN OTHER SECTORS

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. **Note,** totals may not sum due to rounding.

HOUSEHOLD INCOME

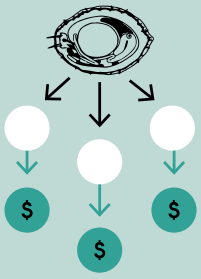
TOTAL HOUSEHOLD INCOME

$13.3 MILLION

FROM THE TASMANIAN ABALONE FISHERY

$6.5M*

EARNED DIRECTLY AS INCOME BY FISHING HOUSEHOLDS



$6.7M

EARNED IN OTHER TAS HOUSEHOLDS AS A RESULT OF ABALONE FISHING

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, employers' superannuation contributions and income tax, but excludes payroll tax. **Note,** totals may not sum due to rounding. ***Note,** imputed wage value for a small qty of unpaid quota holders' time (admin tasks related to quota owning) unaccounted for.

TASMANIAN SCALEFISH FISHERY PRODUCTION

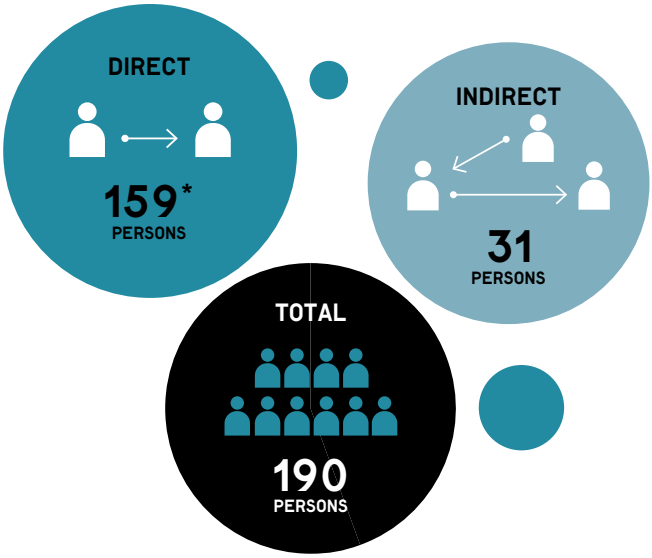
ECONOMIC CONTRIBUTION TO TASMANIA

In 2020/21, the Tasmanian Scalefish fishery contributed $6 million dollars (total GVA) to the Tasmanian economy.

$6 MILLION

TOTAL GVA

CONTRIBUTION TO EMPLOYMENT IN TASMANIA



Contribution to Employment is measured as the total number of persons engaged directly or indirectly in production from the sector. It does not reflect the prevalence of part time work or those with irregular hours. ***Note**, this fishery has a large number of operators who work primarily in other fisheries, and take occasional or incidental Scalefish catches.

ADDING VALUE

DIRECT GVA

$2.6 MILLION

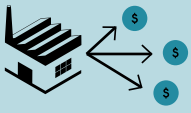
FROM CATCH/PRODUCTION IN THE TASMANIAN SCALEFISH FISHERY

INDIRECT GVA

$3.6 MILLION

$2.1M

FROM HOUSEHOLD RE-SPENDING OF INCOME



$1.5M

FROM BUSINESS RE-SPENDING IN OTHER SECTORS

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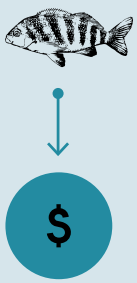
HOUSEHOLD INCOME

TOTAL HOUSEHOLD INCOME

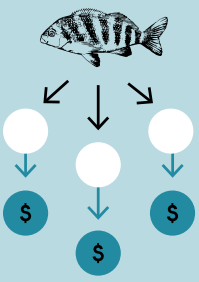
$3.9 MILLION

FROM THE TASMANIAN SCALEFISH FISHERY



$1.8M

EARNED DIRECTLY AS INCOME BY FISHING HOUSEHOLDS



$2.1M

EARNED IN OTHER TAS HOUSEHOLDS AS A RESULT OF SCALEFISH FISHING

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, employers' superannuation contributions and income tax, but excludes payroll tax. **Note,** totals may not sum due to rounding.

