



ECONOMIC AND SOCIAL INDICATORS FOR THE SOUTH AUSTRALIAN LAKES AND COORONG FISHERY 2021/22

A Report for the Department of
Primary Industries and Regions

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Prepared by

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ABBREVIATIONS

ABS	Australian Bureau of Statistics
CPI	Consumer Price Index
fte	full time equivalent
GPCo	Goolwa Pipico
GRP	gross regional product
GSP	gross state product
GVP	gross value of production
KI	Kangaroo Island
LCFMAC	Lakes and Coorong Fishery Management Advisory Committee
LNFS	Long-nosed fur seal
MSC	Marine Stewardship Council
NER	net economic return
PIRSA	Department of Primary Industries and Regions
R&M	repairs and maintenance
RBA	Reserve Bank of Australia
SA	South Australia
SARDI	South Australian Research and Development Institute
SASQAP	South Australian Shellfish Quality Assurance Program
SFA	Southern Fishermen's Association
TACC	total allowable commercial catch

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Estimation of economic indicators for the Lakes and Coorong Fishery for 2002/03 to 2004/05 are based on the analysis undertaken for the Southern Fishermen's Association (SFA), and presented in the report Lakes and Coorong Fishery: "Wild Fisheries with a Future", Current Economic Value and Value-Adding Opportunities, Final Report (EconSearch 2004), funded by the Commonwealth Department of Transport and Regional Services' Regional Assistance Program. In the preparation of economic indicators for the period 2005/06 to 2021/22, BDO EconSearch relied heavily on the voluntary cooperation of fishing operators in providing data for the 2006, 2010, 2013, 2016, 2018 and 2021 surveys. The input, guidance and support provided by members of the SFA and by members of the Goolwa Pipico (GPCo) is greatly appreciated. BDO EconSearch is indebted to various individuals and institutions for providing necessary information. PIRSA and SARDI Aquatic Sciences officers provided assistance, were supportive of data collection and offered valuable advice.

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EXECUTIVE SUMMARY

The objective of this report is to present a set of economic and social performance indicators for the Lakes and Coorong Fishery for 2021/22 as well as to develop a consistent time series of economic and social information to aid management of the fishery in future years. The economic and social indicators detailed in this report are summarised below.

Economic Performance Indicators

Specific strategies and performance indicators relating to the economic objectives outlined in the management plan are detailed in Table ES-1. These performance indicators are presented against the reference points, also outlined in the management plan, and the three-year trend in results. A summary of key economic indicators is presented in Table ES-2.

Table ES-1 Lakes and Coorong Fishery performance indicators, reference points and three year trend

Performance Indicator	Reference Points	3 Year Trends (2018/19 to 2021/22)
1. Contribution of fisheries to the local economic and social activity	A downward trend in employment, expenditure and community support activities over a three year period	<p>Upward trend in employment in SA (up 25 per cent since 2018/19)</p> <p>Unclear trend in real expenditure by fishers and downstream suppliers in SA (down 1 per cent since 2018/19)</p> <p>Downward trend in community support activities (down from a total of 913 to 489 hours per month between the 2018 and 2021 surveys)</p>
2. Key economic indicators: rate of return on capital	A declining trend in economic indicators over a three year period	<p>Downward trend in rate of return on total boat capital (from 26 per cent in 2018/19 to 13 per cent in 2021/22)</p> <ul style="list-style-type: none"> Downward trend for Net and Pipi fishers from 29 per cent in 2018/19 to 15 per cent in 2021/22 Downward trend for net only fishers from -4.3 per cent in 2018/19 to -7.1 per cent in 2021/22
3. Documentation of fisheries management decision-making process	The process by which fisheries management decisions will be made is clearly documented and accessible to all stakeholders; and this documented process has been followed in all decision making	<p>Over 60% of surveyed fishers in 2021 agreed that the information produced by PIRSA and by the LCFMAC is easy to access and to understand</p> <p>56% of surveyed fishers in 2021 agreed with the statement: <i>I understand how decisions about fisheries management are made</i></p> <p>76% of surveyed fishers in 2021 agreed with the statement: <i>If I want to have a say in the management of the fishery I know how</i></p>

Performance Indicator	Reference Points	3 Year Trends (2018/19 to 2021/22)
4. The level of fishers trust / confidence in PIRSA Fisheries and Aquaculture	The proportion of fishers indicating they don't trust the fisheries management agency is <50%, and stable or continuing to decline	44% of surveyed fishers in 2021 disagreed with the statement: <i>I have a high level of trust in the management of the fishery</i>
5. Proportion of fishers who believe that, overall, most fishers comply with fishing rules (fisher survey)	Fishers agree that it is easy to comply with fishing rules and regulations	88% of surveyed fishers in 2021 agreed with the statement: <i>It is easy to comply with rules and regulations</i>
Extent fishers accurately understand regulations (fisher survey)		71% of surveyed fishers in 2021 agreed with the statement: <i>Fishing rules and regulations are easy to understand</i>
Fishers find it easy to comply with fishing rules and regulations (fishery survey)		94% of surveyed fishers in 2021 agreed with the statement: <i>Most fishers comply with fishing rules and regulations</i>

Table ES-2 Summary of key economic indicators, 2018/19 to 2021/22 ^a

Indicator	2018/19	2019/20	2020/21	2021/22
Catch	1,861t	1,978t	1,926t	1,562t
GVP	\$14.4m	\$14.0m	\$14.6m	\$12.4m
Fee/licence ^b	\$12,845	\$19,350	\$20,807	\$18,107
Fee/GVP	3.2%	5.0%	5.1%	5.3%
Return on fishing gear and equip	216.5%	215.9%	69.7%	56.2%
Return on total capital	26.3%	25.7%	15.8%	13.4%
Licence Value	\$1.5m	\$1.4m	\$1.6m	\$1.4m
Gross state product	\$24.0m	\$26.3m	\$27.2m	\$23.0m
Employment	176 fte	200 fte	238 fte	220 fte
Net Economic Return	\$9.6m	\$9.3m	\$7.1m	\$5.3m
Net Economic Return/GVP	66.4%	66.2%	48.5%	42.7%

^a Dollar values in this table are in real 2021/22 dollars.

^b Excludes net fees of an average of \$4,651 per licence in 2017/18, \$5,334 per licence in 2018/19 and \$2,820 per licence in 2019/20 waived by PIRSA.

Catch and Gross Value of Production

Total catch in the fishery fluctuated between 2002/03 and 2021/22 but decreased overall by 21 per cent due to a significant fall in 2021/22. The key species that saw decreases in 2021/22 in catch were Yellow-Eye Mullet and European Carp. The fluctuations in catch were partly attributed, according to the 2016, 2018 and 2021 survey respondents, to the expansion of the Long-nosed fur seal population in the fishery. This decrease was however, slightly offset by the increase in Pipi catch in these years.

Despite fluctuations, the value of catch in the Lakes and Coorong Fishery increased overall between 2002/03 and 2021/22. The overall increase in real GVP (74 per cent) was attributable to the increase in price over the period, as total catch fell.

The average annual price of most Lakes and Coorong Fishery species has trended upwards from 2002/03 to 2021/22. The 252 per cent increase in nominal weighted average price of Lakes and Coorong Fishery species over this period was equivalent to a 121 per cent rise in the real price.

Management Costs

Licence fees as a percentage of GVP increased between 2002/03 (4.1 per cent) and 2014/15 (9.1 per cent) but have fallen since (5.3 per cent in 2021/22). The increase was due to aggregate licence fees increasing at a faster rate than GVP. This measure declined between 2015/16 and 2018/19 due to fee relief but has remained at lower levels than previously after the fee relief ceased.

The average real (2021/22 dollars) management cost per licence holder has trended upward from \$7,972 in 2002/03 to \$18,107 in 2021/22, despite a decrease in this trend over the years of fee relief. Management fees for the whole fishery almost doubled between 2007/08 and 2021/22 principally due to the introduction of the Pipi quota system.

Financial Performance Indicators

Over the period 2002/03 to 2021/22, the total number of licence holders decreased marginally (from 37 to 36). Accordingly, changes in the average income per licence holder are closely tied to the total GVP for the fishery. The average real income per license holder has increased between 2002/03 from \$211,000 to \$468,000. However, since 2018/19 average license holder real income has decreased by 23 per cent. In 2021/22, the average income per licence holder was approximately \$853,000 for fishers who took Pipi and \$124,000 for net only fishers.

In each year of analysis, labour costs have accounted for the largest share of total cash costs. Other significant cash costs are licence fees, fuel, and office admin.

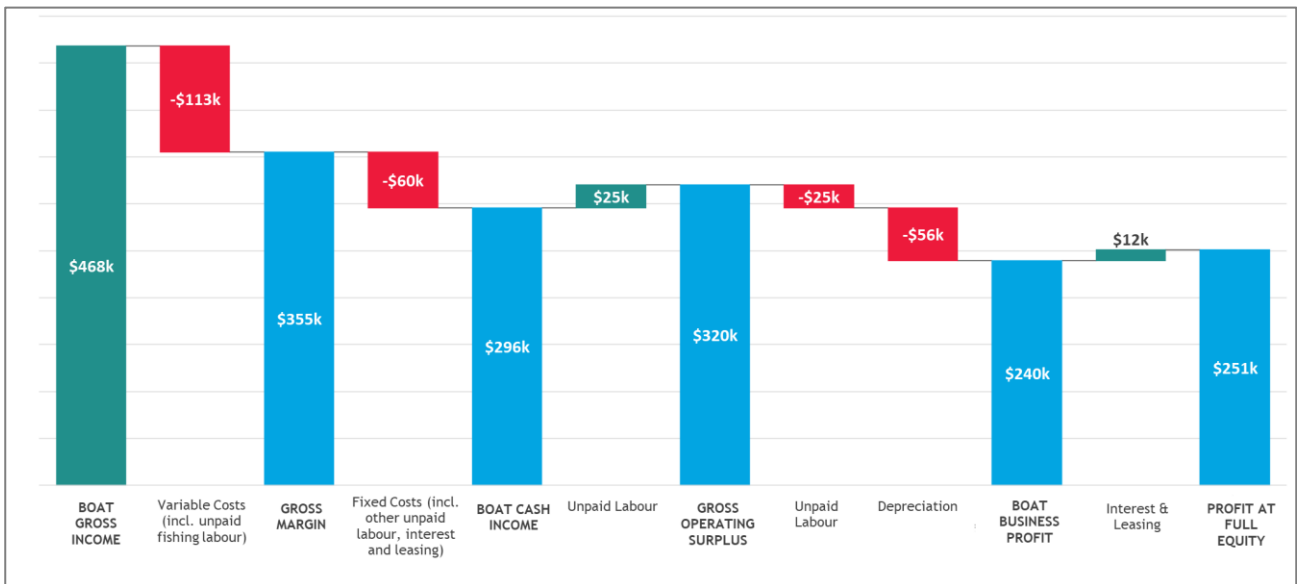
Between 2002/03 and 2021/22 the average price of Lakes and Coorong Fishery species increased by approximately 121 per cent in real terms. The average cost of catching Lakes and Coorong Fishery species increased, resulting in the overall average cost per kilogram increasing between 2002/03 and 2021/22 by approximately 23 per cent in real terms.

Profits followed an increasing trend between 2002/03 and 2018/19, however the historically low profits in 2009/10 and 2010/11, driven by a fall in price, highlight the exposure of the fishery to price fluctuations. Between 2018/19 and 2021/22 profitability has trended downward, due to a combination of increased investment in the fishery and decreased catch. A summary of boat level financial performance is illustrated in Figure ES-1 for 2021/22.

Since 2013/14 the profitability of the net only and Pipi sectors of the fishery are increasingly divergent. Measures of profit are increasing for Pipi fishers and decreasing for net only fishers. Even though the costs for businesses which fish for Papis are much higher, the incomes are relatively higher still. This results in higher profits for Pipi fishers while net only fishers have become relatively unprofitable.

The average return on fishing gear and equipment and on total capital generally followed an increasing trend between 2002/03 and 2021/22, despite significant falls in 2009/10, 2014/15, 2020/21 and 2021/22. This decrease in 2020/21 was mainly attributable to the significant increase in total fishing gear and equipment capital value and an increase in licence value. The substantial increase in the investment of capital for Pipi fishers observed in the 2021 survey is likely due to the high profitability of the Lakes and Coorong Fishery in recent years. The recent increase in investment for net fishers is likely due to the replacement of capital required as a result of the damage caused by Long-nosed fur seals. The fall in 2021/22 is due to a decrease in total catch.

Figure ES-1 Summary of boat level financial performance in the Lakes and Coorong Fishery, 2021/22



Contribution to South Australian Economy

The changes in total output and GSP contributions are closely related to changes in price and fishery GVP. In 2021/22 the fishery’s contribution to GSP was estimated to be \$23.0 million, \$9.9 million generated by fishing directly, \$2.9 million generated by downstream activities and \$10.2 million generated indirectly in other sectors in the economy.

Both direct employment and indirect employment increased between 2002/03 and 2021/22 with fluctuations. The estimated total employment attributed to the fishery in 2021/22 was 220 fte jobs: 109 fte jobs generated by fishing directly, 35 fte jobs in downstream activities and a further 76 fte jobs generated indirectly in other sectors in the economy.

Net Economic Return

Net economic return is the return from a fishery after all costs have been met. It is equal to fishing revenue less fishing costs (cost of labour, capital including depreciation, materials and an allowance for “normal” profit). Despite fluctuations, real net economic return has increased from \$249,000 in 2002/03 to around

\$5.3 million in 2021/22. The low net economic return in 2009/10 (-\$164,000) and 2010/11 (-\$27,000) was a result of the fall in fishery income resulting from particularly adverse environmental conditions (low water and high salinity).

Between 2019/20 and 2020/21, the decrease in net economic return was mainly a result of increased depreciation (193 per cent) and opportunity cost of capital (168 per cent). As explained above, total investment in capital rose significantly across the fishery in 2020/21. Therefore, the depreciation and opportunity cost also increased in 2020/21. Although these two factors had a negative impact on net economic return in 2020/21, it is expected that the additional investment in capital will result in higher revenue and therefore increased net economic return in upcoming years. The further decrease in 2021/22 is due to a significant fall in total catch.

Net economic return expressed as a percentage of GVP is a useful indicator for analysing the economic efficiency of a fishery over time and for comparing different fisheries. Despite fluctuations this indicator showed an overall increase between 2002/03 and 2020/21, from 3 per cent in 2002/03 to 43 per cent in 2021/22. The Lakes and Coorong Fishery had one of the highest rent/GVP ratios of all SA commercial fisheries in 2021/22.

Despite catch decreasing, GVP and rent have been steadily growing due to the shift to highly profitable Pipi harvesting. The high rents in the Pipi fishery are unusual in SA because they are substantially entrepreneurial rather than scarcity rents and arose from investment in marketing to domestic human consumption.

1. INTRODUCTION

All the major fisheries in South Australia (SA) operate in accordance with fishery management plans that determine the primary management objectives of the fishery. This report is based on objectives and performance indicators from the management plan in place during the 2021/22 financial year, *Management Plan for the South Australian Commercial Lakes and Coorong Fishery* (PIRSA 2022). Economic and social performance indicators are a feature of these plans and annual reports on them are required by the Minister for Primary Industries and Regional Development to meet the obligations of Section 7 of the *Fisheries Management Act 2007*.

This report, *Economic and Social Indicators for the Lakes and Coorong Fishery, 2021/22*, is the twentieth detailed economic indicators report prepared for the Lakes and Coorong Fishery. The objective of this report is to provide an update of the fishery's most recent economic and social performance based on the seventh licence holder survey undertaken in 2021. This survey was the third to collect data on social indicators. For earlier years (1997/98 to 2001/02), a limited number of economic indicators for the Lakes and Coorong Fishery were prepared in conjunction with the River Murray Commercial Fishery.

This analysis was carried out for the 2021/22 financial year. The aim of this series of studies is to present a set of economic and social performance indicators for the fishery as well as to develop a consistent time series of economic and social information to aid management of the fishery in future years. The economic indicators detailed in this report include:

- gross value of production (catch and price)
- the cost of management of the fishery
- financial performance indicators (income, costs, profit and return on investment)
- the economic contribution of the fishery, both local and state
- net economic return
- external factors that influence the economic condition of the fishery

For purposes of comparison, summary economic indicators for all South Australian commercial fisheries, up to 2020/21, are presented in Appendix 5.

In 2014, the economic indicator surveys of commercial fisheries were extended to include the collection of social indicators. The results of the social indicators component of the 2016, 2018, 2021 surveys are presented in BDO EconSearch (2022a).

2. METHOD OF ANALYSIS AND DEFINITION OF TERMS

2.1. Survey of Licence Holders, 2020/21

The questionnaire for the survey of licence holders in 2021 was based on the survey conducted in 2018. The questionnaire was drafted by BDO EconSearch and subsequently modified after consultation with members of the Southern Fishermen's Association (SFA) and Goolwa Pipico (GPCo). The sampling frame for the survey included all licence holders in the Lakes and Coorong Fishery (36 licences in total). The time period for which information was sought was the 2020/21 financial year.

Licence holders were sent an introductory letter from BDO EconSearch outlining the project and seeking their support. Licence holders were then contacted to undertake the survey via telephone interviews.

Twenty usable responses were collected from licence holders which represented fifty six per cent of the licences in the fishery. Sixteen licence holders did not provide a response to the survey for the following reasons:

- could not be contacted
- were unable or unwilling to provide sufficient detail about their fishing operations to make the survey data useable.

2.2. Updating the Indicators, 2021/22

The 2021/22 economic indicators for the SA Lakes and Coorong Fishery were derived using a range of primary and secondary data and the survey-based 2020/21 indicators. The following information was used to adjust the 2020/21 indicators to reflect the fisheries' performance in 2021/22.

- SARDI data were used to reflect changes in catch and its value between 2020/21 and 2021/22. Catch and value data were used to estimate the average total boat income in the fisheries.
- Information on change in fishing effort (number of days fished) between 2020/21 and 2021/22 was used to adjust the cost of inputs that were assumed to vary with fishing effort. These inputs included fuel, repairs and maintenance, ice and provisions.
- The consumer price index (CPI) for Adelaide and components of the CPI were used to adjust the cost of inputs to reflect local levels of inflation (ABS 2022a).

2.3. Definition of Terms¹

Total Boat Income (TBI): refers to the cash receipts received by an individual firm and is expressed in dollar terms. Total boat income is calculated as catch (kg) multiplied by 'beach price' (\$/kg). Total boat income is the contribution of an individual licence holder to the GVP of a fishing sector or fishery.

Total Boat Variable Costs: are costs which are dependent upon the level of catch or, more commonly, the amount of time spent fishing. As catch or fishing time increases, variable costs also increase. Variable costs are measured in current dollar terms and include the following individual cost items:

- fuel, oil and grease for the boat (net of diesel fuel rebate)
- bait

¹ Where possible definitions have been kept consistent with those used by Brown (1997) in ABARE's Australian Fisheries Surveys Report.

- ice
- provisions
- crew payments
- fishing equipment, purchase and repairs (nets, pots, lines, etc.)
- repairs & maintenance: ongoing (slipping, painting, overhaul motor).

Boat Gross Margin: is defined as *Total Boat Income less Total Boat Variable Costs*. This is a basic measure of profit which assumes that capital has no alternative use and that as fishing activity (days fished) varies there is no change in capital or fixed costs.

Total Boat Fixed Costs: are costs that remain fixed regardless of the level of catch or the amount of time spent fishing. As such these costs, measured in current dollar terms, are likely to remain relatively constant from one year to the next. Examples of fixed cost include:

- insurance
- licence and industry fees
- office & business administration (communication, stationery, accountancy fees)
- interest on loan repayments and overdraft
- leasing.

Total Boat Cash Costs (TBCC): defined as *Total Boat Variable Costs plus Total Boat Fixed Costs*

Gross Operating Surplus: (GOS) is defined as *Total Boat Income less Total Boat Cash Costs* and is expressed in current dollar terms. GOS may be used interchangeably with the term Gross Boat Profit. A GOS value of zero represents a breakeven position for the business, where TBCC equals TBCR. If GOS is a negative value the firm is operating at a cash loss and if positive the firm is making a cash profit. GOS does not include a value for owner/operator wages, unpaid family work, or depreciation.

Owner-operator and Unpaid Family Labour: in many fishing businesses there is a component of labour that does not draw a direct wage or salary from the business. This will generally include owner/operator labour and often also include some unpaid family labour. The value of this labour needs to be accounted for which involves imputing a labour cost based on the amount of time and equivalent wages rate. In the above calculations this labour cost can be included simply as another cost so that Gross Operating Surplus takes account of this cost. Alternatively, it can be deducted from GOS to give a separate indicator called Boat Cash Income. Owner-operator and unpaid family labour is separated into variable labour (fishing and repairs and maintenance) and overhead labour (management and administration).

Boat Cash Income: is defined as Gross Operating Surplus less imputed wages for owner- operator and unpaid family labour.

Boat Capital: includes capital items that are required by the licence holder to earn the boat income. It includes boat hull, engine, electronics and other permanent fixtures and tender boats. Other capital items such as motor vehicles, sheds, cold-rooms, and jetty/moorings can be included to the extent that they are used in the fishing business. The fishing licence/permit value is included in total boat capital.

Depreciation: Depreciation refers to the annual reduction in the value of boat capital due to general wear and tear or the reduction in value of an item over time.

Boat Business Profit: is defined as *GOS less Depreciation less Owner-operator and Unpaid Family Labour*. Boat Business Profit represents a more complete picture of the actual financial status of an individual firm, compared with GOS, which represents the cash in-cash out situation only.

Profit at Full Equity: is calculated as *Boat Business Profit plus rent, interest and lease payments*. Profit at Full Equity represents the profitability of an individual licence holder, assuming the licence holder has full equity in the operation, i.e. there is no outstanding debt associated with the investment in boat capital. Profit at Full Equity is a useful absolute measure of the economic performance of fishing firms.

Rate of Return to Capital: is calculated as *Profit at Full Equity divided by Boat Capital multiplied by 100*. This measure is expressed in percentage terms and is calculated for an individual licence holder. It refers to the economic return to the total investment in capital items, and is a useful relative measure of the performance of individual firms. Rate of return to capital is useful to compare the performance of various licence holders, and to compare the performance of other types of operators, and with other industries.

Gross value of production (GVP): refers to the value of the total annual catch for individual fisheries, fishing sectors or the fishing industry as a whole, and is measured in dollar terms. GVP, generally reported on an annual basis, is the quantity of catch for the year multiplied by the average monthly landed beach prices.

Beach price: refers to the price received by commercial fishers at the "port level" for their catch, and is generally expressed in terms of \$/kg. Processing costs are not included in the beach price, as processing operations are assumed to occur further along the value chain. The use of beach prices also removes the effect of transfer pricing by the firm if it is vertically integrated into the value chain.

Cost of management services: in a commercial fishery, management services will generally include biological monitoring and reporting; policy, regulation and legislation development; compliance and enforcement services; licensing services; and research. Where a commercial fishery operates under full cost recovery, licence fees will be set to cover the cost of managing the fishery or at least the commercial sector's share of the resource.

In fisheries where there is full cost recovery, it can be assumed that the cost of providing these management services to the commercial sector will be equal to the gross receipts from licence fees in the fishery. With information on licence fee receipts, GVP, catch and the number of commercial fishers in the fishery, the following indicators can be readily calculated:

- aggregate licence fee receipts for the fishery (\$)
- licence fee/GVP (%)
- licence fee/catch (\$/kg)
- licence fee/licence holder (\$/licence holder).

3. ECONOMIC INDICATORS FOR THE LAKES & COORONG FISHERY

3.1. Economic Objectives of the Lakes & Coorong Fishery

The *Management Plan for the South Australian Commercial Lakes and Coorong Fishery* (PIRSA 2022) sets out a number of goals, namely:

- Ensure the Lakes and Coorong Fishery resources are harvested within ecologically sustainable limits
- Optimum utilisation and equitable distribution of the Lakes and Coorong Fishery resources
- Minimise impacts on the ecosystem
- Cost effective and participative management of the fishery.

Selected economic and social objectives of the management plan, developed to assist in achieving the goals of the fishery, are as follows:

- Manage allocated shares to deliver optimum utilisation and equitable distribution in accordance with the Governments allocation policy
- Increase the flow of social and economic benefit from the fishery to the broader community
- Improve economic efficiencies and financial returns within the constraints of sustainability imperatives
- Improve measures of economic and social value for stakeholders of the Lakes and Coorong Fishery; and
- Minimise external impacts on the ESD of the Lakes and Coorong Fishery.

Specific strategies and performance indicators relating to the economic objectives outlined in the management plan are detailed in Table 3-1. These performance indicators and others are presented in the following sections.

Table 3-1 Selected economic and social objectives of the management plan

Goal	Objective	Strategies	Performance Indicator	Description	Reference Points
Goal 2 Optimum utilisation and equitable distribution of Lakes and Coorong Fishery resources	2b. Increase the flow of economic and social benefit from the fishery to the broader community	<p>2b(i). Positively influence the fishery’s socio-economic benefits for the broader community</p> <p>2b(ii). Communicate information about ESD outcomes of the fishery to the broader community</p> <p>2b(iii). Develop and maintain positive relationships with the regional communities in the area of the fishery</p> <p>2b(iv). Consider the fishery roles in Aboriginal cultural practices (in particular Aboriginal cultural fishing) and traditional knowledge systems (specifically traditional fishing knowledge) as information becomes available</p>	<p>Contribution of fisheries to the local economic and social activity</p> <p>Proportion of direct and indirect employment in a region dependant on fishing</p> <p>Demonstrate availability of Lakes and Coorong Fishery information through website, correspondence, media releases, licence holder letters, Fishcare volunteer program, industry publications and compliance officers</p> <p>Level of community support activities</p>	<p>The Economic Indicators report provides detailed regional information on the economic performance including data on employment and expenditure</p> <p>Community support activities include non-paid work such as attendance of meetings, conservation activities and community service volunteering</p> <p>At the review of the plan, consider potential impacts the fishery may have on Aboriginal cultural practices (in particular Aboriginal cultural fishing) and traditional knowledge systems (specifically traditional fishing knowledge) and incorporated into the plan, where appropriate. This may include:</p> <ul style="list-style-type: none"> · Identifying ‘sea country’ relevant for this fishery · Support for cultural practices included in management considerations 	A downward trend in employment, expenditure and community support activities over a three year period

Goal	Objective	Strategies	Performance Indicator	Description	Reference Points
	2c. Improve economic returns within the constraints of sustainability imperatives	2c(i). Implement management arrangements that allow commercial operators to maximise operational flexibility, economic efficiency, value and returns	Key economic indicators: rate of return on capital		A declining trend in economic indicators over a three year period
	2d. Monitor the economic and social performance of the fishery and ensure the collection of economic and social fishery data	2d(i). Undertake periodic economic and social surveys of the commercial fishery to assess performance against a set of economic and social indicators 2d(ii). Review and update the research and monitoring plan regularly 2d(iii). Develop appropriate indicators of social performance of the fishery	Delivery of annual economic reports assessing economic performance of the fishery from periodic economic surveys Social fishery surveys undertaken periodically and reported when data is available	Economic indicator reports are currently prepared annually. Steps are being taken to provide indicators associated with key target species Social indicator data to be collected with the economic survey data (to minimise survey costs) and reported when data is available, in consultation with industry	Economic and social data not collected on an annual basis
Goal 4 Cost-effective and participative management of the fishery	4c. Ensure transparency of decision-making process by management bodies	4c(i). Documentation of fisheries management decisions is provided to all stakeholders	Documentation of fisheries management decision-making process	Fishers understand how fisheries management decisions are made, and feel that the reasoning behind decisions as well as the process are consistent and clearly communicated	The process by which fisheries management decisions will be made is clearly documented and accessible to all stakeholders; and this documented process has been followed in all decision making

Goal	Objective	Strategies	Performance Indicator	Description	Reference Points
	4d. Stakeholders have a high level of trust in the management of fisheries	4d(i). Open and transparent discussions on management decisions	The level of fishers trust / confidence in PIRSA Fisheries and Aquaculture	Stakeholders indicate a high level of trust in the both the process of fisheries management, and the outcomes of this management	The proportion of fishers indicating they don't trust the fisheries management agency is <50%, and stable or continuing to decline
	4e. Maximise stewardship of fisheries resources	4e(i). Where possible simplify and standardise the regulatory rules, to ensure the rules are easier to comply with, easier to enforce and that fisheries management will be more efficient	Proportion of fishers who believe that, overall, most fishers comply with fishing rules (fisher survey)	Fishers understand the rules and undertaking their practices in an appropriate way and improve community perception of the industry fishery.	Fishers agree that it is easy to comply with fishing rules and regulations
		4e(ii). Ensure any management changes (and reasoning) are communicated with fishers	Extent fishers accurately understand regulations (fisher survey)		If sought, the industry obtain external accreditation.
		4e(iii). PIRSA/industry collaborating to promote fishery stewardship	Fishers find it easy to comply with fishing rules and regulations (fishery survey)		EPBC approval maintained.
		4e(iv). Strengthen links with licence holders through improved communication	Seeking external accreditation		
		4e(v). Support the use of external accreditation processes to underpin the integrity of management processes	Meets Commonwealth requirements under EPBC Act		

Source: PIRSA Fisheries and Aquaculture (2022)

3.2. Catch and Gross Value of Production

The principal information used to estimate the gross value of production (GVP) for the South Australian Lakes and Coorong Fishery is sourced from the catch and effort database administered by SARDI Aquatic Sciences. It is acknowledged that SARDI's estimates of the GVP of fish harvested from the Lakes and Coorong Fishery are underestimated because average values are based on wholesale prices received at the Adelaide market. Baker and Pierce (1998) believed this to be an unrealistic premise. They suggested that a significant proportion of some of the more financially important species are marketed either at the Sydney and Melbourne markets or outside of the SA wholesale market where prices received are considerably higher than can be obtained at the Adelaide market. Licence holders participating in the surveys in 2003, 2006, 2010, 2013, 2016, 2018 and 2021 confirmed that fish are marketed at a wide variety of locations, including the Sydney and Melbourne fish markets. Accessing higher prices in alternative markets (including niche markets for sustainably produced seafood) is an important business strategy for many licence holders as operating costs continue to rise over time.

Baker and Pierce (1998) re-assessed 1996/97 SARDI catch data using prices from local and interstate markets, as well as individual estimates of local value-adding provided by the fishers to account for the higher prices received at alternative markets. For the purpose of this study, SARDI estimates of GVP from 1992/93 to 2002/03 were re-valued using Baker and Pierce's (1998) method. Re-valuations for subsequent years were based on Baker and Pierce's (1998) method but used updated re-valuation factors for each species. Between 2002/03 and 2010/11 the factors were derived from Adelaide, Melbourne and Sydney fish market prices together with volume estimates from the licence holder surveys in 2003 and 2006. Between 2011/12 and 2021/22, the factors were derived from price and volume estimates for each market from the 2013, 2016, 2018 and 2021 licence holder surveys as Sydney and Melbourne fish market price data were not available.

The reported catch by fishers in the Lakes and Coorong Fishery for the period 2002/03 to 2021/22 is shown in Table 3-2. The total catch was 1,562 tonnes in 2021/22, a 19 per cent decrease on the previous year (1,926 tonnes). Catch in 2021/22 was the lowest reported catch since records began in 1992/93 (BDO EconSearch 2022a).

Periods of low finfish catch have generally been associated with periods of low flows through the barrages into the Coorong and the impacts of the expansion of the Long-nosed fur seal population in the fishery in recent years. The slight decrease in 2021/22 was due to lower catch of all higher volume species besides Bony Bream. Table 3-2 and Figure 3-2 demonstrate that catch levels have fluctuated considerably in the 20 years from 2002/03 to 2021/22. Appendix 7 shows the same data by species and aggregates of all species including and excluding Pipi.

Table 3-2 Catch and value of catch of the Lakes and Coorong Fishery, 2002/03 to 2021/22 ^a

	Catch (tonnes)	Nominal Value of Catch (\$'000)	Real Value of Catch (2021/22 \$'000)
2002/03	1,979	4,466	7,119
2003/04	2,180	5,382	8,335
2004/05	2,277	5,495	8,326
2005/06	2,440	5,924	8,651
2006/07	2,443	7,143	10,252
2007/08	2,146	7,544	10,353
2008/09	2,023	8,412	11,370
2009/10	1,916	6,162	8,102
2010/11	1,681	6,561	8,304
2011/12	1,641	8,037	10,050
2012/13	1,811	9,399	11,512
2013/14	1,852	9,466	11,243
2014/15	1,598	7,774	9,121
2015/16	1,646	8,410	9,803
2016/17	1,847	9,704	11,135
2017/18	1,873	11,339	12,674
2018/19	1,861	13,063	14,395
2019/20	1,978	12,775	13,968
2020/21	1,926	13,721	14,594
2021/22	1,562	12,415	12,415

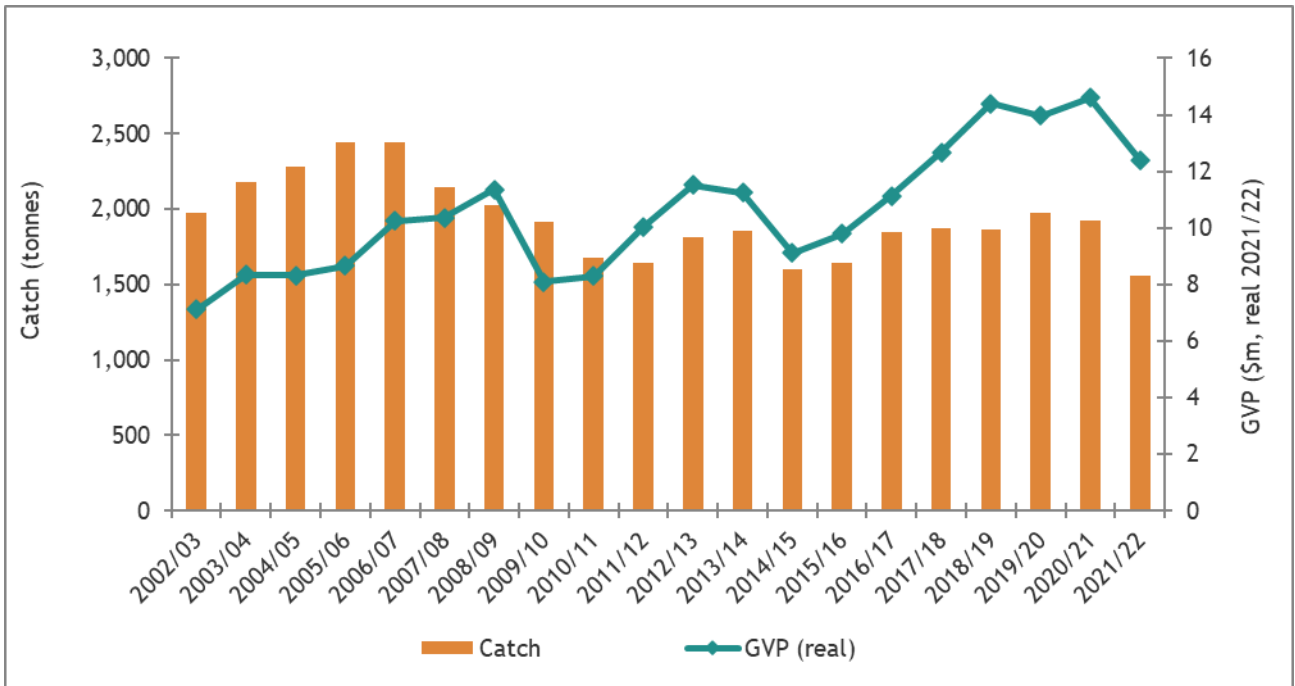
^a The River fishery was closed from July 2003. There are 6 River fishery licences with access to non-native species and their production is included in this table from 2003/04 onwards. Figures in this table for 2002/03 relate only to the Lakes and Coorong Fishery.

Source: Knight et al. (2004), SARDI Aquatic Sciences, Melbourne and Sydney fish markets data, 2021 survey of licence holders and ABS (2022a)

The estimated GVP of species caught by fishers in the Lakes and Coorong Fishery for the period 2002/03 to 2021/22 is shown in Table 3-2 and Figure 3-2. Despite fluctuations in the level of catch over the past 20 years the estimated real GVP of the fishery has increased by 74 per cent between 2002/03 and 2021/22.

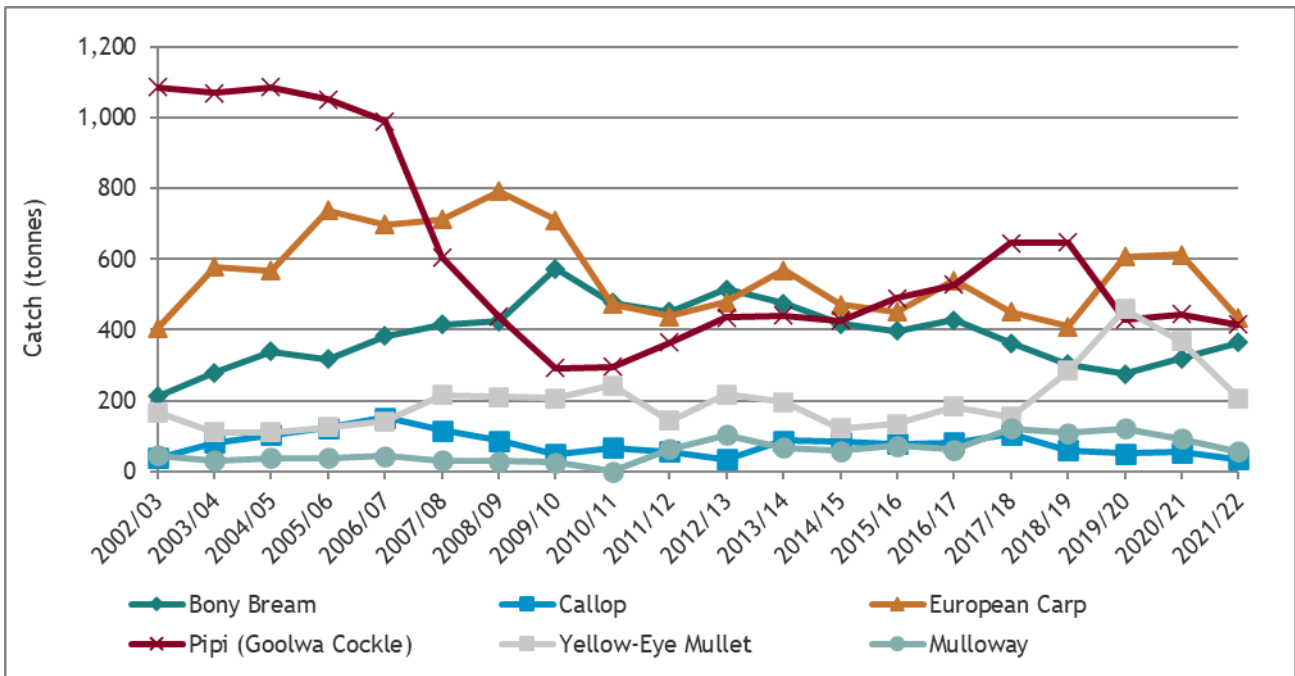
Figure 3-3 outlines the catch of higher volume species between 2002/03 and 2021/22. Notable trends include a significant decline in Pipi catch between 2002/03 and 2009/10 but a gradual increase in Pipi catch in subsequent years. Since 2019/20 Pipi catch has fallen due to quota changes. There was an increase in the reported catch of Bony Bream between 2002/03 and 2009/10, however this has since declined. The catch for Yellow-Eye Mullet, Mulloway and European Carp have all increased between 2002/03 and 2021/22 despite fluctuations. The catch for Callop has decreased between 2002/03 and 2021/22.

Figure 3-2 Total catch and GVP, Lakes and Coorong Fishery, 2002/03 to 2021/22



Source: Knight et al. (2004) and SARDI Aquatic Sciences

Figure 3-3 Catch of higher volume species, Lakes and Coorong Fishery, 2002/03 to 2021/22 ^a



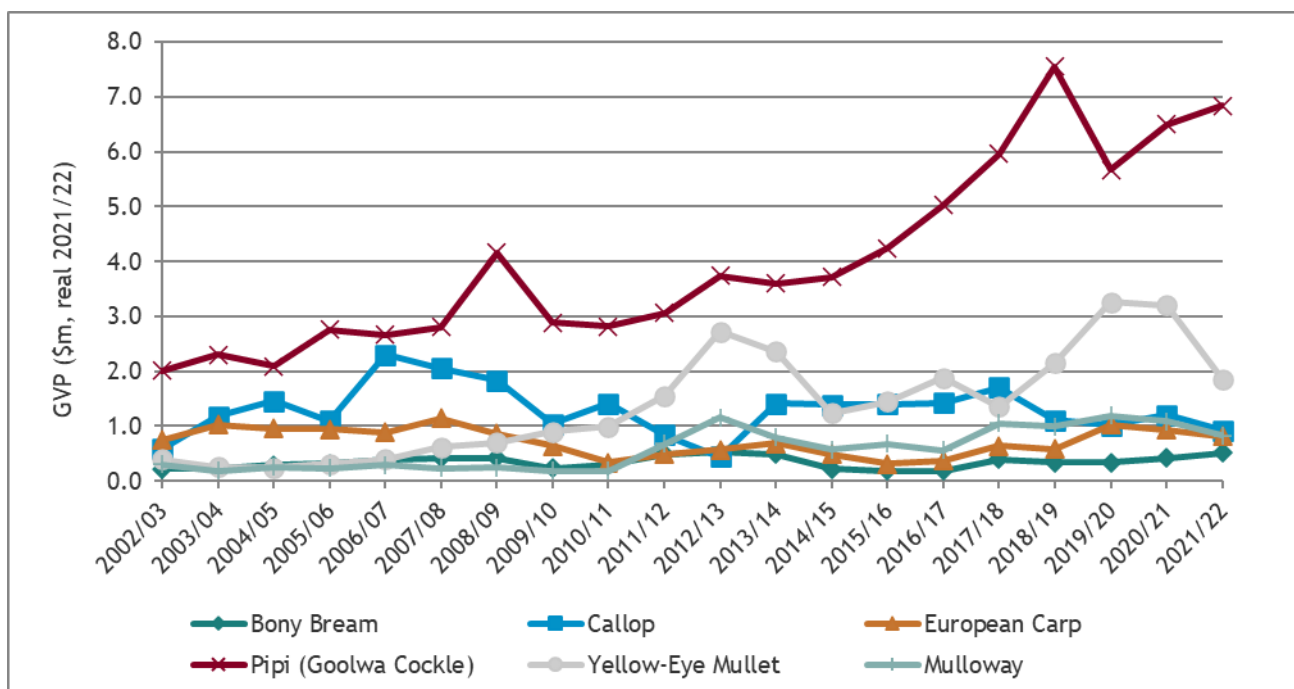
^a Catch of Mulloway was not published separately in 2010/11 and was included in the other species category.

Source: Knight et al. (2004) and SARDI Aquatic Sciences

Several licence holders commented in licence holder surveys that having the ability to shift effort between different species was an integral part of the Lakes and Coorong Fishery inter annual harvest strategy. Environmentally driven volatility in catch and revenue of each species is an important feature of the fishery as described in the management plan (PIRSA 2022). Restored environmental flows into the system have stabilized, ameliorating this historically significant environmental source of volatility.

Figure 3-4 outlines the gross value of production of the most significant species over the period 2002/03 to 2021/22. As with catch, GVP by species has fluctuated considerably². A notable trend has been the 239 per cent increase in the value of Pipi catch since 2002/03 which is due to the increase in real price over this period of 456 per cent. The price increase is due to the higher price of Pipsis sold for human consumption compared to for bait. Prior to 2008/09 the majority of the Pipi catch was sold for bait.

Figure 3-4 Gross value of production of major species, Lakes and Coorong Fishery, 2002/03 to 2021/22^a



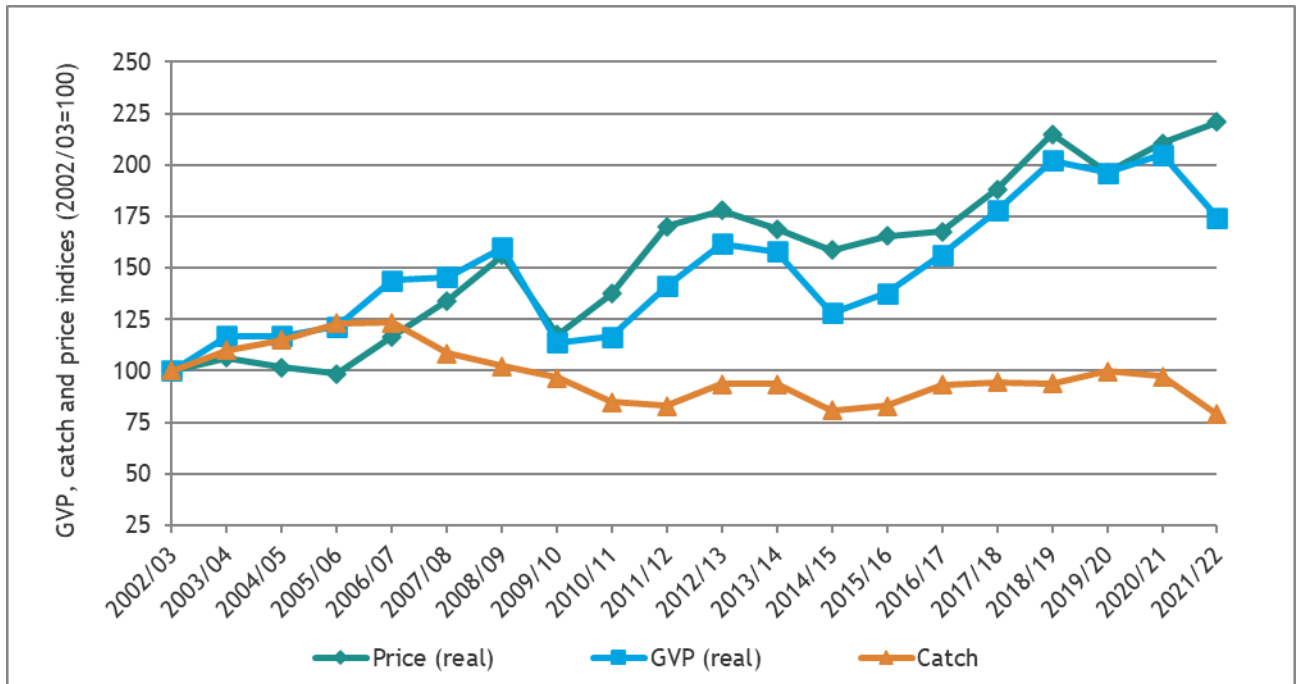
^a Mulloway value of production was not published separately in 2010/11 and has been included in the other species category for that year. The value from the previous year (2009/10) is shown for 2010/11 in the figure.

Source: Knight et al. (2004), Baker and Pierce (1998), SARDI Aquatic Sciences and BDO EconSearch analysis.

Figure 3-5 outlines the total catch, price and value of all species taken by licence holders in the Lakes and Coorong Fishery over the period 2002/03 to 2021/22. The volume of catch in 2021/22 was 21 per cent lower than that in 2002/03 but real GVP was 74 per cent higher. Catch in 2021/22 was 19 per cent lower than the previous year and real GVP was 15 per cent lower.

² Factors other than abundance, such as annual variations in 'catchability', effort targeting and market conditions (especially supply of competitive product), also contribute to the variability shown in Figure 3-4.