AQUACULTURE PRODUCTION

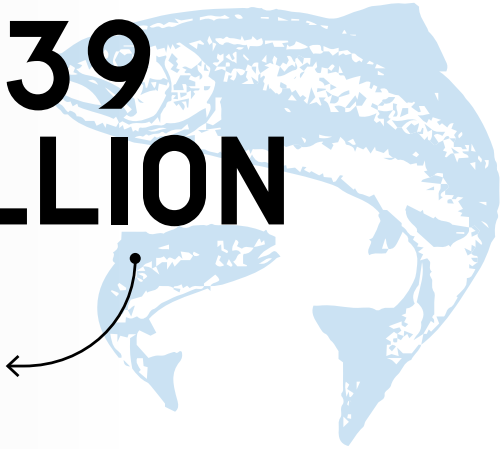
TASMANIAN SALMONID AQUACULTURE PRODUCTION*

ECONOMIC CONTRIBUTION TO TASMANIA

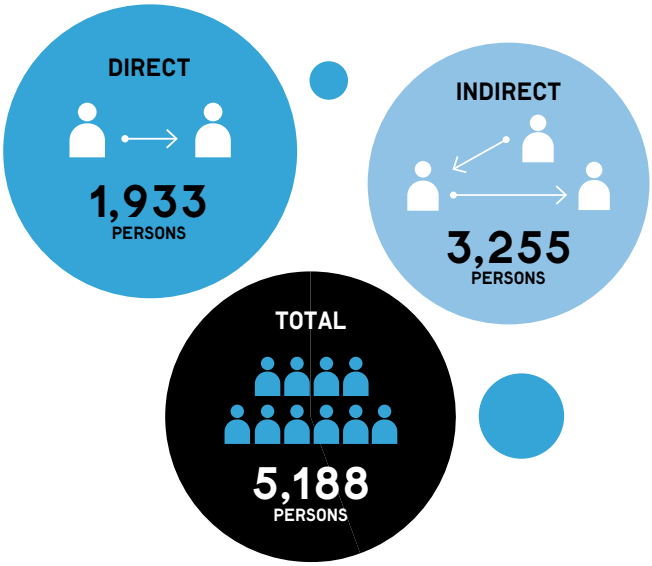
In 2020/21, the Tasmanian Salmonid aquaculture contributed $639 million dollars (total GVA) to the Tasmanian economy.

$639 MILLION

TOTAL GVA



CONTRIBUTION TO EMPLOYMENT IN TASMANIA



Contribution to Employment is measured as the total number of persons engaged directly or indirectly in production from the sector. It does not reflect the prevalence of part time work or those with irregular hours.

ADDING VALUE

DIRECT GVA

$242.9 MILLION

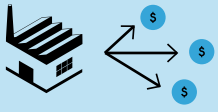
FROM PRODUCTION IN TASMANIAN SALMONID AQUACULTURE

INDIRECT GVA

$395.6 MILLION

$181.9M

FROM HOUSEHOLD RE-SPENDING OF INCOME



$213.7M

FROM BUSINESS RE-SPENDING IN OTHER SECTORS

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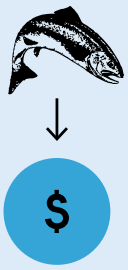
HOUSEHOLD INCOME

TOTAL HOUSEHOLD INCOME

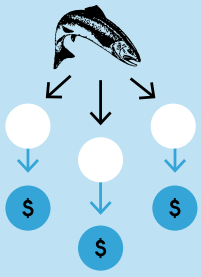
$346.1 MILLION

FROM TASMANIAN SALMONID AQUACULTURE



$127.1M

EARNED DIRECTLY AS INCOME BY FISHING HOUSEHOLDS



$219.0M

EARNED IN OTHER TAS HOUSEHOLDS AS A RESULT OF SALMONID AQUACULTURE

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, employers' superannuation contributions and income tax, but excludes payroll tax. **Note,** totals may not sum due to rounding.