Figure 3-5 GVP, price and catch indices for the Lakes and Coorong Fishery (2002/03 = 100)

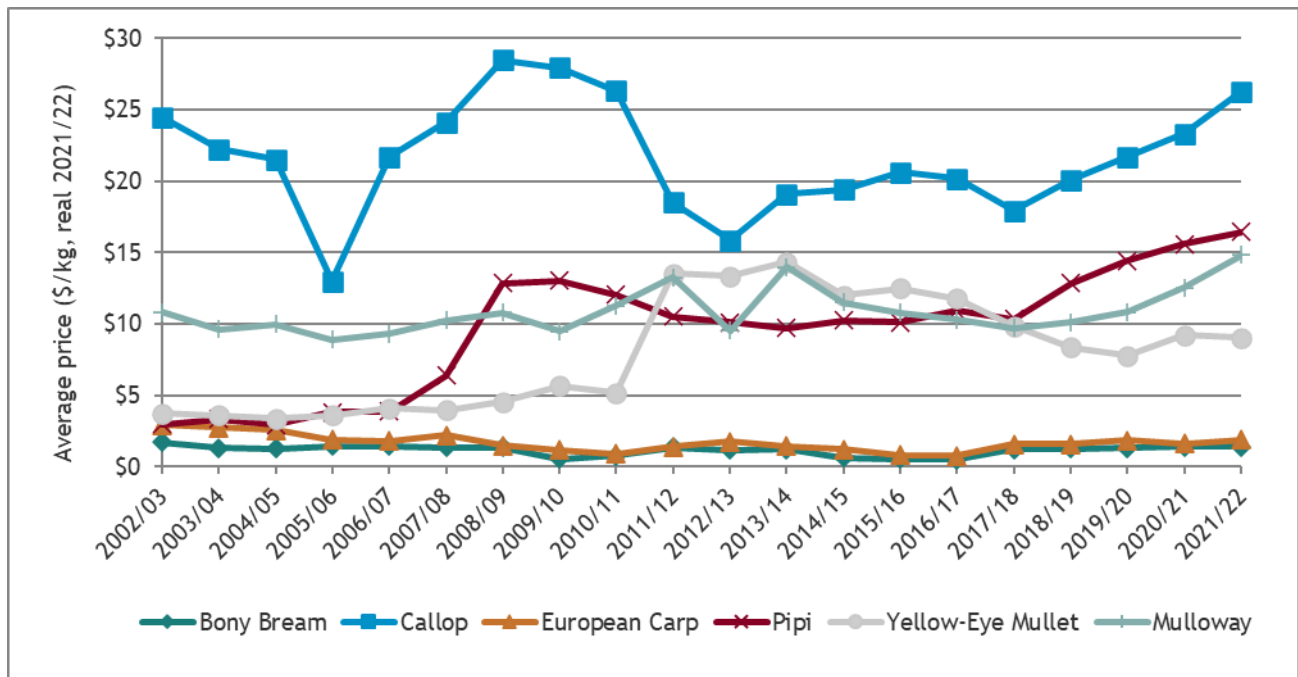


Source: Knight et al. (2004), Baker and Pierce (1998), SARDI Aquatic Sciences and BDO EconSearch analysis

Trend in fishery GVP (Table 3-1) is an important indicator associated with achieving the economic objectives of the management plan. Real GVP has increased between 2002/03, despite significant falls in 2009/10, 2014/15 and 2021/22. The increase in GVP over this period is largely due to significant real price increases of Pipi, Yellow-Eye Mullet, Mulloway and Redfin and increased catch of commercially viable species.

Market prices for key species is another important performance indicator. The average annual price for key Lakes and Coorong Fishery species is illustrated in Figure 3-6. The average price of most key species has fluctuated but generally followed an increasing trend in real terms.

Figure 3-6 Average price for Lakes and Coorong Fishery species, 2002/03 to 2021/22 ^a



^a Value of mulloway was not published separately in 2010/11. For the purposes of presentation of this graph, the value of mulloway for this year is calculated as an average value.

Source: Knight et al. (2004), Baker and Pierce (1998), SARDI Aquatic Sciences and BDO EconSearch analysis

3.3. Summary of Factors Affecting Costs in the SA Lakes and Coorong Fishery

The information in Table 3-3 was used to adjust the 2020/21 financial performance indicators to reflect the costs incurred in the fishery in 2021/22.

The following data were used and adjustments were made.

- Information from SARDI on the change in fishing effort (total days fished) was used to adjust costs that vary depending on the amount of time spent fishing. These costs include the cost of fuel, repairs and maintenance, bait and provisions.
- The ABS Transportation Index for Adelaide was used to adjust the cost of fuel.
- Interest charges were adjusted in accordance with the Reserve Bank of Australia indicator lending rate (i.e. weighted average interest rate for small businesses with outstanding credit).
- The CPI for Adelaide was used to adjust other costs. Other costs associated with operating in the fishery include, legal and accounting costs, office and administration, telephone expenses and other incidental costs.
- The Wage Price index was used to adjust the cost of labour.

Table 3-3 Factors affecting costs in the SA Lakes and Coorong Fishery, 2020/21 to 2021/22

	2020/21	2021/22	Change
Total Days Fished ^a	5,232	4,975	-4.9%
Price of Fuel - Transportation Index ^b	105.7	119.7	13.2%
Interest charges (%/annum) ^c	6.51%	6.59%	1.4%
CPI Adelaide ^d	117.8	125.3	6.4%
Wage Price Index ^e	136.4	139.3	2.1%

^a SARDI Aquatic Sciences

^b Transportation index (component of CPI) for Adelaide (ABS 2022a)

^c RBA indicator lending rate for small business (RBA 2022)

^d Consumer price index (CPI) for Adelaide (ABS 2022a)

^e Wage price index for SA (ABS 2022b)

3.4. Cost of Management

Licence fees from Lakes and Coorong Fishery licence holders are collected in accordance with the PIRSA Cost Recovery Policy and the Australian Government's Cost Recovery Guidelines (July 2014). Accordingly, licence fees are set to cover the cost of managing the Lakes and Coorong Fishery. For the purpose of this analysis, the cost of providing these management services has been assumed to be equal to the gross receipts from licence fees in the fishery (PIRSA, pers. comm.), although this excludes some known small subsidies, such as federal government grants for research and stock status assessments.

Management services include:

- annual reports on biological and economic indicators
- policy and management services
- regulatory/legislation and licensing services
- compliance services
- directorate services
- research services, including the Fisheries Research and Development Corporation (FRDC) levy
- administrative and support costs to assist industry associations in their contribution to effective engagement in co-management services, industry research and capacity development and the MSC certification process.

For the purpose of this analysis, the cost of providing management services has been assumed to be equal to the gross receipts from licence fees in the fishery (PIRSA, pers. comm.). Table 3-4 shows the cost of management, in real 2021/22 terms, for the fishery for the period 2002/03 to 2022/23.

Table 3-4 Costs of management in the Lakes and Coorong Fishery, 2002/03 to 2022/23 ^a

	Licence Fee	GVP	Fee/GVP	Catch	Fee/Catch	Licence Holders	Fee/Licence ^b
	(\$'000)	(\$'000)	(%)	(tonnes)	(\$/kg)	(No.)	(\$/licence)
2002/03	295	7,119	4.1%	1,979	\$0.15	37	\$7,972
2003/04	305	8,335	3.7%	2,180	\$0.14	37	\$8,232
2004/05	368	8,326	4.4%	2,277	\$0.16	37	\$9,942
2005/06	388	8,651	4.5%	2,440	\$0.16	37	\$10,478
2006/07	430	10,252	4.2%	2,443	\$0.18	37	\$11,617
2007/08	387	10,353	3.7%	2,146	\$0.18	37	\$10,450
2008/09	591	11,370	5.2%	2,023	\$0.29	36	\$16,415
2009/10	517	8,102	6.4%	1,916	\$0.27	36	\$14,355
2010/11	588	8,304	7.1%	1,681	\$0.35	36	\$16,339
2011/12	611	10,050	6.1%	1,641	\$0.37	36	\$16,969
2012/13	818	11,512	7.1%	1,811	\$0.45	36	\$22,708
2013/14	755	11,243	6.7%	1,852	\$0.41	36	\$20,962
2014/15	826	9,121	9.1%	1,598	\$0.52	36	\$22,943
2015/16 ^c	489	9,803	5.0%	1,646	\$0.30	36	\$13,575
2016/17 ^c	486	11,135	4.4%	1,847	\$0.26	36	\$13,512
2017/18 ^c	461	12,674	3.6%	1,873	\$0.25	36	\$12,811
2018/19 ^c	462	14,395	3.2%	1,861	\$0.25	36	\$12,845
2019/20 ^c	697	13,968	5.0%	1,978	\$0.35	36	\$19,350
2020/21	749	14,594	5.1%	1,926	\$0.39	36	\$20,807
2021/22	652	12,415	5.3%	1,562	\$0.42	36	\$18,107
2022/23 ^d	734	n.a.	-	n.a.	-	36	\$20,395

^a This table presents management costs in real 2021/22 dollars. Nominal management costs are presented in Appendix 5.

^b Comprised of Lakes and Coorong base licence fees, Lakes and Coorong net fees, Pipi base fees and Pipi unit fees.

^c 2015/16 excludes net fees of \$231,564 waived by PIRSA, an average of \$6,432 per licence holder. 2016/17 excludes net fees of \$239,799 waived by PIRSA, an average of \$6,661 per licence holder. 2017/18 excludes net fees of \$167,449 waived by PIRSA, an average of \$4,651 per licence holder. 2018/19 excludes net fees of \$192,033 waived by PIRSA, an average of \$5,334 per licence holder. 2019/20 excludes net fees of \$101,506 waived by PIRSA, an average of \$2,820 per licence holder.

^d 2022/23 values have not been adjusted to 2021/22 dollars.

Source: PIRSA Fisheries and Aquaculture, SARDI Aquatic Sciences and ABS (2022a)

The following can be observed for the fishery over the period 2002/03 to 2021/22.

- Real licence fees have increased 121 per cent between 2002/03 and 2021/22. This is despite significant fluctuation over the period due to subsidised fee reduction between 2015/16 and 2019/20.
- Licence fees as a percentage of GVP increased from 4.1 per cent in 2002/03 to a peak of 9.1 per cent in 2014/15, due to lower GVP and higher licence fees. This has since decreased to 5.3 per cent in 2021/22 due to higher GVP and lower licence fees.
- Licence fees per kilogram of catch increased between 2002/03 and 2014/15 due to lower catch and higher licence fees. In 2021/22 licence fees per kilogram of catch were similar to 2014/15, however there was significant change between these years due to net fees waived.

The average real licence fee per licence holder has trended upwards between 2002/03 and 2021/22, from \$8,232 to \$20,395. In 2021/22, the Lakes and Coorong Fishery licence fees were comprised of a general Lakes and Coorong base fee of \$2,710 (applicable to all 36 licences), a Lakes and Coorong net unit fee of \$124 (applicable to 1,175 quota units), a Pipi base fee of \$5,562 (applicable to 11 licences and a Pipi unit fee of \$290 per unit (applicable to 1,000 quota units).

In 2007/08, all licence holders with access to Papis were no longer required to pay the South Australian Shellfish Quality Assurance Program (SASQAP) fee. Fishers who catch Papis for human consumption now must be accredited under the Seafood Food Safety Scheme. In 2019/20 there were 8 licences accredited under the scheme (Clinton Wilkinson, pers. comm. April 2021). To obtain and maintain accreditation each fisher must comply with certain requirements relating to the harvest and handling of Papis. Each fisher must also pay an application fee and an annual fee to maintain accreditation. The fees associated with the food safety scheme are detailed in Table 3-5.

Table 3-5 Food safety schemes accreditation fees, 2021/22

Description	Fee (\$)
Application for accreditation, for approval of a food safety arrangement other than in conjunction with an application for accreditation or for variation of an approved food safety arrangement	\$544.00
Annual Accreditation Fee:	
• per business	\$489.00
• per Pipi unit under the entitlement	\$23.30

Source: Primary Produce (Food Safety Schemes) (Seafood) Regulations 2017, Version: 1.7.2019 to 1.7.2020

3.5. Financial Performance Indicators

The major measures of the financial performance of licence holders in the Lakes and Coorong Fishery for the period 2019/20 to 2021/22 are shown in Table 3-6. Estimates for 2019/20 were based on the 2018 survey, and estimates for 2020/21 and 2021/22 were based on the 2021 survey. Financial performance estimates for 2002/03 to 2018/19 are detailed in Appendix 3.

As a multi species fishery, fishing businesses within the Lakes and Coorong Fishery are very diverse. Some of the major distinctions between fishing businesses include, Pipi licence holders, net licence holders, businesses which focus on catching bait fish and businesses which focus on value adding and processing. Table 3-7 presents separate financial performance indicators for ‘Net licence only’ fishers and ‘Net and Pipi licence’ fishers. The financial performance indicators for the ‘Net licence only’ fishers are based on the survey responses from those licence holders who did not harvest Papis at all. Licence holders who lease out their Pipi entitlement are included in this category and the income and costs associated with the Pipi quota are removed from the analysis. The financial performance indicators for ‘Net and Pipi licence’ fishers are based on survey responses from licence holders who fish exclusively for Papis, and licence holders who fish in both the Pipi fishery and the net fishery. These two groups were presented together to preserve respondent confidentiality. Financial performance estimates by licence type for 2011/12 to 2020/21 are detailed in Appendix 4.

Income

The average gross income per surveyed licence in the Lakes and Coorong Fishery in 2021/22 was \$468,000 (Table 3-6), 10 per cent lower than in 2020/21 (\$517,000) but 32 per cent higher than in 2016/17 (\$356,000) (Appendix Table 3-5). Average gross income for net only fishers was almost \$124,000 in 2021/22 whereas average income for net and pipi licence holders was considerably higher at \$853,000 (Table 3-7). The income received for fish in the Lakes and Coorong Fishery can vary considerably depending on the species, the market (e.g. human consumption or bait, restaurants or fish markets) and the preparation of the fish. For the purposes of this analysis, price premiums received for additional processing³ (e.g. smoking or filleting) were removed from the financial performance analysis.

Costs

Table 3-6 shows total boat costs separated into variable and fixed costs. Some basic processing costs (gutting, gilling, freezing, purging and packaging) have been included in this model as they are a standard part of operations in the Lakes and Coorong Fishery and it is not possible to remove the value of these processing operations from the price received for the fish. The prices used in the analysis are also after this basic processing.

Variable costs (65 per cent of total boat cash costs in 2021/22) represented a greater proportion of total boat cash costs than fixed costs (35 per cent). Total boat cash costs remained stable between 2020/21 and 2021/22.

In 2021/22, over half of total cash costs were attributable to fixed and variable labour costs (\$90,000 including unpaid labour), by far the largest individual cost item. The labour costs reported in Table 3-6 are comprised of payments to licence owners and crew as well as an imputed wage to those licence owners and other family members who are not paid a wage directly by the business. Imputed unpaid labour (\$26,000 per licence for 2021/22) was divided into variable (fishing and repairs and maintenance) (\$15,000) and fixed (management and administration) (\$10,000) components based on the 2021 licence holder survey.

Other significant cash costs in 2021/22 were fuel (11 per cent of total boat cash costs), licence fees (9 per cent) and repairs and maintenance (7 per cent). Total cash costs were 241 per cent higher for net and Pipi licence holders than for net only licence holders (Table 3-7).

Cash Income and Profit

The separation of variable and fixed costs from total cash costs enables the calculation of boat gross margin (total boat income less total boat variable costs) as a basic measure of profit (assuming that capital has no alternative use and that as fishing activity varies there is no change in capital or fixed costs). Boat gross margin decreased by 10 per cent between 2020/21 and 2021/22. The decrease was due to both a decrease in gross income and an increase in variable costs (Table 3-6). Boat gross margin was considerably lower for net only fishers (\$74,000) compared to net and Pipi fishers (\$651,000) (Table 3-7).

³ The majority of licence holders in this fishery do some processing, typically along the lines of gutting, gilling, grading, purging, freezing and packaging. A few fishing businesses also do some additional processing, i.e. filleting, vacuum sealing, smoking. These processing activities are considered 'additional', and costs and price premiums involved in these activities are excluded from this financial analysis. The economic contributions of additional processing are reported separately as 'downstream' in Section 3.6.

Table 3-6 Financial performance in the Lakes and Coorong Fishery, 2019/20 to 2021/22 (average per licence) ^a

	2019/20		2020/21		2021/22	
	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b
(1) Total Boat Gross Income	\$535,596		\$517,480		\$468,229	
Variable Costs						
Fuel	\$9,480	7%	\$16,878	10%	\$18,166	11%
Repairs & Maintenance ^c	\$5,458	4%	\$12,430	7%	\$12,572	8%
Bait/Ice	\$1,463	1%	\$1,542	1%	\$1,560	1%
Provisions	\$1,384	1%	\$610	0%	\$617	0%
Labour - paid	\$50,492	35%	\$66,979	39%	\$63,826	39%
(2) Labour - unpaid ^d	\$13,028	9%	\$14,746	9%	\$15,060	9%
Other	\$2,338	2%	\$1,123	1%	\$1,195	1%
(3) Total Variable Costs	\$83,644	59%	\$114,309	66%	\$112,996	68%
Fixed Costs						
Licence Fee	\$26,310	18%	\$16,136	9%	\$14,936	9%
Insurance	\$2,865	2%	\$5,302	3%	\$5,640	3%
(4) Interest	\$3,650	3%	\$4,012	2%	\$4,067	2%
(5) Labour - unpaid ^d	\$7,696	5%	\$9,522	6%	\$9,724	6%
(6) Leasing	\$0	0%	\$7,111	4%		
Legal & Accounting	\$4,588	3%	\$4,537	3%	\$4,826	3%
Telephone etc.	\$2,026	1%	\$1,911	1%	\$2,033	1%
Boat Survey	\$586	0%	\$276	0%	\$294	0%
Travel	\$1,070	1%	\$927	1%	\$986	1%
Office & Admin	\$10,425	7%	\$8,919	5%	\$9,487	6%
(6) Total Fixed Costs	\$59,216	41%	\$58,654	34%	\$51,992	32%
(7) Total Boat Cash Costs (3+6)	\$142,860	100%	\$172,962	100%	\$164,988	100%
Boat Gross Margin (1-3)	\$451,952		\$403,171		\$355,233	
(8) Total Unpaid Labour (2+5)	\$20,724		\$24,268		\$24,784	
Gross Operating Surplus (1-7+8)	\$413,460		\$368,786		\$328,025	
(9) Boat Cash Income (1-7)	\$392,736		\$344,518		\$303,241	
(10) Depreciation	\$20,018		\$54,278		\$56,066	
(11) Boat Business Profit (9-10)	\$372,718		\$290,239		\$247,175	
(12) Profit at Full Equity (11+4)	\$376,368		\$301,363		\$251,242	
Boat Capital						
(13) Fishing Gear & Equip	\$174,315		\$432,446		\$446,690	
Licence Value	\$1,289,123		\$1,469,734		\$1,425,303	
(14) Total Boat Capital	\$1,463,437		\$1,902,180		\$1,871,993	
Rate of Return on Fishing Gear & Equip (12/13*100)	215.9%		69.7%		56.2%	
Rate of Return on Total Boat Capital (12/14*100)	25.7%		15.8%		13.4%	

^a Financial performance estimates for 2019/20 are based on the 2019 survey, and estimates for 2020/21 and 2021/22 are based on the 2021 survey. All values are in nominal terms.

^b Total boat cash costs.

^c Repairs and maintenance costs have been classified as a variable cost although it is noted that some of these costs may be fixed (e.g. regulated maintenance).

^d Unpaid labour was divided between variable (time spent fishing and on repairs and maintenance) and fixed (management and administrative duties) based on survey responses.

Source: BDO EconSearch analysis

Table 3-7 Financial performance in the Lakes and Coorong Fishery, by licence type, 2021/22 (average per licence)

	Net Licence Only ^a		Net and Pipi Licence		Whole Fishery	
	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b
(1) Total Boat Gross Income	\$123,973		\$853,178		\$468,229	
Variable Costs						
Fuel	\$15,098	18%	\$20,196	7%	\$18,166	11%
Repairs & Maintenance ^c	\$4,601	5%	\$23,231	8%	\$12,572	7%
Bait/Ice	\$2,004	2%	\$614	0%	\$1,560	1%
Provisions	\$517	1%	\$679	0%	\$617	0%
Labour - paid	\$12,344	15%	\$153,615	54%	\$63,826	37%
(2) Labour - unpaid ^d	\$14,587	17%	\$2,414	1%	\$15,060	9%
Other	\$974	1%	\$1,357	0%	\$1,195	1%
(3) Total Variable Costs	\$50,125	60%	\$202,107	71%	\$112,996	65%
Fixed Costs						
Licence Fee	\$10,902	13%	\$18,996	7%	\$14,936	9%
Insurance	\$2,287	3%	\$10,068	4%	\$5,640	3%
(4) Interest	\$2,234	3%	\$6,335	2%	\$4,067	2%
(5) Labour - unpaid ^d	\$9,629	11%	\$1,169	0%	\$9,724	6%
(6) Leasing	\$0	0%	\$18,358	6%	\$7,564	4%
Legal & Accounting	\$1,474	2%	\$9,380	3%	\$4,826	3%
Telephone etc.	\$1,650	2%	\$2,323	1%	\$2,033	1%
Boat Survey	\$0	0%	\$714	0%	\$294	0%
Travel	\$1,421	2%	\$143	0%	\$986	1%
Office & Admin	\$4,095	5%	\$16,543	6%	\$9,487	5%
(6) Total Fixed Costs	\$33,693	40%	\$84,029	29%	\$59,556	35%
(7) Total Boat Cash Costs (3+6)	\$83,818	100%	\$286,135	100%	\$172,552	100%
Boat Gross Margin (1-3)	\$73,848		\$651,071		\$355,233	
(8) Total Unpaid Labour (2+5)	\$24,216		\$3,583		\$24,784	
Gross Operating Surplus (1-7+8)	\$64,371		\$570,626		\$320,462	
(9) Boat Cash Income (1-7)	\$40,155		\$567,042		\$295,677	
(10) Depreciation	\$61,571		\$43,000		\$56,066	
(11) Boat Business Profit (9-10)	-\$21,416		\$524,043		\$239,611	
(12) Profit at Full Equity (11+4)	-\$19,182		\$548,735		\$251,242	
Boat Capital						
(13) Fishing Gear & Equip	\$173,282		\$744,279		\$446,690	
Licence Value	\$96,046		\$2,829,074		\$1,425,303	
(14) Total Boat Capital	\$269,328		\$3,573,354		\$1,871,993	
Rate of Return on Fishing Gear & Equip (12/13*100)	-11.1%		73.7%		56.2%	
Rate of Return on Total Boat Capital (12/14*100)	-7.1%		15.4%		13.4%	

^a Includes licences which lease out their Pipi entitlement. For the purpose of this part of the analysis, all income and costs associated with the leased out Pipi entitlement have been excluded.

^b Total boat cash costs

^c Repairs and maintenance costs have been classified as a variable cost although it is noted that some of these costs may be fixed (e.g. regulated maintenance).

^d Unpaid labour was divided between variable (time spent fishing and on repairs and maintenance) and fixed (management and administrative duties) based on survey responses.

Source: BDO EconSearch analysis

Gross operating surplus (GOS) was calculated excluding imputed wages for operator and family members. The average GOS of all licences in 2021/22 was estimated to be around \$320,000, 13 per cent lower than in 2020/21 (\$369,000) (Table 3-6). For net only fishers, GOS was estimated to be \$64,000 in 2021/22, significantly lower than net and Pipi fishers (\$571,000) (Table 3-7).

Boat cash income is measured as gross operating surplus with imputed wages (unpaid labour) included as cash costs. The estimated average boat cash income in 2021/22 was around \$296,000 per boat, down from \$345,000 in 2020/21. For net only fishers, boat cash income was estimated at around \$40,000 in 2021/22 compared to \$567,000 for net and Pipi fishers (Table 3-7).

Gross operating surplus and boat business profit give an indication of the capacity of the operator to remain in the fishery in the short to medium term. In 2021/22, the average boat business profit was approximately \$240,000, lower than the previous year's estimate of \$290,000. Boat business profit for net only fishers was -\$21,000 compared to net and Pipi fishers (\$524,000) (Table 3-7). This suggests that those fishers who are not invested in Pipi harvesting may not remain in the fishery in the long term and those who are both Pipi and net fishers may move to Pipi only. However, other outcomes like accepting a lower value for their unpaid labour or increasing overall business profits with post-harvest processing are also possible.

Profit at full equity is a measure of the profitability of an individual licence holder, assuming the licence holder has full equity in the operation. It is a useful absolute measure of the economic performance of fishing firms. Profit at full equity in 2021/22 (\$251,000) was 17 per cent lower than the previous year (\$301,000). Profit at full equity for net only fishers was -\$19,000 compared to \$549,000 for net and Pipi fishers (Table 3-7).

It is clear for the measures of profit detailed above that the net only and Pipi sectors of the fishery are increasingly divergent. Measures of profit are increasing for Pipi fishers and significantly decreasing for net only fishers. Even though the costs for businesses which fish for Papis are much higher, the incomes are relatively higher still. This results in higher profits for Pipi fishers while net only fishers have become relatively unprofitable.

Rate of Return to Capital

For the purpose of this analysis, 'investment' is considered to be the capital employed by a licence holder in the fishery. Capital includes boats, licence, fishing gear, sheds, vehicles and other capital items used as part of the fishing enterprise. It does not include working capital or capital associated with other businesses operated by the licence holder.

The average value of commercial licences is a performance indicator associated with the achievement of the economic objectives of the management plan for the (Table 3-1). Licence values were estimated to decrease by 3 per cent between 2020/21 and 2021/22 (Table 3-6). Relative licence values for net only and net and Pipi licences are diverging. In 2021/22, the estimated average value of licences for net only was around \$96,000 and \$2.83 million for net and Pipi fishers (Table 3-7).

The average total investment in fishing gear and licence in the Lakes and Coorong Fishery in 2021/22 was estimated to be \$1.87 million per fisher. This included the licence holders' estimates of the value of their licence (\$1.43 million) and estimated investment in boats and fishing gear (\$447,000 per licence). Once again, estimated investment in boats and fishing gear was significantly higher for Pipi and net fishers, with the average value for net only fishers being \$173,000 compared to \$744,000 for net and Pipi fishers.

Another economic performance indicator in the management plan for the fishery is the trend in the annual return on investment (rate of return to capital) in the commercial fishery (Table 3-1). In 2021/22 the average rate of return to total capital was 13.1 per cent, a decline from 2020/21 (15.8 per cent) and a significant decline from 2019/20 (25.7 per cent) (Table 3-6). The decrease between 2019/20 and 2021/22 is mainly attributable to the significant increase in total fishing gear and equipment capital value of 156 per cent, an increase in licence value of 11 per cent and a decrease in gross income of 13 per cent.

For the Lakes and Coorong Fishery as a whole, the average rate of return to fishing gear and equipment was estimated to be 56 per cent in 2021/22, significantly down from 215.9 per cent in 2019/20. This decrease is mostly attributable to the 156 per cent increase in total fishing gear and equipment capital between 2019/20 and 2021/22. The substantial increase in the investment of capital for Pipi fishers observed in the 2021 survey is likely due to the high profitability of the Lakes and Coorong Fishery in recent years allowing profits to be reinvested. The recent increase in investment for net fishers is likely due to the replacement of capital required as a result of the damage caused by Long-nosed fur seals (Section 4.1.5).

Since 2014/15 net and Pipi fishers have had higher rates of return on both total boat capital, and fishing gear and equipment (Appendix 4). In 2021/22 the average rate of return on total boat capital was 15 per cent for net and Pipi fishers, and -7 per cent for net only fishers. This is further evidence of the diverging economic performance of the two sectors in the fishery which is primarily due to the significantly lower total boat gross income for net only fishers.

There is an issue of interpretation when including the value of licences in measuring the rate of return to capital. A low rate of return is typically cast as sign of poor performance. In the case of Pipi quota holders however, it reflects the high value of Pipi quota in a sector of the fishery that is performing well. For this reason, it is better to give more weight to the rate of return to fishing gear and equipment. The value of licences (next section) provides a measure of the performance of these assets.

The question of what is a 'reasonable' average rate of return should be considered in light of the riskiness of the industry. Operating a fishing business is a relatively high-risk activity, with some of the major risks arising from market uncertainty (price risk), seasonal variability (environmental risk) and uncertainty regarding long-term resource security (institutional risk). What can be said is that the economic performance of the fishery and the return to the invested assets in the fishery (fishing gear and equipment) is reflected in the value of entitlements in the fishery (fishing licence).

Licence Values

The value of licences represents a significant proportion of the capital used by each licence holder in the fishery. The reported licence value for 2021/22 in Table 3-8 represent the updated licence holders' estimates of the value of their licences in the 2021 survey responses. Since there have been limited transfers of licences in recent years and the current market value of licences is uncertain, a sensitivity analysis was undertaken to estimate the rate of return to capital for a range of licence values.

Based on the costs and returns shown for the year 2021/22 in Table 3-7, for net only licence holders, varying the licence value effects the rate of return to total capital only marginally. This is because the profit at full equity is small. For net and Pipi licence holders, a licence value of \$1.96 million (25 per cent below the licence value estimated for 2021/22) would mean an annual return to the total asset of 19.1 per cent. While a licence value of \$3.5 million (25 per cent above the licence value estimated for 2021/22) would mean an annual return to the total asset of 12.8 per cent. In recent years the return to capital value was unusually high for Pipi and net licence holders which suggests that licences were undervalued or licence holders did

not think the current high net economic return could be maintained. The recent decrease in the return to capital since 2020/21 as a result of the significant increase in investment, suggests that licence holders now have higher confidence that the profitability of their business will be sustained.

As an average for the fishery as a whole, a licence value of \$1.06 million (approximately 25 per cent below the licence value estimated for 2021/22) would mean an annual return to the total asset of 16.6 per cent. While a licence value of \$1.78 million (approximately 25 per cent above the licence value estimated for 2020/21) would mean an annual return to the total asset of 11.3 per cent (Table 3-8). Clearly the estimated rate of return to total capital is highly sensitive to the value of licences. This means that the estimated rate of return to total capital will vary due to market changes in licence values, which may occur independently of economic performance of the fishery.

Table 3-8 Sensitivity of rate of return to changes in licence value, 2021/22 ^a

	-25%	Estimated Value	+25%
Net Licence Only			
Estimated Licence Value	\$72,035	\$96,046	\$120,058
Rate of Return to Total Capital (%)	-7.8%	-7.1%	-6.5%
Net and Pipi Licence			
Estimated Licence Value	\$2,121,806	\$2,829,074	\$3,536,343
Rate of Return to Total Capital (%)	19.1%	15.4%	12.8%
Whole Fishery			
Estimated Licence Value	\$1,068,977	\$1,425,303	\$1,781,629
Rate of Return to Total Capital (%)	16.6%	13.4%	11.3%

^a Based on the licence value estimated for 2021/22 and values 25 per cent above and below this estimate.

Source: Table 3-7 and BDO EconSearch analysis

3.6. State and Regional Economic Contribution

Estimates of the economic contribution of the Lakes and Coorong fishing industry in the South Australian and regional (Fleurieu/Kangaroo Island (KI)) and Murray/Mallee⁴) economies in 2021/22 are outlined below.

3.6.1. Measuring direct and flow-on effects

Estimates of the direct economic contribution of the Lakes and Coorong Fishery are consistent with the method employed in PIRSA's Value-added ScoreCards.

The following stages in the marketing chain have, therefore, been included in the quantifiable economic contribution:

- the landed beach value of production
- downstream contributions, including the:
 - net value of local (state and regional) processing

⁴ The Fleurieu/KI and Murray/Mallee regions are consistent with the SA Government Regions, as defined by the Department of Planning and Local Government.

- value of local transport services at all stages of the marketing chain
- net value of local retail and food service (e.g. hotels & restaurants) trade.

Each of these activities generates flow-on effects to other sectors through purchases of inputs and the employment of labour. These flow-on effects have been estimated using input-output analysis. Input-output analysis is widely used in economic impact analysis and is a practical method for measuring economic contributions at regional and state levels.

Economic contributions at the state and regional levels were based on models for the state as a whole and for the Fleurieu/KI and Murray/Mallee State Government regions, prepared for the Department of Premier and Cabinet (BDO EconSearch 2020).

In order to compile a representative cost structure for the fishing sector, costs per licence were derived from data provided by operators in the fishery in the financial survey for 2020/21, as previously described. On an item-by-item basis, the expenditures were allocated between those occurring in the regional economies, those occurring in South Australia and those goods and services imported from outside the state.

Estimates of the net value of local (i.e. regional and state) processing margins and retail and food service trade margins were derived from a method based on PIRSA's value-added ScoreCards (PIRSA, pers. comm.). Estimates of the net value of local transport margins and capital expenditure per licence holder were derived from the 2021 survey of licence holders.

Economic contributions have been specified in terms of the following economic indicators:

- value of output
- employment
- household income
- contribution to gross state or regional product.

Value of output is a measure of the gross revenue of goods and services produced by commercial organisations plus gross expenditure by government agencies. This indicator needs to be used with care as it includes elements of double counting.

Employment is a measure of the number of working proprietors, managers, directors and other employees, in terms of the number of full-time equivalent jobs.

Household income is a component of Gross State Product (GSP) and Gross Regional Product (GRP) and is a measure of wages and salaries, drawings by owner operators and other payments to labour including overtime payments and income tax, but excluding payroll tax.

Contribution to GSP or GRP is a measure of the net contribution of an activity to the state/regional economy. Contribution to GSP or GRP is measured as value of output less the cost of goods and services (including imports) used in producing the output. It can also be measured as household income plus other value added (gross operating surplus and all taxes, less subsidies). It represents payments to the primary inputs of production (labour, capital and land). Using contribution to GSP or GRP as a measure of economic contribution avoids the problem of double counting that may arise from using value of output for this purpose.

3.6.2. Economic contributions at the state and regional levels

Estimates of the economic contribution generated in 2021/22 by the Lakes and Coorong fishing industry in South Australia are detailed in Table 3-9. Estimates of the economic contribution in the Fleurieu/KI and Murray/Mallee regions are outlined in Table 3-10 and Table 3-11, respectively.

For each measure of economic activity, the contributions at the state level are greater than the sum of the regional level contributions. This is to be expected, as the regional contribution is simply a component, albeit a significant one, of the total state contribution.

The direct contribution measures fishing and downstream activities (i.e. processing, transport, retail/food services and capital expenditure). The flow-on contribution measures the economic effects in other sectors of the economy (trade, manufacturing, etc.) generated by the fishing industry activities, that is, the multiplier effects.

Table 3-9 The economic contribution of the Lakes and Coorong fishing industry in South Australia, 2021/22

Sector	Output		Employment ^a		Household Income		Contribution to GSP	
	(\$m)	%	(fte jobs)	%	(\$m)	%	(\$m)	%
Direct effects								
Fishing	12.4	34.1%	109	49.8%	3.2	28.6%	9.9	43.2%
Processing	1.4	4.0%	4	1.8%	0.2	2.0%	0.5	2.1%
Transport	0.6	1.8%	3	1.3%	0.2	2.0%	0.3	1.2%
Retail	0.1	0.2%	17	7.9%	1.0	9.3%	1.4	6.0%
Food services	0.6	1.6%	6	2.5%	0.2	2.1%	0.3	1.4%
Capital expenditure ^b	3.3	9.0%	5	2.2%	0.4	3.2%	0.4	2.0%
Total Direct ^c	18.4	50.7%	144	65.6%	5.3	47.2%	12.8	55.8%
Flow-on effects								
Trade	2.1	5.8%	13	5.8%	0.8	7.6%	1.2	5.3%
Manufacturing	2.0	5.6%	5	2.4%	0.4	3.4%	0.6	2.6%
Business Services	2.7	7.5%	16	7.4%	1.3	11.9%	1.5	6.5%
Transport	1.1	3.1%	4	1.9%	0.3	2.9%	0.5	2.1%
Other Sectors	10.0	27.4%	37	16.8%	3.0	27.0%	6.3	27.6%
Total Flow-on ^c	18.0	49.3%	76	34.4%	5.9	52.8%	10.2	44.2%
Total ^c	36.4	100%	220	100%	11.2	100%	23.0	100%
Total/Direct	2.0	-	1.5	-	2.1	-	1.8	-
Total/Tonne	\$23,300	-	0.14	-	\$7,100	-	\$14,700	-

^a Full-time equivalent jobs. Direct employment in the fishing sector was comprised of 93 full-time and 66 part-time jobs, that is, 159 jobs in aggregate, which was estimated to be equal to 109 fte jobs.

^b Capital expenditure includes expenditure on boats, fishing gear and equipment, sheds and buildings, motor vehicles and other equipment.

^c Totals may not sum due to rounding.

Source: BDO EconSearch analysis

Table 3-10 The economic contribution of the Lakes and Coorong fishing industry in the Fleurieu/KI region, 2021/22

Sector	Output		Employment ^a		Household Income		Contribution to GSP	
	(\$m)	%	(fte jobs)	%	(\$m)	%	(\$m)	%
Direct effects								
Fishing	5.8	61.8%	38	68.0%	1.5	56.1%	4.6	70.7%
Processing	0.3	2.7%	1	1.4%	0.0	1.7%	0.1	1.3%
Transport	0.0	0.3%	0	0.1%	0.0	0.1%	0.0	0.0%
Retail	0.0	0.0%	1	1.6%	0.1	2.1%	0.1	1.0%
Food services	0.0	0.3%	0	0.4%	0.0	0.4%	0.0	0.2%
Capital expenditure ^b	0	3.8%	2	3.4%	0.1	4.1%	0.1	1.9%
Total Direct ^c	6.5	68.9%	42	74.9%	1.7	64.5%	4.9	75.1%
Flow-on effects								
Trade	0.4	4.1%	3	4.7%	0.2	6.5%	0.2	3.4%
Manufacturing	0.2	2.5%	1	1.3%	0.1	2.0%	0.1	1.2%
Business Services	0.4	4.2%	3	5.6%	0.2	7.5%	0.2	3.4%
Transport	0.1	1.4%	1	1.0%	0.0	1.7%	0.1	0.9%
Other Sectors	1.8	18.9%	7	12.4%	0.5	17.7%	1.1	16.0%
Total Flow-on ^c	2.9	31.1%	14	25.1%	0.9	35.5%	1.6	24.9%
Total ^c	9.4	100%	57	100%	2.6	100%	6.6	100%
Total/Direct	1.5	-	1.3	-	1.3	-	1.3	-
Total/Tonne	\$17,000	-	0.10	-	\$4,800	-	\$11,900	-

^a Full-time equivalent jobs. Direct employment in the fishing sector was comprised of 31 full-time jobs and 21 part-time jobs, that is, 52 jobs in aggregate, which was estimated to be equal to 38 fte jobs.

^b Capital expenditure includes expenditure on boats, fishing gear and equipment, sheds and buildings, motor vehicles and other equipment.

^c Totals may not sum due to rounding.

Source: BDO EconSearch analysis

Table 3-11 The economic contribution of the Lakes and Coorong fishing industry in the Murray/Mallee region, 2021/22

Sector	Output		Employment ^a		Household Income		Contribution to GSP	
	(\$m)	%	(fte jobs)	%	(\$m)	%	(\$m)	%
Direct effects								
Fishing	6.6	57.7%	71	75.1%	1.7	51.8%	5.3	66.7%
Processing	0.5	4.1%	3	2.9%	0.2	4.7%	0.2	2.0%
Transport	0.0	0.4%	0	0.1%	0.0	0.1%	0.0	0.1%
Retail	0.0	0.0%	2	1.7%	0.1	2.8%	0.1	1.5%
Food services	0.0	0.4%	0	0.5%	0.0	0.5%	0.0	0.3%
Capital expenditure ^b	0	4.2%	2	1.8%	0.1	3.8%	0.1	1.8%
Total Direct ^c	7.7	66.8%	78	82.0%	2.1	63.7%	5.8	72.3%
Flow-on effects								
Trade	0.6	5.4%	4	3.9%	0.2	7.4%	0.4	4.5%
Manufacturing	0.3	2.4%	1	1.0%	0.1	1.8%	0.1	1.0%
Business Services	0.5	4.7%	4	3.9%	0.3	8.0%	0.3	3.8%
Transport	0.2	2.2%	1	1.0%	0.1	2.2%	0.1	1.4%
Other Sectors	2.1	18.6%	8	8.2%	0.6	16.9%	1.3	16.9%
Total Flow-on ^c	3.8	33.2%	17	18.0%	1.2	36.3%	2.2	27.7%
Total ^c	11.5	100%	95	100%	3.3	100%	7.9	100%
Total/Direct	1.5	-	1.2	-	1.2	-	1.2	-
Total/Tonne	\$11,400	-	0.09	-	\$3,300	-	\$7,900	-

^a Full-time equivalent jobs. Direct employment in the fishing sector was comprised of 62 full-time jobs and 45 part-time jobs, that is, 107 jobs in aggregate, which was estimated to be equal to 71 fte jobs.

^b Capital expenditure includes expenditure on boats, fishing gear and equipment, sheds and buildings, motor vehicles and other equipment.

^c Totals may not sum due to rounding.

Source: BDO EconSearch analysis

Value of output

The value of output generated directly in South Australia and the Fleurieu/KI and Murray/Mallee regions by Lakes and Coorong fishing enterprises summed to \$12.4 million in 2021/22 (Table 3-9 to Table 3-11). Output generated in South Australia by associated downstream activities (processing, transport, retail/food services and capital expenditure) summed to \$6.0 million (\$0.7 million in the Fleurieu/KI region and \$1.0 in the Murray/Mallee region, Table 3-10 and Table 3-11, respectively).

Flow-ons to other sectors of the state economy added another \$18.0 million in output (\$2.9 million in the Fleurieu/KI region and \$3.8 million in the Murray/Mallee region). The sectors most affected were the business services, trade, manufacturing and transport sectors. The total output contribution in SA (direct plus indirect) was estimated to be \$36.4 million in 2021/22 (\$9.4 million in the Fleurieu/KI region and \$11.5 million in the Murray/Mallee region).

Employment and household income

In 2021/22, the Lakes and Coorong Fishery was responsible for direct employment of around 109 full-time equivalents and downstream activities created employment of around 35 fte jobs state-wide. Flow-on business activity was estimated to generate a further 76 fte jobs state-wide (14 jobs in the Fleurieu/KI and 17 jobs in the Murray/Mallee). These state-wide jobs were concentrated in the business services (16), trade (13), manufacturing (5) and transport (4) sectors. The total employment contribution in SA was estimated to be 220 fte jobs (57 fte jobs in the Fleurieu/KI region and 95 fte jobs in the Murray/Mallee region).

Personal income of \$3.2 million was earned in the fishing sector (wages of employees and estimated drawings by owner/operators) and \$2.1 million in downstream activities in SA. An additional \$5.9 million was earned by wage earners in other businesses in the state (\$0.9 million in the Fleurieu/KI region and \$1.2 million in the Murray/Mallee region). The total household income contribution was estimated to be \$11.2 million in SA (\$2.6 million in the Fleurieu/KI region and \$3.3 million in the Murray/Mallee region).

Contribution to GSP and GRP

As noted above, contribution to GSP or GRP is measured as value of output less the cost of goods and services (including imports) used in producing the output. In 2021/22, total Lakes and Coorong fishing industry related contribution to GSP in South Australia was \$23.0 million (\$6.6 million in the Fleurieu/KI region and \$7.9 million in the Murray/Mallee region). The contribution to GSP was made up of \$9.9 million directly from fishing, \$2.9 million from downstream activities and \$10.2 million indirectly from other sectors.

Total contributions over time

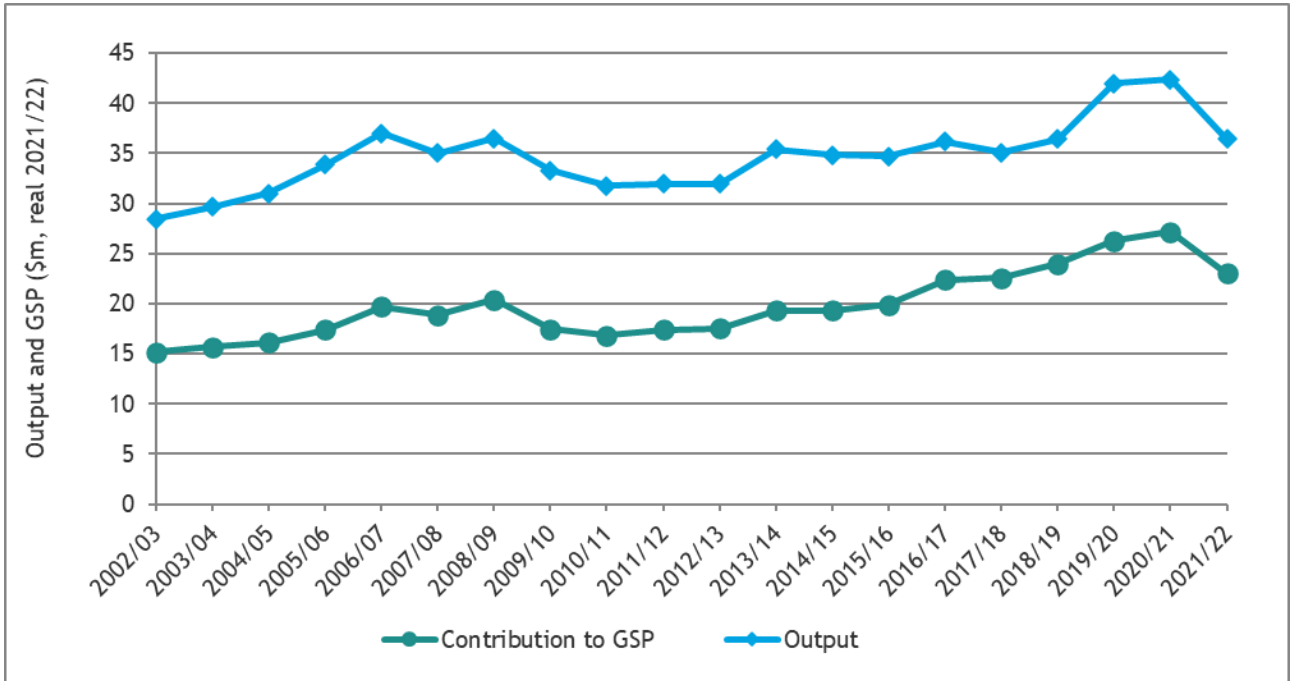
The trend in annual total economic contribution of the commercial fishery is a performance indicator for the fishery (Table 3-1). Figure 3-7 and Figure 3-8 illustrate the total economic contribution of the fishery on the SA economy for the 20 years, 2002/03 to 2021/22. Estimates of economic contribution are expressed in 2021/22 dollars. The Adelaide Consumer Price Index was used to adjust for inflation (ABS 2022a). As estimates of economic contribution are based on different survey samples and techniques, some of the variability between years is attributable to sampling variability.

Care should be taken when using value of output as a measure of economic contribution as it includes elements of double counting. Using contribution to GSP is the preferred measure of net contribution to the SA economy.

There has been an overall increase in total output, GSP and household income contributions of the fishery since 2002/03 (Figure 3-7 and Figure 3-8). Over the last 20 years, the Lakes and Coorong Fishery has added \$396 million (2021/22 dollars) to the state economy, on average \$20 million per annum. Despite little change in total catch over the last 20 years (Figure 3-5), GVP and GSP have risen (in both real and nominal terms) (Figure 3-7 and Figure 3-5). The continued rise in GVP and GSP is likely due, at least in part, to the effort invested by many of the licence holders in accessing new and more lucrative markets and finding new ways to value add their products. These efforts have flow-on effects for the value of catch from fishers as the profile of the whole fishery is raised.

Employment decreased between 2006/07 and 2012/13. This was due to both a decrease in reported overall employment between the 2010 and 2013 surveys affecting direct employment and the slight reduction in reported expenditure reducing the flow on effects to other sectors of the economy. Since 2013/2014 employment has trended upward. In recent years this increase is likely due to increased investment in the fishery generating more employment. The decline in 2021/22 is mainly attributable to the reduction in catch (19 per cent lower than 2020/21).