*These estimates rely on secondary data and data matching methods. Provision of primary data from industry would improve the accuracy of these estimates.

TASMANIAN PACIFIC OYSTER AQUACULTURE PRODUCTION

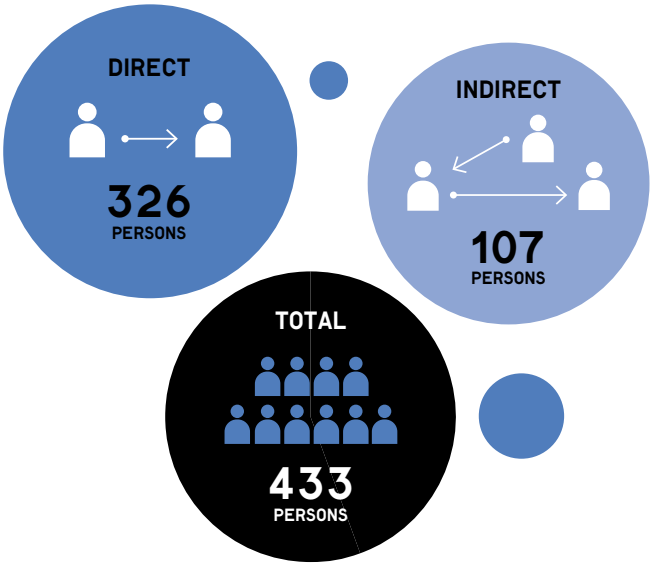
ECONOMIC CONTRIBUTION TO TASMANIA

In 2020/21, Tasmanian Pacific Oyster aquaculture contributed $42 million dollars (total GVA) to the Tasmanian economy.

$42 MILLION

TOTAL GVA

CONTRIBUTION TO EMPLOYMENT IN TASMANIA



Contribution to Employment is measured as the total number of persons engaged directly or indirectly in production from the sector. It does not reflect the prevalence of part time work or those with irregular hours.

ADDING VALUE

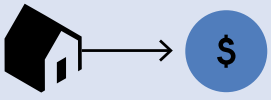
DIRECT GVA

$29.9 MILLION

FROM PRODUCTION IN TASMANIAN PACIFIC OYSTER AQUACULTURE

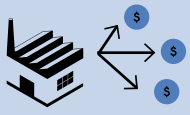
INDIRECT GVA

$12.4 MILLION



$8.1M

FROM HOUSEHOLD RE-SPENDING OF INCOME



$4.3M

FROM BUSINESS RE-SPENDING IN OTHER SECTORS

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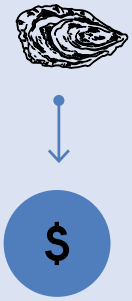
HOUSEHOLD INCOME

TOTAL HOUSEHOLD INCOME

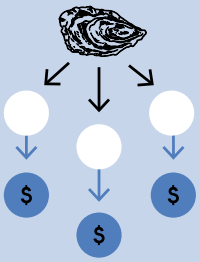
$15.5 MILLION

FROM TASMANIAN PACIFIC OYSTER AQUACULTURE



$8.8M

EARNED DIRECTLY AS INCOME BY FISHING HOUSEHOLDS



$6.7M

EARNED IN OTHER TAS HOUSEHOLDS AS A RESULT OF PACIFIC OYSTER AQUACULTURE

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, employers' superannuation contributions and income tax, but excludes payroll tax. **Note,** totals may not sum due to rounding.