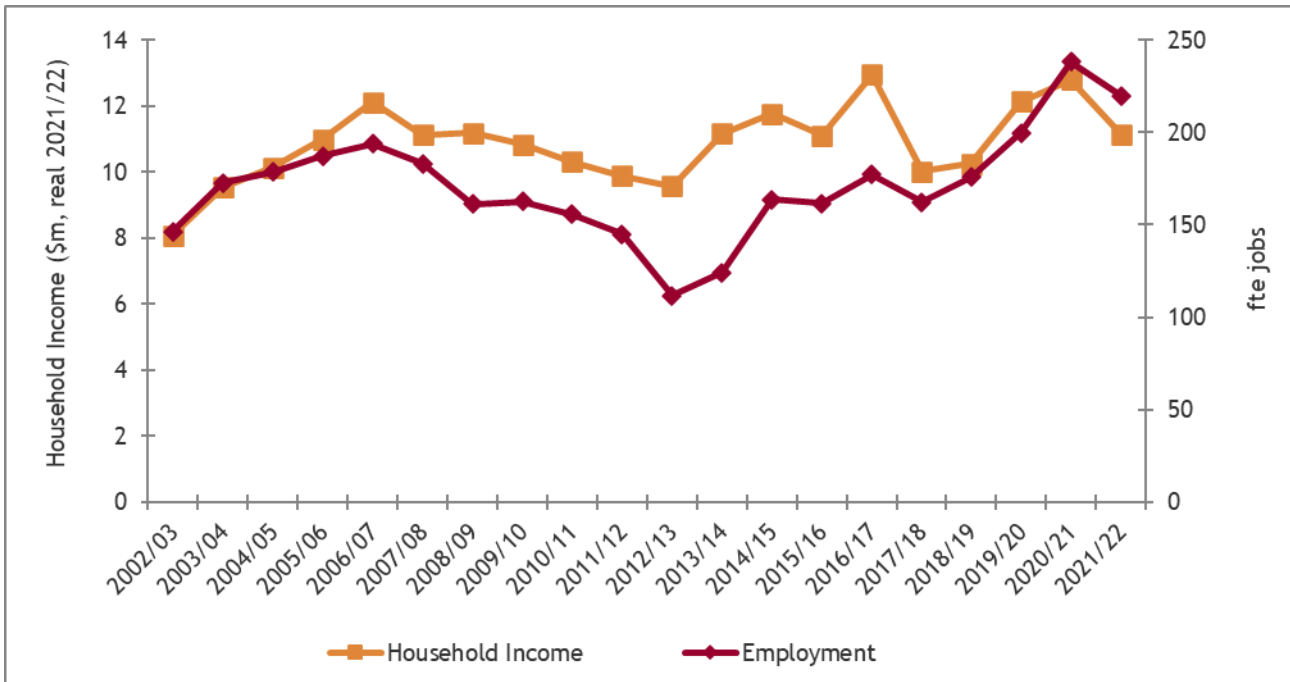
Figure 3-7 Total gross state product and output contribution of the Lakes and Coorong Fishery on the SA economy, 2002/03 to 2021/22^a



^a Monetary values have been converted to 2021/22 dollars using the Adelaide CPI (ABS 2022a).

Source: BDO EconSearch (2022a), ABS (2022a) and BDO EconSearch analysis

Figure 3-8 Total employment and household income contribution of the Lakes and Coorong Fishery on the SA economy, 2002/03 to 2021/22^a



^a See notes for Figure 3-7

Source: BDO EconSearch (2022a) and BDO EconSearch analysis

3.7. Net Economic Return

Net economic return (NER) is the return from a fishery after all costs have been met. It is equal to fishing revenue less fishing costs (cost of labour, capital including depreciation, materials and an allowance for “normal” profit). Net economic return is maximised when economic efficiency is maximised. Net economic return⁵ can also be defined as the difference between the price of a good produced using a natural resource and the unit costs of turning that natural resource into the good. If there are more boats and employment in the fishery (including by design through regulation) then profits and NER will be lower.

The long-term costs all need to be covered if the licence holder is to remain in the fishery. These long-term costs include direct operating costs such as fuel, labour (including the opportunity cost of a self-employed fisher’s own labour), bait, overheads such as administration and licence fees and the cost of capital invested in the boat and gear (excluding licence). Capital cost includes depreciation and the opportunity cost of the capital applied to the fishery. The opportunity cost is equivalent to what the fisher’s investment could have earned in the next best alternative use.⁶

The net economic return for the years 2002/03 to 2021/22 for the Lakes and Coorong Fishery is outlined in Table 3-12. The net economic return generated in the Lakes and Coorong Fishery was estimated to be \$5.3 million in 2021/22, a decrease from \$7.1 million in 2020/21 and \$9.3 million in 2019/20. The overall increasing trend in NER up to 2019/20 is mostly attributable to increasing gross income and decreasing cash costs. The decrease in economic return since 2020/21 is mainly a result of increased and opportunity cost of capital. As explained earlier in the report, total investment in capital rose significantly across the fishery in 2020/21. Therefore, the depreciation and opportunity have cost also increased since then. Although these two factors have had a negative impact on net economic return, it is expected that the additional investment in capital will result in higher revenue and therefore increased net economic return in upcoming years.

5 Net economic return or economic rent is comprised of three types of rent: entrepreneurial rent, quasi-rent and resource rent. As in any business some operators are more skilful than others and will therefore earn more profit. These profits, which are one component of net economic return, are entrepreneurial rents. In the short-term fishers may earn large surpluses over costs, which may provide prima facie evidence of substantial resource rents. However, there are some circumstances where such surpluses can occur but they are not true rents. These are referred to as quasi-rents. One example is where a fishery is developing or recovering and there may be under-investment in the fishery. Another example is where there is a short-term but unsustainable increase in price due to, for example, exchange rate fluctuations. However, some profits will be obtained because the natural resource being used (i.e. the fishery) has a value. These profits are described as resource rents and are also a component of net economic return.

6 The inclusion of opportunity costs means that net economic return is very different to business profit. Many primary industries can have negative rent but positive business profits. The presence of positive net economic return results in licences having value and also the payment of lease fees in quota fisheries.

Table 3-12 Net economic return ^a in the Lakes and Coorong Fishery, 2002/03 to 2021/22 (\$'000) ^{b, c}

	Gross Income	Less Labour	Less Cash Costs	Less Depreciation	Less Opportunity Cost of Capital (@10%)	Net economic return
2002/03	7,119	3,144	2,439	803	483	249
2003/04	8,336	3,232	2,464	804	483	1,351
2004/05	8,326	3,422	2,601	985	592	726
2005/06	8,651	3,166	2,607	812	548	1,518
2006/07	10,252	3,889	2,890	1,041	702	1,731
2007/08	10,353	3,726	2,792	1,124	758	1,953
2008/09	11,370	4,546	3,276	962	529	2,057
2009/10	8,102	3,840	2,910	985	542	-175
2010/11	8,304	3,792	2,941	1,032	568	-28
2011/12	8,966	2,797	2,449	696	438	2,587
2012/13	9,656	2,871	2,692	707	445	2,941
2013/14	9,683	3,299	2,715	711	447	2,511
2014/15	9,121	2,932	2,490	731	663	2,305
2015/16	9,803	2,755	2,558	713	647	3,129
2016/17	11,135	2,700	2,333	698	633	4,770
2017/18	12,838	1,992	1,772	588	512	7,975
2018/19	14,440	1,900	1,943	553	482	9,562
2019/20	13,971	1,858	1,885	522	455	9,252
2020/21	14,594	2,573	2,191	1,531	1,220	7,079
2021/22	12,415	2,349	2,088	1,487	1,184	5,307

^a Adjusted for sample bias.

^b This table presents net economic return in real 2021/22 dollars. Nominal net economic return is presented in Appendix 5.

^c Estimates of cash costs from 2015/16 to 2019/20 have been revised to include waived licence fees.

Source: BDO EconSearch analysis

4. OTHER INDICATORS

4.1. Factors Influencing the Economic Condition of the Lakes and Coorong Fishery

There are a number of factors in 2021/22 that have impacted on the economic performance of the fishery. Most of these are likely to continue to affect economic outcomes in the future.

4.1.1. Nominal wholesale prices for Lakes and Coorong Fishery species in SA

An outline of wholesale prices for fish species in South Australia for the period 2002/03 to 2021/22 is provided in Table 4-1 and Table 4-2.

Wholesale prices in SA have trended upwards during this period for most species. As mentioned earlier, there has been a large rise in the price of Pipis over the 20 years across both South Australian and interstate markets.

An outline of wholesale prices for fish species from the Lakes and Coorong Fishery in South Australian and interstate markets is provided in Table 4-3 and Table 4-4

These prices are based on the wholesale prices in SA and revalued using Sydney and Melbourne fish market prices and survey data as described in Section 3.2.

Table 4-1 Average annual nominal wholesale price for Lakes and Coorong Fishery species, South Australia only, 2002/03 to 2010/11 (\$/kg)

	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Australian Salmon	1.00	1.50	1.25	1.33	1.50	1.67	2.20	2.20	1.75	2.00
Black Bream	9.17	10.00	9.17	9.86	12.75	10.25	9.00	15.00	15.50	12.33
Bony Bream	1.07	1.00	1.00	1.00	1.00	1.00	1.00	0.41	0.61	0.51
Callop	10.89	10.18	10.09	9.93	9.30	10.80	12.95	13.06	12.79	11.47
European Carp	0.72	0.70	0.66	1.24	1.19	1.50	1.02	0.85	0.67	0.64
Pipi	1.16	1.34	1.20	1.62	1.95	3.37	6.90	9.89	7.41	7.24
Flounder	8.83	8.17	8.67	8.86	10.20	10.00	16.00	12.00	n.a.	8.03
Yellow-Eye Mullet	2.35	2.32	2.23	2.46	2.84	2.88	3.36	4.32	4.10	4.06
Mulloway	5.73	5.23	5.54	5.08	6.20	7.13	7.63	6.88	n.a.	6.84
Redfin	4.17	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	5.10	7.16

Source: SARDI Aquatic Sciences

Table 4-2 Average annual nominal wholesale price for Lakes and Coorong Fishery species, South Australia only, 2010/11 to 2020/21 (\$/kg)

	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Australian Salmon	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Black Bream	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bony Bream	0.48	0.49	0.54	0.46	0.45	0.50	0.52	0.56	0.62	0.65
Callop	10.03	12.45	13.50	14.42	14.32	13.93	15.84	17.22	19.04	22.80
European Carp	0.69	0.70	0.86	0.58	0.58	0.68	0.69	0.81	0.73	0.90
Pipi	7.41	7.02	7.11	7.07	7.75	7.81	11.66	11.16	12.39	13.90
Flounder	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Yellow-Eye Mullet	4.71	4.53	5.08	5.33	5.11	5.23	4.50	4.22	5.15	5.37
Mulloway	7.25	7.60	8.24	7.77	7.55	6.84	7.22	7.79	9.28	11.68
Redfin	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	6.28	7.22	8.52	8.85

Source: SARDI Aquatic Sciences

Table 4-3 Average annual nominal wholesale price for Lakes and Coorong Fishery species, South Australian and interstate markets, 2001/02 to 2009/10 (\$/kg)^a

	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Australian Salmon	1.00	1.50	1.25	1.33	1.50	1.67	2.20	2.20	1.75	2.00
Black Bream	9.17	10.00	9.17	9.86	12.75	10.25	9.00	15.00	n.a.	12.33
Bony Bream	1.07	0.84	0.84	1.00	1.00	1.00	1.00	0.41	0.61	1.08
Callop	15.35	14.34	14.21	8.89	15.11	17.56	21.06	21.23	20.80	14.81
European Carp	1.85	1.78	1.69	1.29	1.27	1.60	1.09	0.91	0.71	1.11
Pipi	1.85	2.15	1.93	2.62	2.69	4.64	9.51	9.89	9.50	8.41
Flounder	8.83	8.17	8.67	8.86	10.20	10.00	16.00	12.00	n.a.	8.03
Yellow-Eye Mullet	2.35	2.32	2.23	2.46	2.84	2.88	3.36	4.32	4.10	10.83
Mulloway	6.81	6.20	6.58	6.09	6.50	7.46	7.99	7.21	n.a.	10.59
Redfin	4.17	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	5.10	7.16

Table 4-4 Average annual nominal wholesale price for Lakes and Coorong Fishery species, South Australian and interstate markets, 2010/11 to 2020/21 (\$/kg)^a

	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Australian Salmon	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Black Bream	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bony Bream	1.02	1.03	0.54	0.46	0.45	1.08	1.13	1.22	1.33	1.41
Callop	12.94	16.07	16.56	17.68	17.56	16.05	18.24	19.82	21.92	26.26
European Carp	1.20	1.21	1.03	0.69	0.69	1.42	1.43	1.70	1.52	1.88
Pipi	8.61	8.16	8.73	8.68	9.52	9.23	11.66	13.18	14.64	16.42
Flounder	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Yellow-Eye Mullet	12.57	12.07	10.21	10.70	10.28	8.80	7.57	7.11	8.68	9.04
Mulloway	11.22	11.76	9.80	9.24	8.98	8.68	9.16	9.89	11.78	14.82
Redfin	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	6.28	7.22	8.52	8.85

^a The figures are based on the BDO EconSearch revaluation of SARDI GVP data (See section 3.2 for details of the revaluation process).

Source: Knight et al. (2004), SARDI Aquatic Sciences, Melbourne and Sydney fish markets data and 2021 survey of licence holders

4.1.2. COVID-19 Pandemic

The Lakes and Coorong Fishery was one of the South Australian fisheries that was affected by the COVID-19 pandemic. In January 2020, the COVID-19 pandemic was beginning to affect key export markets, as countries closed their borders and entered into lockdowns. By March 2020, the Lakes and Coorong fishery's access to key interstate markets in Sydney and Melbourne was significantly impacted due to a loss of transport capacity. Key niche markets in Sydney and Melbourne were lost, and are not expected to be regained quickly (Neil MacDonald, pers. comm. May 2021).

Lakes and Coorong fishers were advised by the Adelaide market not to send any large quantities as demand was uncertain and the market was at risk of closing. The early period of the pandemic was significant in terms of the loss of markets and demand, leaving many net fishers struggling financially. After a short period of uncertainty when restaurants closed, retail and wet market sales increased as there was a shift to dine in from dine out. The fishery was therefore able to recover quickly as sales lost to restaurants during the initial collapse were replaced by retail sales.

4.1.3. Bait market impact Rock Lobster market access issues

The loss of the Rock Lobster market in China also meant the bait market essentially ceased for a significant period of time and has only slowly started to rebuild. The decision by government to defer payments rather than provide fee relief, meant fishers were squeezed financially while seeking to recover funds to offset the losses made during the earlier COVID-19 period.

4.1.4. Ngarrindjeri community

The Ngarrindjeri community have a long history of harvesting Kuti (the Aboriginal name for Pipi) around the Lakes and Coorong. In recent years they have invested in the Lakes and Coorong Pipi Fishery and have built a strong commercial partnership with Goolwa PipiCo, who process and market their catch, and in 2019 teamed up to open the Kuti Shack on Goolwa beach. It is hoped that this collaboration will increase indigenous and historic awareness and create further opportunities, such as employment, for the Ngarrindjeri community (Goolwa PipiCo, 2019).

4.1.5. Long-nosed fur seals (LNFS)

The most commented on factor affecting the Lakes and Coorong Fishery in the 2016, 2018 and 2021 surveys was the recent expansion of the LNFS population into the fishery and the associated increase in LNFS interactions with fishers and their equipment. While LNFS have reportedly been present in the fishery since 2007, they have only become a serious issue for fishers since 2012/13. Seals continue to create issues for net fishers, such as a loss of income due to loss of product from depredation and significant loss of time and money to replace nets or repair the nets due to seal damage. Seal numbers, while following a seasonal trend, are increasing annually with more seals remaining "resident" in the region. Unlike in the early period where numbers diminished significantly over the summer period, this means that there is now little relief from them year round. A significant effect of this is a reduction in landed catch. Although catch has been increasing in recent years, the improved environmental conditions would have resulted in even higher levels of catch if the fishery had not been subject to high levels of predation on nets by LNFS (SFA Executive Officer, pers. Comm.).

4.1.6. Statistical and stock assessment reports

The *Fishery Statistical report for the South Australian Lakes and Coorong Fishery* is undertaken on an annual basis. It provides a historical summary of the commercial and recreational fishery statistics for key species and assesses the recent condition of the environment in which the fishery operates against reference points set in the management plan. The stock status of key species reported the latest stock statistics report for 2021/22 is included in Table 4-5 (Earl, Rogers and Bailleul 2022):

Table 4-5 Stock assessment by species in the Lakes and Coorong Fishery, 2020/21

Species	Stock Status
Mulloway	Sustainable
Black Bream	Depleted
Greenback Flounder	Depleted
Yelloweye Mullet	Sustainable
Golden Perch	Sustainable
Bony Herring	Sustainable
Pipi	Sustainable

Source: Earl, Rogers and Bailleul 2022

As noted in Section 3.3, licence fees are set to cover the cost of managing the fishery. These costs include some services, such as production of biological indicators that allows SARDI to use catch and effort data to produce statistics and stock assessment reports.

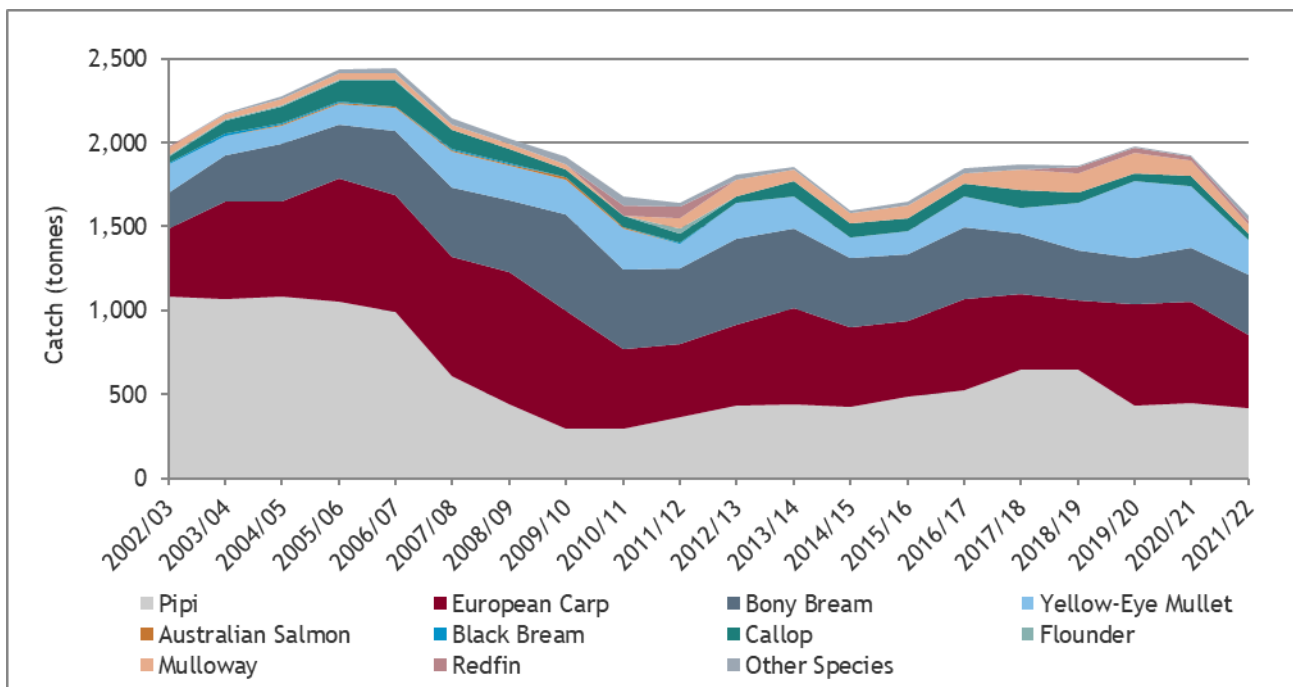
Further information about the condition of the stocks of key species can be found in the *Fishery stock statistics report* prepared by SARDI for PIRSA Fisheries and Aquaculture (Earl 2019). There are also stock assessment reports available for selected species within the Lakes and Coorong Fishery.

5. ECONOMIC TRENDS IN THE FISHERY

5.1. Catch and Gross Value of Production

Between 2002/03 and 2005/06 the catch of the fishery followed an increasing trend, but has decreased since with some fluctuation (Figure 5-1). The largest factor for the decreased catch since 2005/06 is lower Pipi catch, due to the fishery moving towards the human consumption market. In 2021/22 there was a notable fall in catch of European Carp and Yellow-Eye Mullet.

Figure 5-1 Lakes and Coorong Fishery catch (tonnes), 2002/03 to 2021/22

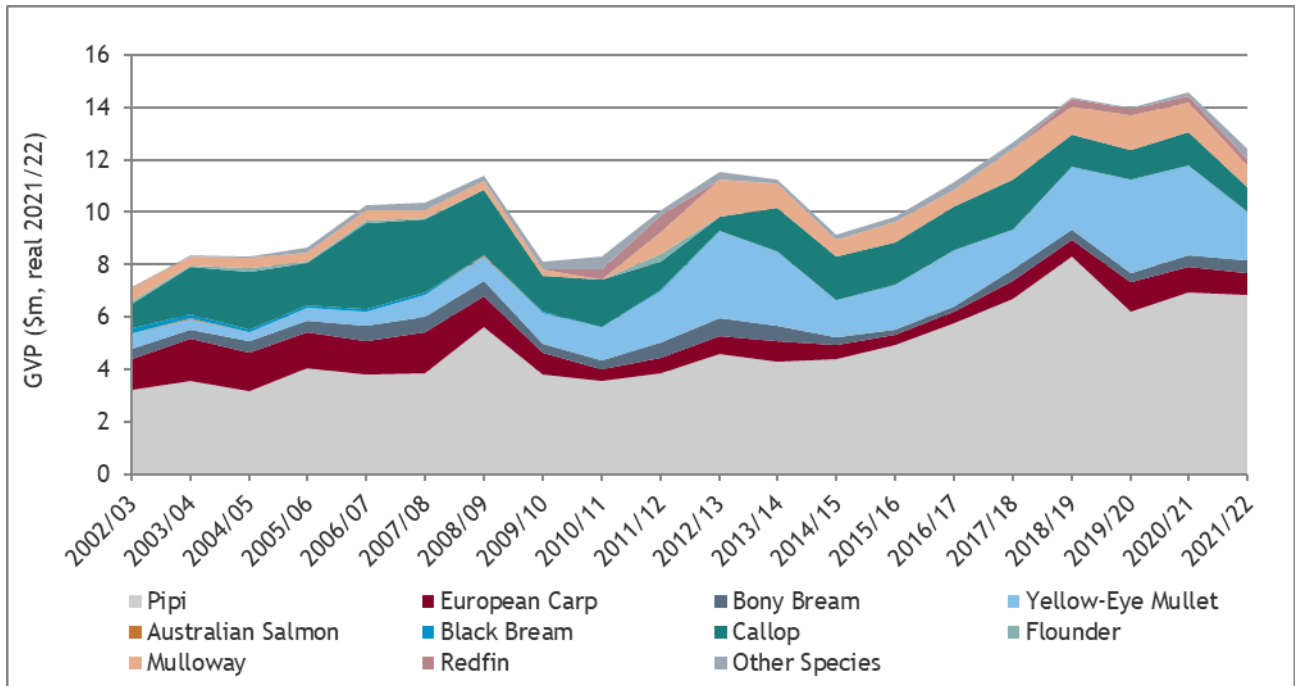


Source: Table 3-2

The GVP for the Lakes and Coorong Fishery for the period 2002/03 to 2021/22 is illustrated in Figure 5-2. One of the performance indicators associated with the achievement of the economic objectives of the management plan is the trend in fishery GVP (Table 3-1). Between 2002/03 and 2021/22 total fishery GVP had trended upwards, but with notable downturns in 2009/10, 2014/15 and 2021/22 (Figure 5-2). The majority of the increase in GVP is attributed to Pipi and Yellow-Eye Mullet.

Price indices for the fishery for 2002/03 to 2021/22 are illustrated in Figure 5-3. Between 2002/03 and 2021/22 both nominal and real average price of the Lakes and Coorong Fishery species has trended upwards. The nominal average price has increased by 250 per cent over the period, which was equivalent to a 121 per cent rise in real price. The average price of Lakes and Coorong Fishery species is calculated as total fishery GVP divided by total volume of catch, in other words an average price weighted by catch. This is a way of condensing prices for all species into a single annual value.

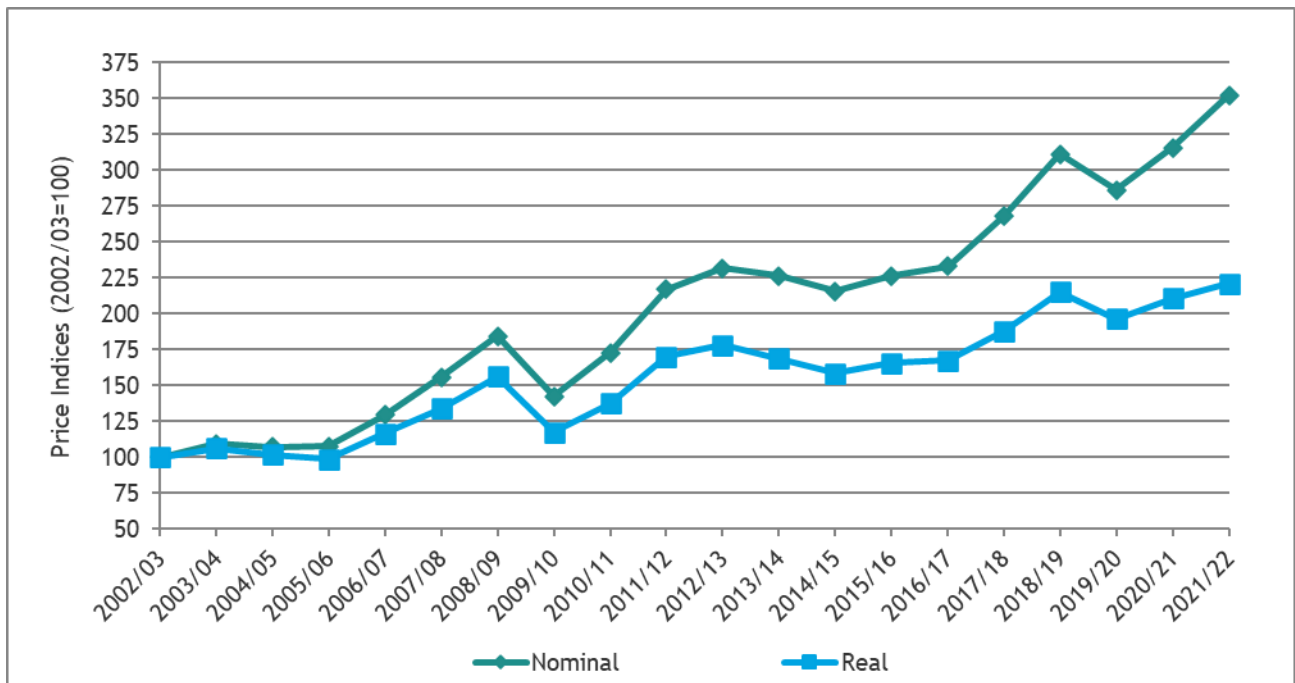
Figure 5-2 Lakes and Coorong Fishery GVP, 2002/03 to 2021/22 ^a



^a Values have been converted to real 2021/22 dollars.

Source: Figure 3-4

Figure 5-3 Price Indices for the Lakes and Coorong Fishery ^a



^a Nominal price refers to the beach price in the current year's dollars. Real price is the nominal price adjusted for the purchasing power of money. The CPI (consumer price index) has been used to make this adjustment (ABS 2022a). It enables meaningful comparisons of prices to be made between years.

Source: Table 3-1 and Table 3-2

5.2. Management Costs

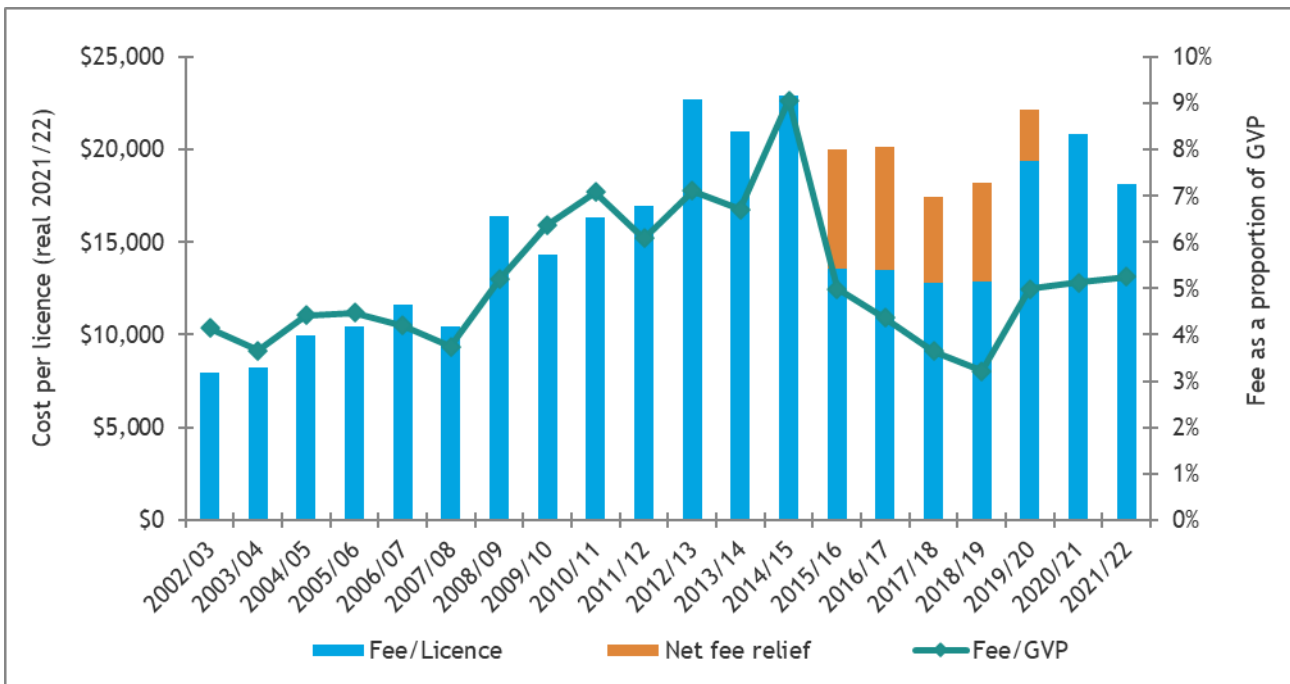
Licence fees from Lakes and Coorong Fishery licence holders are collected in accordance with the PIRSA Cost Recovery Policy and the Australian Government’s Cost Recovery Guidelines (July 2014). Accordingly, licence fees are set to cover the cost of managing the Lakes and Coorong Fishery. For the purpose of this analysis, the cost of providing these management services has been assumed to be equal to the gross receipts from licence fees in the fishery (PIRSA, pers. comm.), although this excludes some known small subsidies, such as federal government grants for research and stock status assessments.

The average management fee per licence holder and the licence fee as a proportion of GVP are illustrated in Figure 5-4. Licence fees as a percentage of GVP increased, with some fluctuation, between 2002/03 and 2014/15. Since 2014/15 the trend seems to have reversed, partially due to net fee relief between 2015/16 and 2019/20 and increased total GVP.

The average real licence fee per licence holder increased from \$8,000 in 2002/03 to \$16,000 in 2008/09, reflecting a decrease in the number of licence holders (from 37 to 36) and an increase in total management costs (Figure 5-4). Between 2008/09 and 2014/15 average management fees increased to \$23,000 principally due to the introduction of the Pipi quota system. The average licence fee per licence holder was lower, between 2015/16 and 2018/19 as a result of the net fee relief. In 2021/22 the average licence fees per licence holder was \$18,000.

A portion of the total management cost since 2002/03 has been the PIRSA initiative to support industry associations to develop their capacity to effectively participate in the fisheries management process, to support industry based research and development initiatives, and to support the MSC certification process (Section 3.3).

Figure 5-4 Management fee per licence holder and as a proportion of GVP, Lakes and Coorong Fishery, 2002/03 to 2021/22 ^a



^a Estimates of the average fee per licence holder are expressed in real 2021/22 dollars.

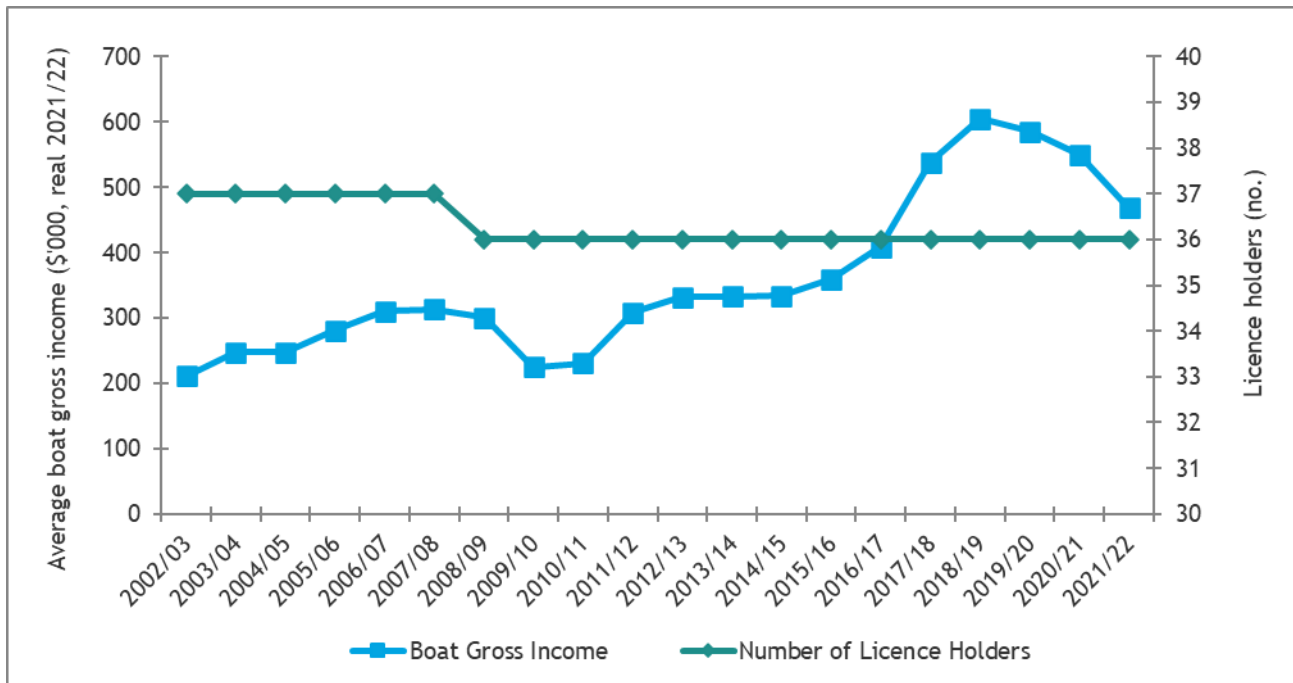
Source: Table 3-4

5.3. Financial Performance Indicators

Average income

The average income per licence holder and total number of licence holders in the fishery for the period 2002/03 to 2021/22 is illustrated in Figure 5-5. One of the performance indicators associated with the achievement of the economic objectives outlined in the management plan for the fishery is the trend in the number of licence holders in the fishery (Table 3-6). The total number of licence holders decreased marginally (from 37 to 36) over the period 2002/03 to 2021/22. Accordingly, changes in the average income per licence holder closely relate to the total GVP for the fishery. The average real income per licence holder has increased from approximately \$211,000 in 2002/03 to \$605,000 in 2018/19, but has since fallen to \$468,000 in 2021/22 (Figure 5-5).

Figure 5-5 Average income per licence holder in the Lakes and Coorong Fishery, 2002/03 to 2021/22 ^a



^a Estimates of average boat gross income are expressed in real 2021/22 dollars.

Source: Table 3-4, Table 3-6 and Appendix Table 3-1 to Appendix Table 3-5

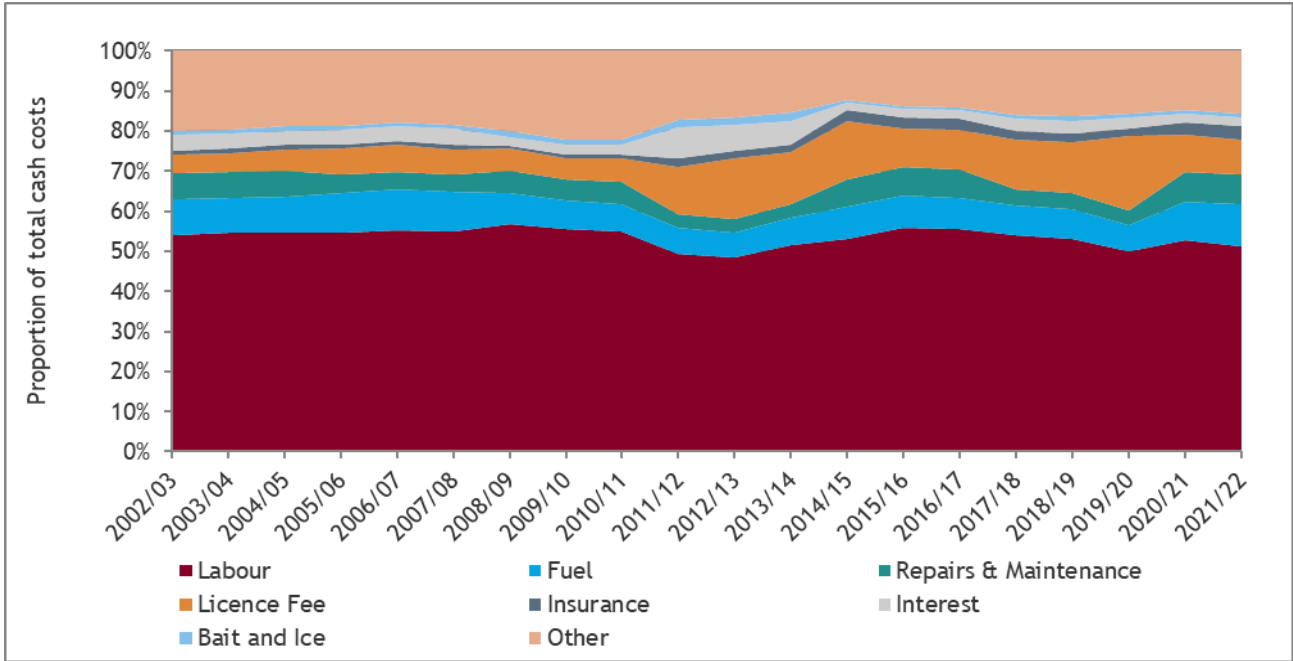
Operating cost trends

A breakdown of major cost items as a proportion of total cash costs is illustrated in Figure 5-6. In each year of the analysis labour costs accounted for the largest share of total cash costs. The labour costs are comprised of payments to licence owners and crew as well as an imputed wage to those licence owners and other family members who are not paid a wage directly by the business. Other significant cash costs were licence fees, fuel and repairs and maintenance. Debt levels for land-based infrastructure such as fish processing and depuration for pipis have increased over that time which was reflected in higher interest payments.

The cash costs detailed in Figure 5-6 can be categorised as either variable or fixed costs. Total variable costs and total fixed costs are illustrated in Figure 5-7 on an average per boat basis. Total fixed costs have

generally followed an increasing trend over the period 2002/03 to 2021/22. Total variable have fluctuated over the period, but have not followed a clear overall trend. Variable and fixed costs have increased since 2019/22 primarily due to increases in variable labour, repairs and maintenance, fuel and insurance.

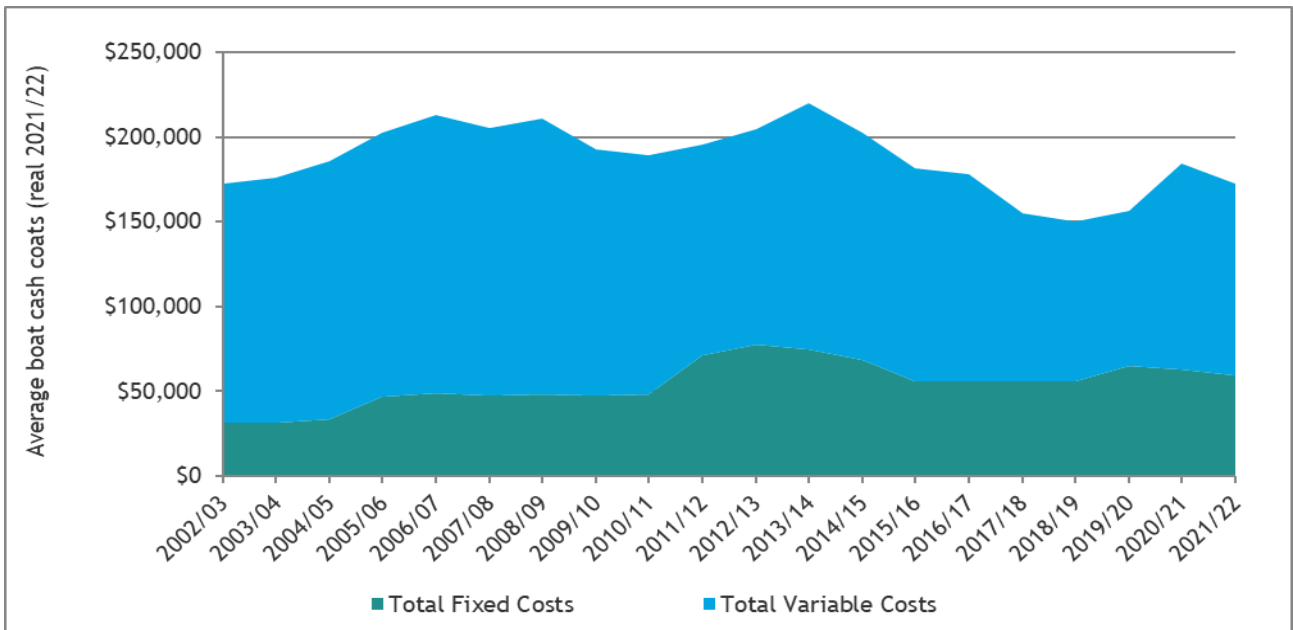
Figure 5-6 Cost shares in the Lakes and Coorong Fishery, 2002/03 to 2021/22 ^a



^a Financial performance estimates were based on different survey samples and techniques. Some of the difference between years is, therefore, attributable to sampling variability.

Source: Table 3-6 and Appendix Table 3-1 to Appendix Table 3-5

Figure 5-7 Average total costs in the Lakes and Coorong Fishery 2002/03 to 2021/22 ^a



^a Estimates of average costs are expressed in real 2021/22 dollars.

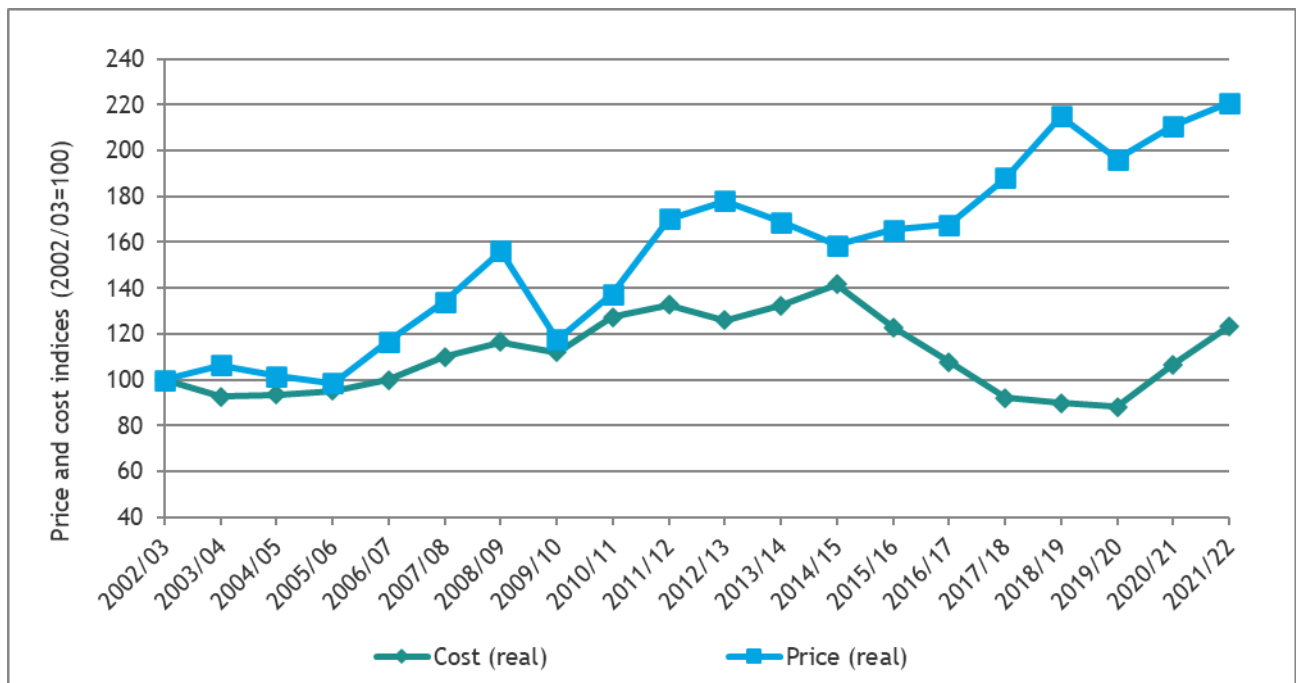
Source: Table 3-6 and Appendix Table 3-1 to Appendix Table 3-5

Cost Price Squeeze

Real price and cost indices⁷ for the Lakes and Coorong Fishery for the years 2002/03 to 2021/22 are summarised in Figure 5-8. These indicators are derived from the average price and average cost per kilogram of catch, in real terms.

Between 2002/03 and 2021/22 the average price of Lakes and Coorong Fishery species increased by approximately 121 per cent in real terms (Figure 5-8). The average cost of catching Lakes and Coorong Fishery species followed an increasing trend between 2002/03 and 2014/15 but a declining trend until 2019/20. In 2020/21 and 2021/22 the average cost of catching Lakes and Coorong Fishery species increased, resulting in the overall average cost per kilogram increasing between 2002/03 and 2021/22 by 23 per cent in real terms (Figure 5-8).

Figure 5-8 Price and cost indices for the Lakes and Coorong Fishery, 2002/03 to 2021/22 ^a



^a Estimates of price and cost indices are expressed in real 2021/22 dollars.