TASMANIAN ABALONE AQUACULTURE PRODUCTION

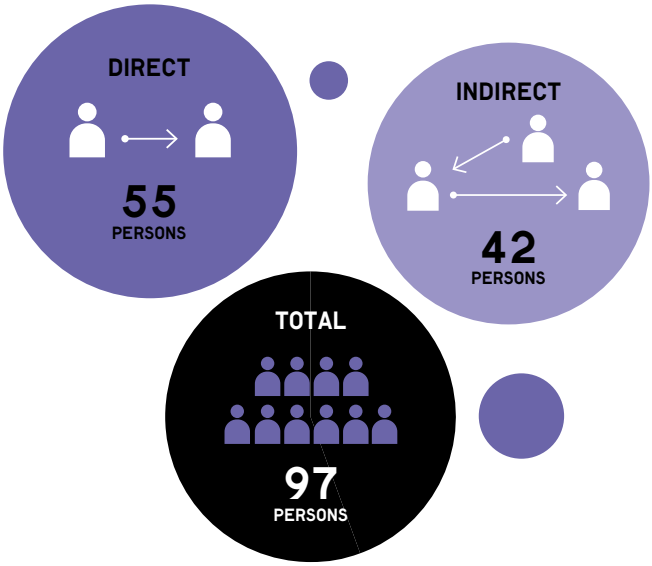
ECONOMIC CONTRIBUTION TO TASMANIA

In 2020/21, Tasmanian Abalone aquaculture contributed $11 million dollars (total GVA) to the Tasmanian economy.

$11 MILLION

TOTAL GVA

CONTRIBUTION TO EMPLOYMENT IN TASMANIA



Contribution to Employment is measured as the total number of persons engaged directly or indirectly in production from the sector. It does not reflect the prevalence of part time work or those with irregular hours.

ADDING VALUE

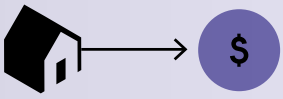
DIRECT GVA

$5.3 MILLION

FROM PRODUCTION IN TASMANIAN ABALONE AQUACULTURE

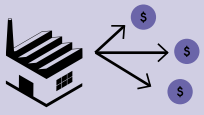
INDIRECT GVA

$5.2 MILLION



$3.2M

FROM HOUSEHOLD RE-SPENDING OF INCOME



$2.0M

FROM BUSINESS RE-SPENDING IN OTHER SECTORS

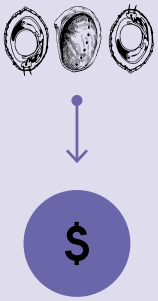
Gross Value Added (GVA) represents the value of all goods and services produced in an industry, minus the cost of all inputs and raw materials used to produce that good or service. It provides a measure of the net contribution of an activity to the State/Territory economies, excluding net taxes. **Note,** totals may not sum due to rounding.

HOUSEHOLD INCOME

TOTAL HOUSEHOLD INCOME

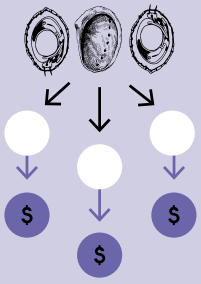
$6.2 MILLION

FROM TASMANIAN ABALONE AQUACULTURE



$3.5M

EARNED DIRECTLY AS INCOME BY FISHING HOUSEHOLDS



$2.7M

EARNED IN OTHER TAS HOUSEHOLDS AS A RESULT OF ABALONE AQUACULTURE

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, employers' superannuation contributions and income tax, but excludes payroll tax. **Note,** totals may not sum due to rounding.