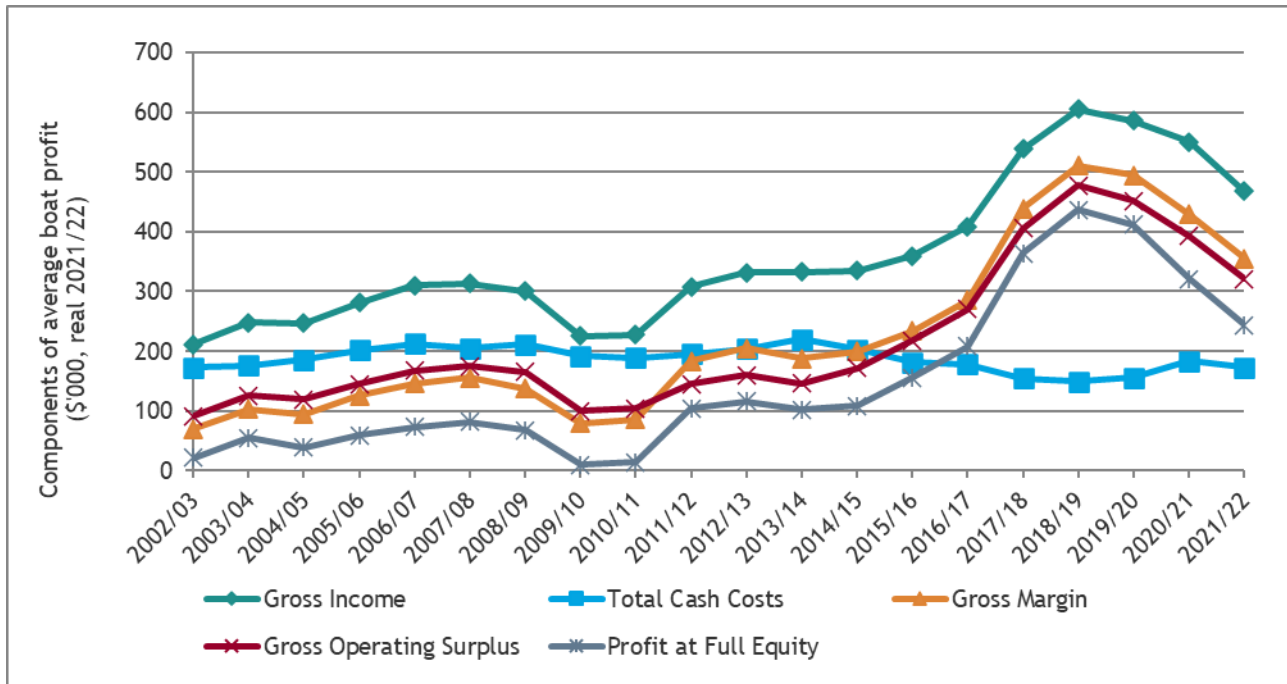
Source: Table 3-2, Table 3-6 and Appendix Table 3-1 to Appendix Table 3-5

Profitability

Selected measures of profitability for the Lakes and Coorong Fishery are summarised in Figure 5-9 for the years 2002/03 to 2021/22. Profits have generally increased over the period of analysis, however most of this increase was between 2014/15 and 2018/19 but have fallen since (Figure 5-9).

⁷ An index based on total boat cash costs which includes the opportunity cost of labour. It is important to note that when total boat cash costs equals price, the fishers are still making money, i.e. they are drawing a wage from the business.

Figure 5-9 Average income and profit per boat in the Lakes and Coorong Fishery, 2002/03 to 2021/22^a



^a Estimates of income and profitability measures are expressed in real 2021/22 dollars.

Source: Table 3-6 and Appendix Table 3-1 to Appendix Table 3-5

Return to Capital

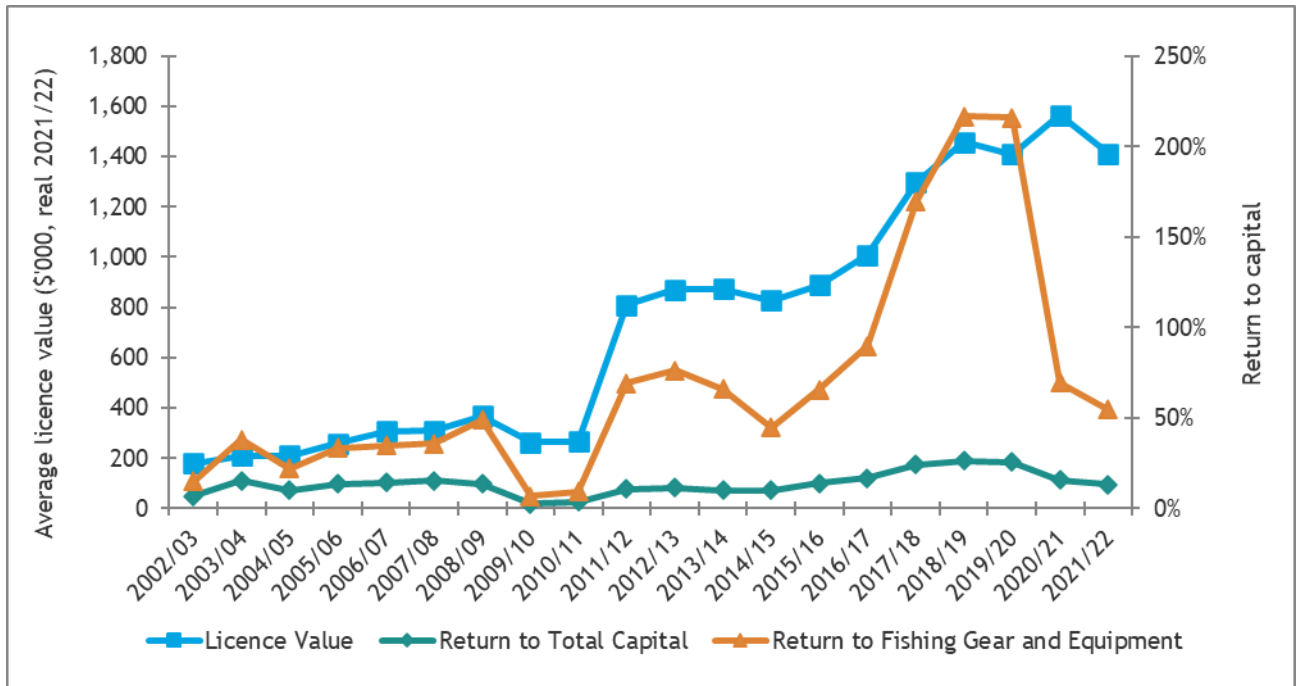
Estimates of the average licence value and the rate of return to capital are illustrated in Figure 5-10. Total capital includes boats, licence/quota, fishing gear, sheds, vehicles and other capital items used as part of the fishing enterprise. Return to capital is calculated to be profit at full equity as a percentage of both total capital employed and total capital excluding licence/quota.

The average licence value increased sharply between 2010/11 and 2011/12. This increase was driven primarily by the large increase in the value of Pipi quota since the previous survey in 2008/09. This was likely driven by the introduction of a quota system for Pipsis (2007/08) and an increasing ability to sell Pipsis for human consumption at a higher price than received when sold for bait. The high average licence value for the survey sample was also due in part to the over representation of Pipi quota within the survey⁸.

Another performance indicator related to achieving the economic objectives of the management plan for the fishery is the trend in the annual return to capital in the commercial fishery (Table 3-6). The average return on fishing gear and equipment and on total capital generally followed an increasing trend between 2002/03 and 2021/22, despite significant falls in 2009/10, 2014/15, and 2020/21 (Figure 5-10). The substantial increase in the investment of capital for Pipi fishers observed in the 2021 survey is likely due to the high profitability of the Lakes and Coorong Fishery in recent years. The recent increase in investment for net fishers is likely due to the replacement of capital required as a result of the damage caused by long-nosed fur seals (Section 4.1.5).

⁸ The participants in the 2016 Economic indicators survey owned 68 per cent of the Pipi quota, but represented only 50 per cent of the licence holders in the fishery. If this survey bias is taken into account, the average licence value for the fishery is just over \$414,000. Estimates of the average value of a 25 net licence with no Pipi quota were around \$87,000 (Table 3-8).

Figure 5-10 Return to capital in the Lakes and Coorong Fishery, 2002/03 to 2021/22



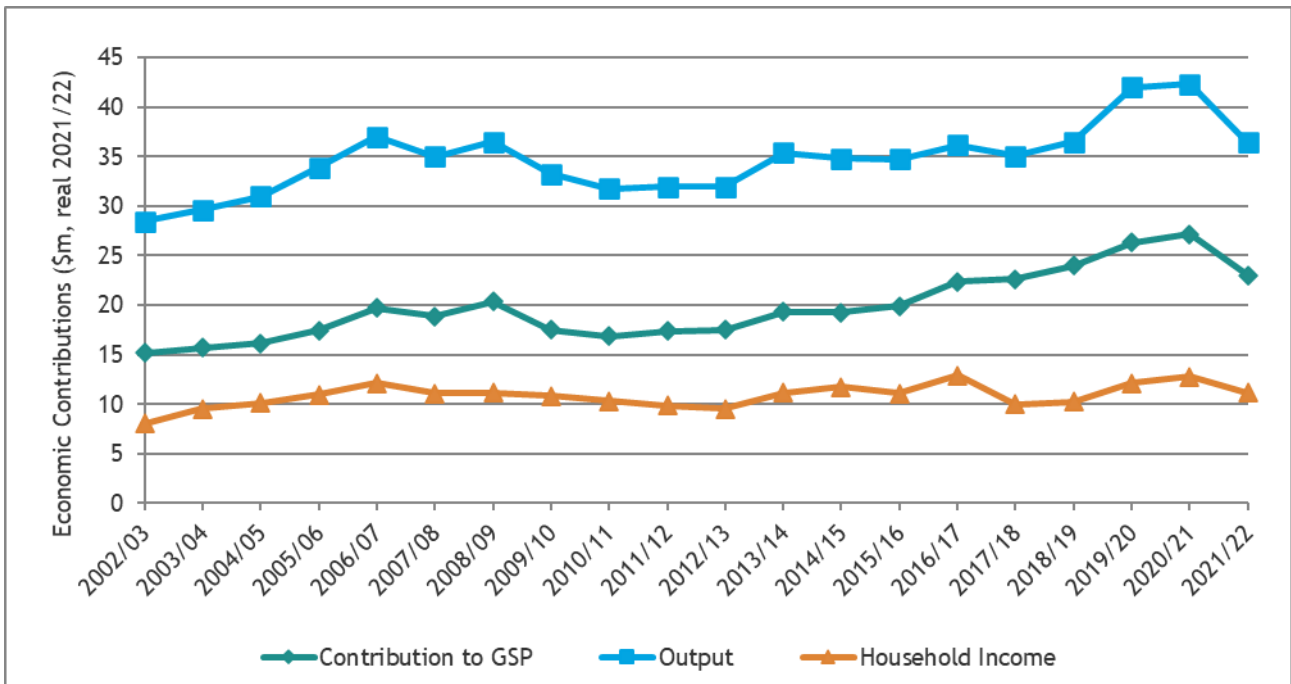
Source: Table 3-6 and Appendix Table 3-1 to Appendix Table 3-5

5.4. Contribution to SA Economy

Figure 5-11 and Figure 5-12 illustrate the total economic contribution of the fishery on the SA economy for the 20 years, 2002/03 to 2021/22. Total economic contribution refers to the direct fishing industry contributions (fishing, processing, etc.) and the indirect contributions on other sectors of the economy.

Between 2002/03 all indicators have increased, with fluctuations, which are in part due to sampling variability between surveys (Figure 5-12). In 2021/22 all indicators decreased from the previous year, mostly due to the decrease in total catch.

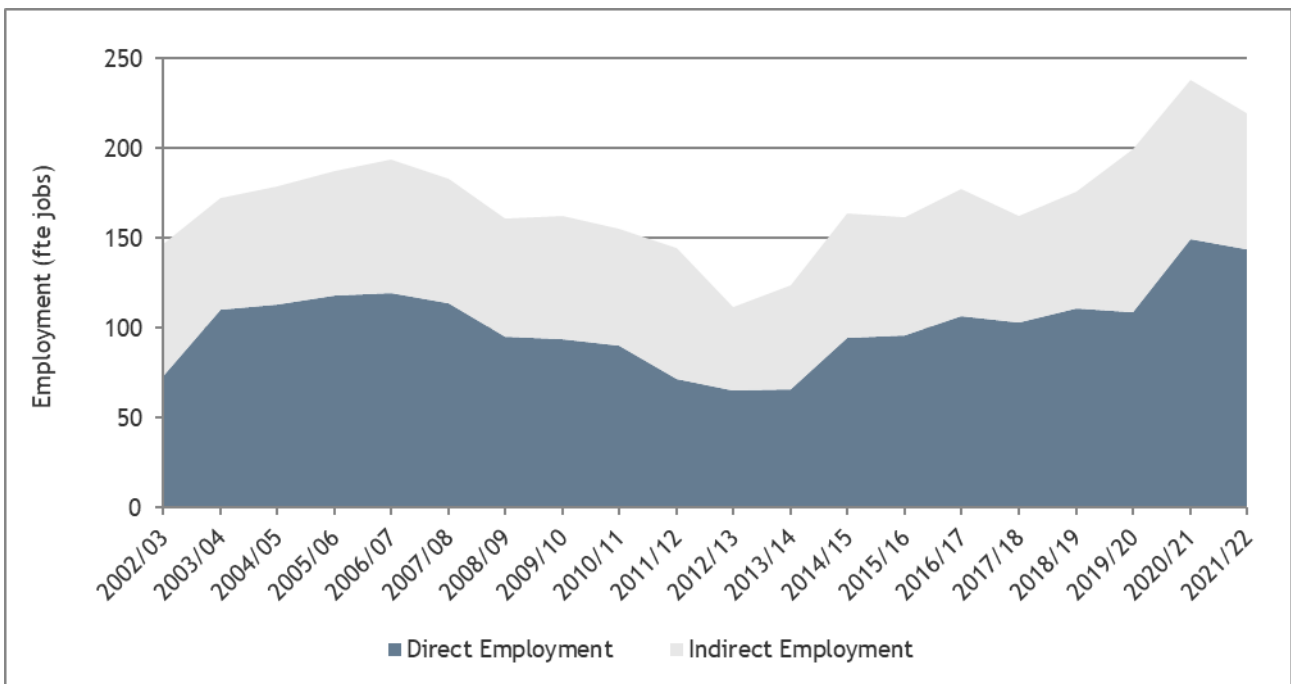
Figure 5-11 Total gross state product, output and household income contribution of the Lakes and Coorong Fishery on the SA economy, 2002/03 to 2021/22 ^a



^a Estimates of output, GSP and household income are expressed in real 2021/22 dollars.

Source: Table 3-9

Figure 5-12 Total direct and indirect employment contribution of the Lakes and Coorong Fishery on the SA economy, 2002/03 to 2021/22

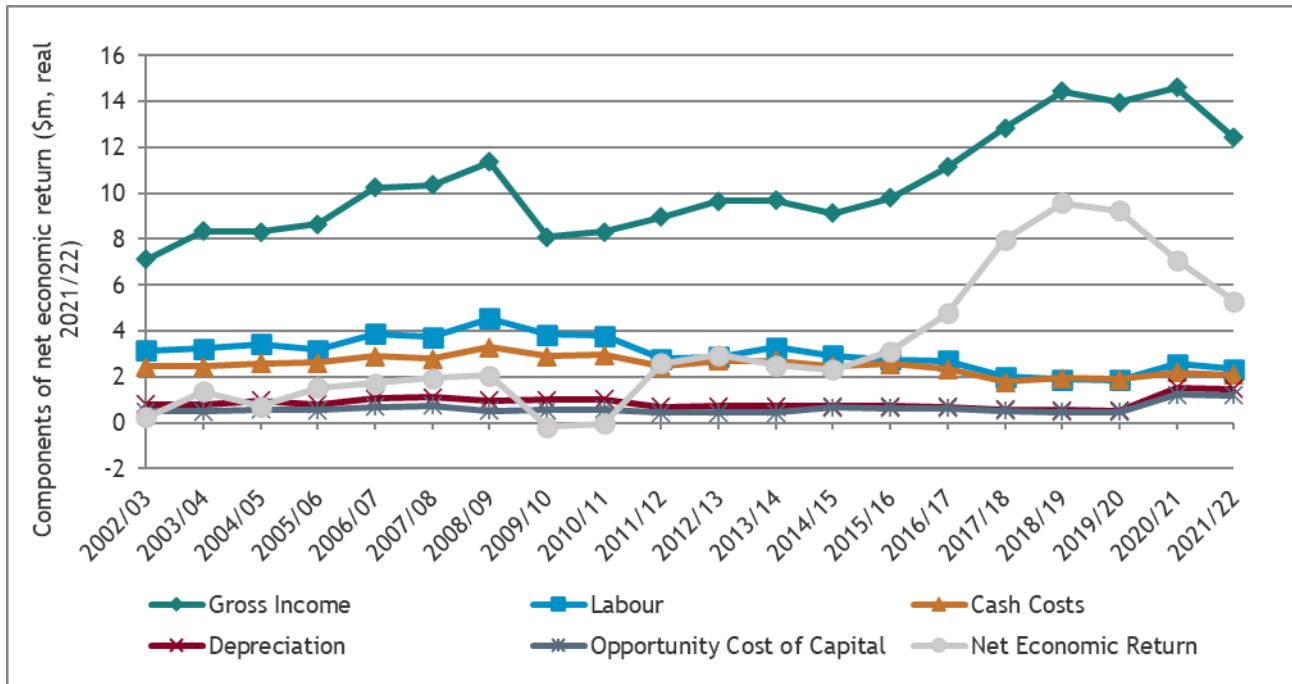


Source: Table 3-9

5.5. Net Economic Return

Net economic return is defined as the difference between the price of a good produced using a natural resource and the unit costs of turning that natural resource into the good, including the opportunity cost of capital. In this case the natural resource is the Lakes and Coorong Fishery and the good produced is the landed fish. Estimates of the real net economic return generated in the Lakes and Coorong Fishery are summarised in Figure 5-13 for the period 2002/03 to 2021/22.

Figure 5-13 Net economic return in the Lakes and Coorong Fishery, 2002/03 to 2021/22 (\$'000) ^a



^a All indicators are expressed in real 2021/22 dollars.

Source: Table 3-12

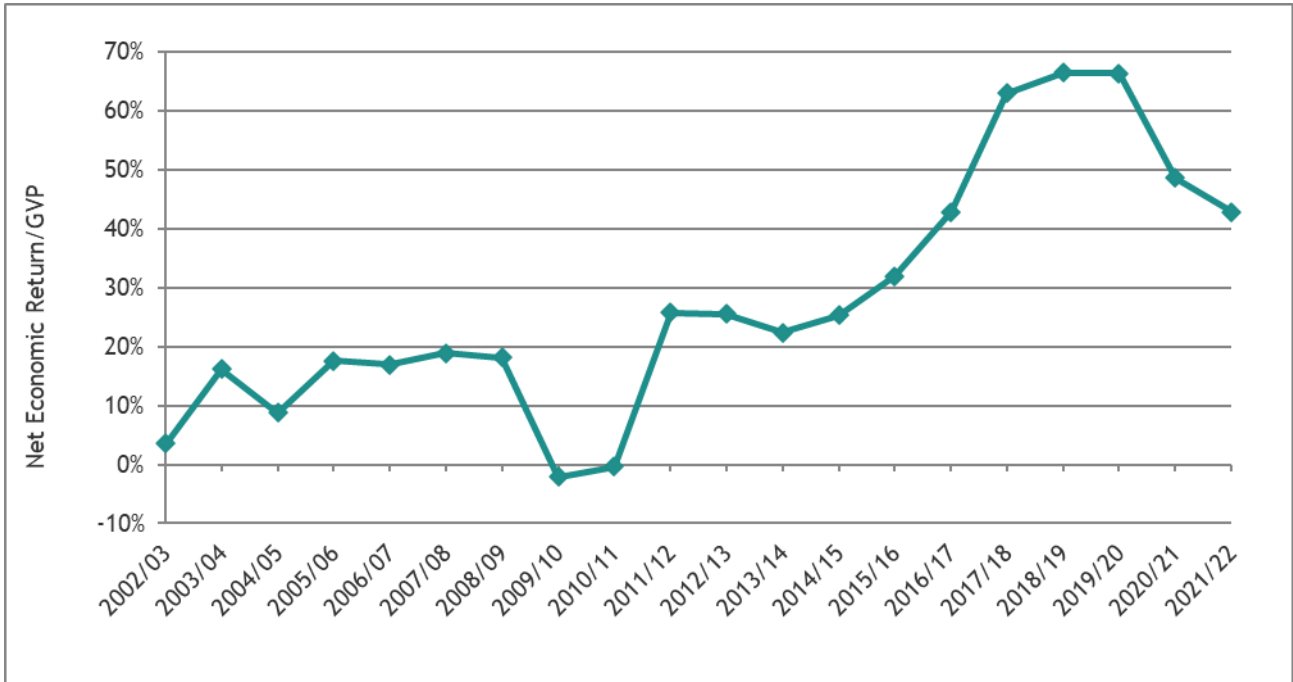
Despite fluctuations, real net economic return has increased from \$249,000 in 2002/03 to around \$5.3 million in 2021/22 (Figure 5-13). The low net economic return in 2009/10 (-\$164,000) and 2010/11 (-\$27,000) was a result of the fall in fishery income resulting from particularly adverse environmental conditions (low water and high salinity). This is an interesting example of net economic return in a fishery. Positive rent is normally generated by decisions of government (e.g. controls on catch). This fishery has increased rent mainly through entrepreneurial efforts on seeking new markets and prices.

Between 2020/21 and 2021/22, the decrease in net economic return is mainly a result of decreased gross income due to decreased catch. The decrease since 2019/20 is also due to increased depreciation and opportunity costs of capital. As explained earlier in the report, total investment in capital rose significantly across the fishery in 2020/21. Therefore, the depreciation and opportunity cost also increased in 2020/21. Although these two factors had a negative impact on net economic return, it is expected that the additional investment in capital will result in higher revenue and therefore increased net economic return in upcoming years.

Net economic return expressed as a percentage of GVP is a useful indicator for analysing the economic efficiency of a fishery over time and for comparing different fisheries. This indicator is illustrated in Figure

5-14 and shows an overall increase between 2002/03 and 2021/22 despite a significant fall in 2009/10 and 2020/21. The Lakes and Coorong Fishery had one of the highest rent/GVP ratio of all SA commercial fisheries in 2021/22 (43 per cent).

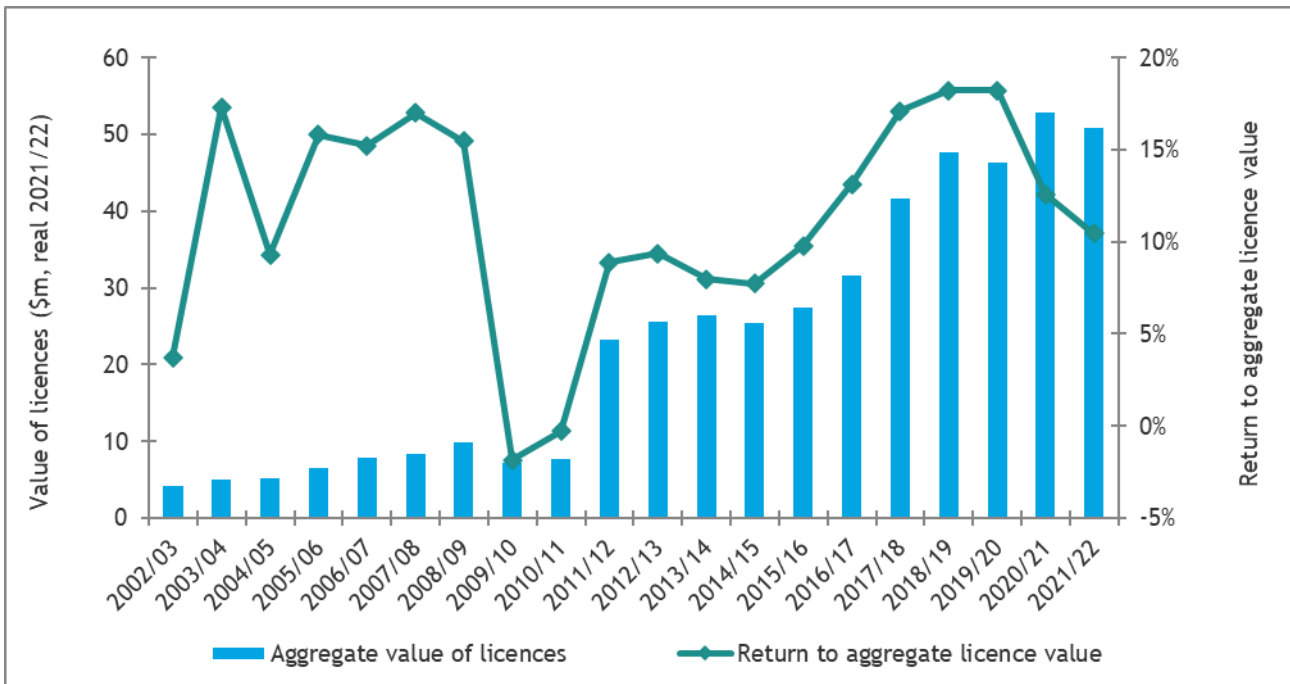
Figure 5-14 Net economic return as a proportion of GVP in the Lakes and Coorong Fishery, 2002/03 to 2021/22



Source: Table 3-2 and Table 3-12

Net economic return represents a return to the value of licences in the fishery. The aggregate value of licences in the Lakes and Coorong Fishery and the aggregate value of licences in the fishery are illustrated in Figure 5-15. The return to the aggregate value of licences in the fishery increased over the period from 4 per cent in 2002/03 to 11 per cent in 2021/22, primarily as the result of an increase in GVP.