TABLE 1. ECONOMIC CONTRIBUTION OF TASMANIAN COMMERCIAL FISHING AND AQUACULTURE PRODUCTION TO TASMANIA, 2020/21

		GROSS VALUE ADDED ($M)	EMPLOYMENT (NO. PERS.)	HOUSEHOLD INCOME ($M)	REVENUE ($M)
TASMANIAN ROCK LOBSTER FISHERY	**DIRECT**				
	Fishing	26.3	236	12.9	45.8
	INDIRECT (ALL OTHER SECTORS)				
	Production induced	10.5	89	7.1	—
	Consumption induced	14.2	119	6.9	—
	Total indirect	**24.6**	**208**	**14.0**	—
	TOTAL^	**50.9**	**444**	**26.9**	**—**
TASMANIAN ABALONE FISHERY	**DIRECT**				
	Fishing	41.7	150	6.5	48.8
	INDIRECT (ALL OTHER SECTORS)				
	Production induced	4.4	40	3.3	—
	Consumption induced	7.0	59	3.4	—
	Total indirect	**11.4**	**98**	**6.7**	—
	TOTAL^	**53.1**	**248**	**13.3**	**—**
TASMANIAN SCALEFISH FISHERY	**DIRECT**				
	Fishing	2.6	159	1.8	6.0
	INDIRECT (ALL OTHER SECTORS)				
	Production induced	1.5	14	1.1	—
	Consumption induced	2.1	17	1.0	—
	Total indirect	**3.6**	**31**	**2.1**	—
	TOTAL^	**6.3**	**190**	**3.9**	**—**
TASMANIAN SALMONID AQUACUTLURE	**DIRECT**				
	Aquaculture	242.9	1,933	127.1	667.6
	INDIRECT (ALL OTHER SECTORS)				
	Production induced	213.7	1,729	130.7	—
	Consumption induced	181.9	1,526	88.3	—
	Total indirect	**395.6**	**3,255**	**219.0**	—
	TOTAL^	**638.5**	**5,188**	**346.1**	**—**
TASMANIAN PACIFIC OYSTER AQUACUTLURE	**DIRECT**				
	Aquaculture	29.9	326	8.8	38.2
	INDIRECT (ALL OTHER SECTORS)				
	Production induced	4.3	39	2.7	—
	Consumption induced	8.1	68	3.9	—
	Total indirect	**12.4**	**107**	**6.7**	—
	TOTAL^	**42.3**	**433**	**15.5**	**—**
TASMANIAN ABALONE AQUACUTLURE	**DIRECT**				
	Aquaculture	5.3	55	3.5	9.3
	INDIRECT (ALL OTHER SECTORS)				
	Production induced	2.0	15	1.1	—
	Consumption induced	3.2	27	1.6	—
	Total indirect	**5.2**	**42**	**2.7**	—
	TOTAL^	**10.5**	**97**	**6.2**	**—**

^ Totals may not sum due to rounding.

TECHNICAL SUMMARY

This is a summary of the economic contributions of Tasmania's fisheries and aquaculture industries to the Tasmanian economy. Full results and discussion are provided in *Tasmanian Fisheries and Aquaculture Industry 2020/21: Economic Contributions Technical Report*.

SCOPE

The estimates reported include economic contributions of commercial fishing production activity and aquaculture production activity.

These estimates are for economic contributions of these activities in Tasmania to the Tasmanian 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 either locally produced or imported seafood is excluded. The analysis relates to the primary production units only (i.e., the harvesting or farming activities).**

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.

The contributions of Tasmanian fisheries and aquaculture to the rest of Australia are outside the scope of this report.

DATA

Best available data for 2020/21 was used to produce estimates of industry total revenue, and of direct employment, GVA, GSP/GDP and household income. Data was collected from primary sources (databases and surveys) 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 is provided in the *Tasmanian Fisheries and Aquaculture Industry 2020/21: Economic Contributions Technical Report*.

MODEL APPROACH

The flow-on effects of each fishery and aquaculture sector in this report were estimated using input-output (IO) analysis. An extended input-output model known as the RISE model (Regional Industry Structure and Employment) was developed by BDO Pty Ltd for this analysis. The model describes the interlinkages between different industries and different types of economic activity in Tasmania's economy.

LIMITATIONS

The main limitations are due to data gaps and issues with data quality for some sectors. Limited data was available to estimate the contributions of the processing sector, and as such the estimates for this sector have been omitted from the current report. 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.

Likewise, the provision of primary data for the Tasmanian Salmonid Aquaculture sector would improve accuracy so those results.

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 sector), 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) should not be made. 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 would require further knowledge to determine how inputs would be redeployed in the economy by other sectors where commercial fishing is no longer occurring, and how recreational fishers would spend their discretionary income on substitutable activities were they not able to recreationally catch fish.

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

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