Figure 5-15 Aggregate value of licences and return to aggregate licence value in the Lakes and Coorong Fishery, 2002/03 to 2021/22 ^a



^a The value of licences represents licence holders' estimates of the value of their fishing licence derived from survey responses. Estimates were based on different survey samples and techniques. Some of the difference between years is, therefore, attributable to sampling variability.

Source: Table 3-6, Table 3-8 and Appendix Table 3-1 to Appendix Table 3-5

REFERENCES

- Australian Bureau of Statistics (ABS) 2022a, *Consumer Price Index, Australia*, Cat. No. 6401.0.
- Australian Bureau of Statistics (ABS) 2022b, *Labour Price Index, Australia*, Cat. No. 6345.0.
- Baker, D. and Pierce, B. 1998, *Reassessment of the Gross Economic Value of the South Australian Inland Fisheries Harvest*, SARDI Aquatic Sciences
- BDO EconSearch 2020, *Input-Output Tables for South Australia and its Regions 2017/18 Update: Technical Report*, report prepared for Department of the Premier and Cabinet, February.
- BDO EconSearch 2022a, *Economic Indicators for the Lakes and Coorong Fishery 2020/21*, report prepared for the Department of Primary Industries and Regions, July (and previous issues).
- BDO EconSearch 2022b, *Economic Indicators for the Commercial Fisheries of South Australia, Summary Report, 2020/21*, report prepared for the Department of Primary Industries and Regions, Adelaide, July (and previous issues).
- Brown, D. 1997, *Australian Fisheries Surveys Report: Physical and financial performance in selected Australian Fisheries 1994-95 to 1996-97*, ABARE Report, Canberra.
- Department of Primary Industries and Regions (PIRSA) 2022, *Management Plan for the South Australian Commercial Lakes and Coorong Fishery*, The South Australian Fisheries Management Series, Adelaide, March.
- EconSearch 2004, *Lakes and Coorong Fishery: "Wild Fisheries with a Future", Current Economic Value and Value-Adding Opportunities*, Final Report, a report prepared for the Southern Fishermen's Association.
- Earl, J. T.A Rogers and Bailleul, F. 2022, *Assessment of the South Australian Lakes and Coorong Fishery in 2020/21*, Report to PIRSA Fisheries and Aquaculture, SARDI (Aquatic Sciences), SARDI Publication No. F2020/000208-3, SARDI Research Report Series No. 1128, Adelaide, May.
- Goolwa PipiCo 2019, *Kuti Shack*.
- Knight, M.A. Tsolos, A. and Doonan, A.M. 2004, *South Australian Fisheries and Aquaculture Information and Statistics Report*, SARDI Research Report, Adelaide.
- Reserve Bank of Australia (RBA) 2022, *Indicator Lending Rates - Monthly Statistics*

Disclaimer

The assignment is a consulting engagement as outlined in the 'Framework for Assurance Engagements', issued by the Auditing and Assurances Standards Board, Section 17. Consulting engagements employ an assurance practitioner's technical skills, education, observations, experiences and knowledge of the consulting process. The consulting process is an analytical process that typically involves some combination of activities relating to: objective-setting, fact-finding, definition of problems or opportunities, evaluation of alternatives, development of recommendations including actions, communication of results, and sometimes implementation and follow-up.

The nature and scope of work has been determined by agreement between BDO and the Client. This consulting engagement does not meet the definition of an assurance engagement as defined in the 'Framework for Assurance Engagements', issued by the Auditing and Assurances Standards Board, Section 10.

Except as otherwise noted in this report, we have not performed any testing on the information provided to confirm its completeness and accuracy. Accordingly, we do not express such an audit opinion and readers of the report should draw their own conclusions from the results of the review, based on the scope, agreed-upon procedures carried out and findings.

APPENDIX 1 Net Economic Return and Management fees by Licence Type

Net economic return by licence type

Net economic return for the Lakes and Coorong Fishery as a whole is defined and summarised in Section 3.7. Net economic return for each licence type (net only and net and pipi) has been adjusted for survey bias using the same adjustments as net economic return for the whole fishery. In coming years, we will request additional catch and effort data to enable us to compensate for survey bias separately for each licence type. The net economic return for the years 2011/12 to 2021/22 for net only and net and pipi sectors in the Lakes and Coorong Fishery is outlined in Appendix Table 1-1, Appendix Table 1-2 and Appendix Figure 1-1.

Fluctuations in the time series estimates are influenced by the survey bias adjustment method as described above and will be refined in coming years. The broad trends, however, can be interpreted with more confidence. Net and pipi licence holders have seen a significant rise in net economic return, from \$2.1 million in 2011/12 to \$4.6 million in 2021/22. Net economic return generated by net only licence holders has fluctuated but fallen overall from \$0.3 million to -\$1.1 million over the same period. All costs decreased in the net and pipi sector while increasing in the net only sector. Note that the results for net only and net and pipi fishers do not sum to the total net economic return for the fishery as they have been modelled independently.

Appendix Table 1-1 Net economic return ^a for net and pipi licence holders in the Lakes and Coorong Fishery, 2011/12 to 2021/22 (\$'000) ^{b, c, d}

	Gross Income	Less Labour	Less Cash Costs	Less Depreciation	Less Opportunity Cost of Capital (@10%)	Net economic return
2011/12	9,186	2,878	2,853	735	571	2,149
2012/13	9,973	2,783	2,982	707	550	2,950
2013/14	8,532	2,818	2,628	623	484	1,979
2014/15	7,007	1,771	1,500	440	437	2,858
2015/16	7,240	1,600	1,183	413	410	3,634
2016/17	8,302	1,583	1,180	408	405	4,726
2017/18	9,543	1,191	648	261	303	7,139
2018/19	11,186	1,173	661	253	294	8,805
2019/20	9,690	1,023	717	213	248	7,489
2020/21	10,113	1,736	1,275	446	773	5,882
2021/22	8,538	1,573	1,227	430	745	4,563

^a Adjusted for sample bias.

^b This table presents net economic return in real 2021/22 dollars.

^c Estimates of cash costs from 2015/16 to 2019/20 have been revised to include waived licence fees.

^d Estimates for 2011/12 to 2020/21 have been adjusted using revised information in 2021/22.

Source: BDO EconSearch analysis

Appendix Table 1-2 Net economic return ^a for net only licence holders in the Lakes and Coorong Fishery, 2011/12 to 2021/22 (\$'000) ^{b, c, d}

	Gross Income	Less Labour	Less Cash Costs	Less Depreciation	Less Opportunity Cost of Capital (@10%)	Net economic return
2011/12	864	268	189	64	45	298
2012/13	1,539	425	319	101	70	624
2013/14	2,711	886	588	184	128	925
2014/15	2,114	1,079	919	270	214	-367
2015/16	2,563	1,143	890	297	235	-3
2016/17	2,833	1,091	856	283	224	380
2017/18	3,131	1,153	1,607	549	303	-480
2018/19	3,209	992	1,426	466	257	68
2019/20	4,277	1,332	2,080	604	333	-72
2020/21	4,481	1,231	1,440	1,950	549	-689
2021/22	3,877	1,143	1,408	1,925	542	-1,142

^a Adjusted for sample bias.

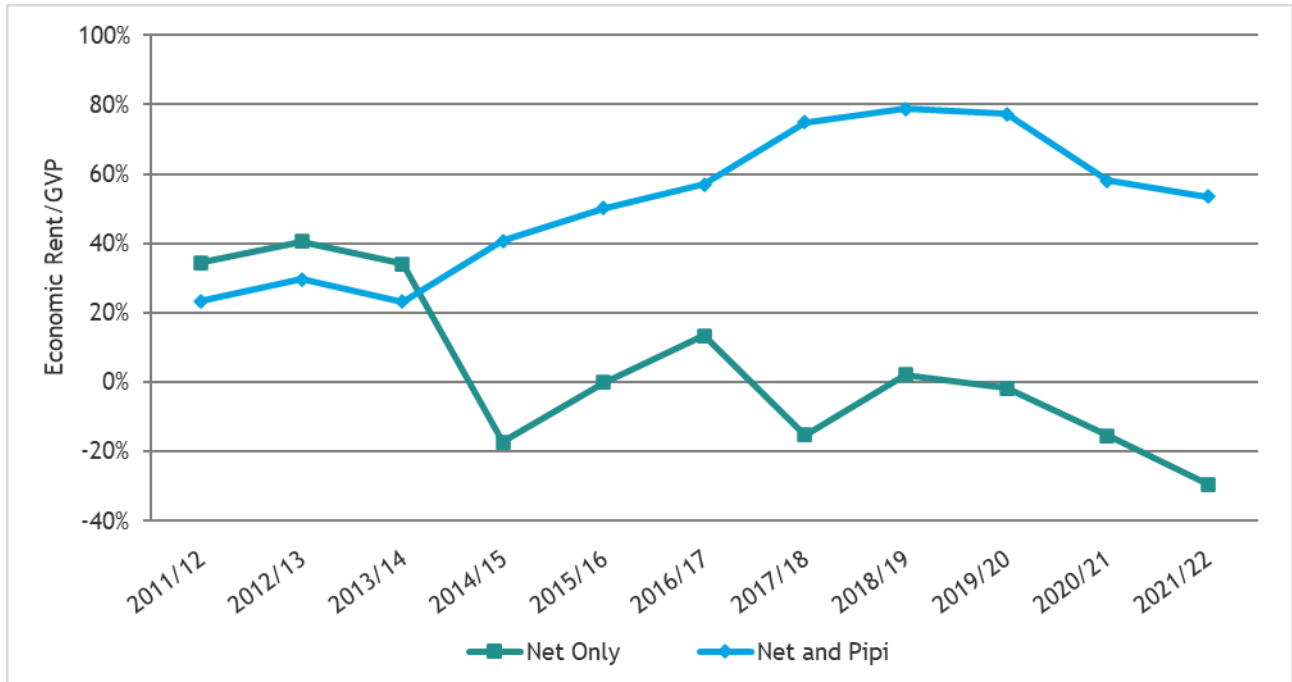
^b This table presents net economic return in real 2021/22 dollars.

^c Estimates of cash costs from 2015/16 to 2019/20 have been revised to include waived licence fees.

^d Estimates for 2011/12 to 2020/21 have been adjusted using revised information in 2021/22.

Source: BDO EconSearch analysis

Appendix Figure 1-1 Net economic return in the Lakes and Coorong Fishery by licence type, 2011/12 to 2021/22 (\$'000)^a



^a All indicators are expressed in real 2021/22 dollars.

Source: Appendix Table 1-1 and Appendix Table 1-2.

Management costs by licence type

Management costs for the Lakes and Coorong Fishery as a whole is defined and summarised in section 3.3. The management costs for the two licence types in the Lakes and Coorong Fishery are outlined in Appendix Table 1-3 and Appendix Table 1-4.

The following can be observed for the two licence types over the period 2011/12 to 2021/22.

- Actual licence fee receipts increased substantially for the net only sector between 2011/12 (\$39,000) and 2021/22 (\$209,000), while the net and pipi sector decreased 27 per cent over the same period (from \$572,000 to \$443,000)
- Licence fees as a percentage of GVP increased from 4.5 per cent in 2011/12 to 5.4 per cent in 2021/22 for net only, due to a significant rise in licence fees. Net and pipi experienced a decrease from 6.2 per cent in 2011/12 to 5.2 per cent in 2021/22.
- The management cost per kilogram of catch in the net only sector increased from \$0.17/kg in 2011/12 to \$0.19/kg in 2021/22, due an increase in licence fees. The net and pipi sector saw a 129 per cent rise, from \$0.40 in 2011/12 to \$0.93 in 2021/22.
- The average real licence fee per licence holder in the net only sector increased from \$7,727 in 2011/12 to \$8,344 in 2021/22. Licence fee per licence holder in the net and pipi sector increased significantly between 2011/12 (\$18,460) and 2021/22 (\$40,296).

Appendix Table 1-3 Costs of management for net and pipi licence holders in the Lakes and Coorong Fishery, 2011/12 to 2021/22^{a, i}

	Licence Fee	GVP	Fee/GVP	Catch	Fee/Catch	Licence Holders	Fee/Licence ^b
	(\$'000)	(\$'000)	(%)	(tonnes)	(\$/kg)	(No.)	(\$/licence)
2011/12	572	9,186	6.2%	1,413	\$0.40	31	\$18,460
2012/13	734	9,973	7.4%	1,459	\$0.50	28	\$26,228
2013/14	590	8,532	6.9%	1,132	\$0.52	22	\$26,804
2014/15	622	7,007	8.9%	888	\$0.70	20	\$31,113
2015/16 ^c	416	7,240	5.7%	777	\$0.54	17	\$24,465
2016/17 ^d	416	8,302	5.0%	872	\$0.48	17	\$24,445
2017/18 ^e	403	9,543	4.2%	884	\$0.46	17	\$23,687
2018/19 ^f	405	11,186	3.6%	879	\$0.46	17	\$23,800
2019/20 ^g	511	9,690	5.3%	879	\$0.58	16	\$31,913
2020/21 ^h	524	10,113	5.2%	803	\$0.65	15	\$34,902
2021/22	443	8,538	5.2%	477	\$0.93	11	\$40,296
2022/23	517	n.a.	-	n.a.	-	11	\$46,982

^a This table presents management costs in real 2021/22 dollars.

^b Comprised of base licence fees, Marine Scalefish net fees, Pipi base fees and Pipi unit fees.

^c Excludes net fees of \$231,564 waived by PIRSA, an average of \$6,432 per licence holder.

^d Excludes net fees of \$239,799 waived by PIRSA, an average of \$6,661 per licence holder.

^e Excludes net fees of \$167,449 waived by PIRSA, an average of \$4,651 per licence holder.

^f Excludes net fees of \$192,033 waived by PIRSA, an average of \$5,334 per licence holder.

^g Excludes net fees of \$101,506 waived by PIRSA, an average of \$2,820 per licence holder. Values were revised using updated information received in 2020/21.

^h 2021/22 values have not been adjusted to 2020/21 dollars

ⁱ Estimates for 2011/12 to 2020/21 have been adjusted using revised information in 2021/22.

Source: PIRSA Fisheries and Aquaculture, SARDI Aquatic Sciences and ABS (2022a)

Appendix Table 1-4 Costs of management for net only licence holders in the Lakes and Coorong Fishery, 2011/12 to 2021/22^{a,i}

	Licence Fee	GVP	Fee/GVP	Catch	Fee/Catch	Licence Holders	Fee/Licence ^b
	(\$'000)	(\$'000)	(%)	(tonnes)	(\$/kg)	(No.)	(\$/licence)
2011/12	39	864	4.5%	228	\$0.17	5	\$7,727
2012/13	83	1,539	5.4%	352	\$0.24	8	\$10,392
2013/14	165	2,711	6.1%	720	\$0.23	14	\$11,783
2014/15	204	2,114	9.6%	710	\$0.29	16	\$12,731
2015/16 ^c	73	2,563	2.8%	869	\$0.08	19	\$3,831
2016/17 ^d	71	2,833	2.5%	975	\$0.07	19	\$3,730
2017/18 ^e	59	3,131	1.9%	989	\$0.06	19	\$3,081
2018/19 ^f	58	3,209	1.8%	982	\$0.06	19	\$3,043
2019/20 ^g	186	4,277	4.3%	1,099	\$0.17	20	\$9,300
2020/21 ^h	226	4,481	5.0%	1,124	\$0.20	21	\$10,739
2021/22	209	3,877	5.4%	1,085	\$0.19	25	\$8,344
2022/23	217	n.a.	-	n.a.	-	25	\$8,697

^{a-i} See footnotes for Appendix Table 1-3

Source: PIRSA Fisheries and Aquaculture, SARDI Aquatic Sciences and ABS (2022a)

APPENDIX 2 Economic Contribution of the Lakes & Coorong Fishery, 2020/21

Appendix Table 2-1 The economic contribution of the Lakes and Coorong fishing industry in South Australia, 2020/21

Sector	Output		Employment ^a		Household Income		Contribution to GSP	
	(\$m)	%	(fte jobs)	%	(\$m)	%	(\$m)	%
Direct effects								
Fishing	13.7	34.5%	109	46.0%	3.3	27.3%	11.3	44.2%
Processing	1.6	4.0%	5	2.0%	0.2	2.0%	0.5	2.1%
Transport	0.8	2.0%	4	1.6%	0.3	2.3%	0.3	1.3%
Retail	0.1	0.2%	21	8.6%	1.1	9.5%	1.5	5.9%
Food services	0.6	1.6%	7	2.8%	0.3	2.1%	0.4	1.4%
Capital expenditure ^b	3.5	8.7%	5	2.0%	0.3	2.8%	0.4	1.7%
Total Direct ^c	20.3	51.0%	150	62.9%	5.5	46.1%	14.5	56.6%
Flow-on effects								
Trade	2.2	5.6%	15	6.1%	0.9	7.5%	1.3	5.1%
Manufacturing	2.1	5.4%	6	2.6%	0.4	3.4%	0.6	2.5%
Business Services	2.9	7.3%	18	7.7%	1.4	11.7%	1.6	6.3%
Transport	1.2	3.1%	5	2.0%	0.3	2.9%	0.5	2.1%
Other Sectors	11.0	27.6%	44	18.6%	3.4	28.4%	7.0	27.4%
Total Flow-on ^c	19.5	49.0%	88	37.1%	6.5	53.9%	11.1	43.4%
Total ^c	39.8	100%	238	100%	12.0	100%	25.5	100%
Total/Direct	2.0	-	1.6	-	2.2	-	1.8	-
Total/Tonne	\$20,700	-	0.12	-	\$6,200	-	\$13,300	-

^a Full-time equivalent jobs. Direct employment in the fishing sector was comprised of 93 full-time and 66 part-time jobs, that is, 159 jobs in aggregate, which was estimated to be equal to 109 fte jobs.

^b Capital expenditure includes expenditure on boats, fishing gear and equipment, sheds and buildings, motor vehicles and other equipment.

^c Totals may not sum due to rounding.

Source: BDO EconSearch analysis

Appendix Table 2-2 The economic contribution of the Lakes and Coorong fishing industry in the Fleurieu/KI region, 2020/21

Sector	Output		Employment ^a		Household Income		Contribution to GSP	
	(\$m)	%	(fte jobs)	%	(\$m)	%	(\$m)	%
Direct effects								
Fishing	6.4	63.3%	38	66.0%	1.5	56.2%	5.3	72.7%
Processing	0.3	2.8%	1	1.6%	0.0	1.8%	0.1	1.3%
Transport	0.0	0.3%	0	0.1%	0.0	0.1%	0.0	0.0%
Retail	0.0	0.0%	1	2.1%	0.1	2.5%	0.1	1.1%
Food services	0.0	0.3%	0	0.5%	0.0	0.4%	0.0	0.2%
Capital expenditure ^b	0	3.8%	2	3.5%	0.1	4.0%	0.1	1.7%
Total Direct ^c	7.1	70.5%	43	73.8%	1.8	65.0%	5.6	77.0%
Flow-on effects								
Trade	0.4	3.8%	3	4.9%	0.2	6.4%	0.2	3.1%
Manufacturing	0.2	2.5%	1	1.4%	0.1	2.1%	0.1	1.1%
Business Services	0.4	3.9%	3	5.8%	0.2	7.3%	0.2	3.0%
Transport	0.1	1.3%	1	1.1%	0.0	1.7%	0.1	0.8%
Other Sectors	1.8	18.0%	8	13.1%	0.5	17.5%	1.1	14.9%
Total Flow-on ^c	3.0	29.5%	15	26.2%	1.0	35.0%	1.7	23.0%
Total ^c	10.1	100%	58	100%	2.7	100%	7.2	100%
Total/Direct	1.4	-	1.4	-	1.4	-	1.4	-
Total/Tonne	\$14,800	-	0.09	-	\$4,000	-	\$10,600	-

^a Full-time equivalent jobs. Direct employment in the fishing sector was comprised of 31 full-time jobs and 21 part-time jobs, that is, 52 jobs in aggregate, which was estimated to be equal to 38 fte jobs.

^b Capital expenditure includes expenditure on boats, fishing gear and equipment, sheds and buildings, motor vehicles and other equipment.

^c Totals may not sum due to rounding.

Source: BDO EconSearch analysis

Appendix Table 2-3 The economic contribution of the Lakes and Coorong fishing industry in the Murray/Mallee region, 2020/21

Sector	Output		Employment ^a		Household Income		Contribution to GSP	
	(\$m)	%	(fte jobs)	%	(\$m)	%	(\$m)	%
Direct effects								
Fishing	7.3	59.2%	71	73.0%	1.8	51.5%	6.0	68.7%
Processing	0.5	4.2%	3	3.3%	0.2	5.0%	0.2	2.0%
Transport	0.0	0.3%	0	0.1%	0.0	0.1%	0.0	0.1%
Retail	0.0	0.0%	2	2.1%	0.1	3.4%	0.1	1.7%
Food services	0.1	0.4%	1	0.5%	0.0	0.6%	0.0	0.3%
Capital expenditure ^b	1	4.3%	2	1.9%	0.1	3.6%	0.1	1.6%
Total Direct ^c	8.5	68.4%	79	80.9%	2.2	64.1%	6.5	74.3%
Flow-on effects								
Trade	0.6	5.1%	4	4.2%	0.2	7.3%	0.4	4.2%
Manufacturing	0.3	2.3%	1	1.0%	0.1	1.8%	0.1	1.0%
Business Services	0.5	4.4%	4	4.1%	0.3	7.8%	0.3	3.5%
Transport	0.3	2.1%	1	1.1%	0.1	2.2%	0.1	1.3%
Other Sectors	2.2	17.8%	8	8.7%	0.6	16.8%	1.4	15.8%
Total Flow-on ^c	3.9	31.6%	19	19.1%	1.2	35.9%	2.3	25.7%
Total ^c	12.4	100%	97	100%	3.4	100%	8.8	100%
Total/Direct	1.5	-	1.2	-	1.2	-	1.2	-
Total/Tonne	\$9,900	-	0.08	-	\$2,700	-	\$7,100	-

^a Full-time equivalent jobs. Direct employment in the fishing sector was comprised of 62 full-time jobs and 45 part-time jobs, that is, 107 jobs in aggregate, which was estimated to be equal to 71 fte jobs.

^b Capital expenditure includes expenditure on boats, fishing gear and equipment, sheds and buildings, motor vehicles and other equipment.

^c Totals may not sum due to rounding.

Source: BDO EconSearch analysis

APPENDIX 3 Financial Performance, 2002/03 - 2018/19

Appendix Table 3-1 Financial performance in the Lakes and Coorong Fishery, 2002/03 to 2004/05^a

	2002/03		2003/04		2004/05	
	Average per boat	Share of TBCC ^b	Average per boat	Share of TBCC ^b	Average per boat	Share of TBCC ^b
(1) Total Boat Gross Income	\$132,648		\$159,852		\$163,222	
Variable Costs						
Fuel	\$9,497	9%	\$9,850	9%	\$10,836	9%
Repairs & Maintenance ^c	\$7,134	7%	\$7,497	7%	\$8,112	7%
Bait/Ice	\$1,211	1%	\$1,272	1%	\$1,376	1%
Provisions	\$1,086	1%	\$1,141	1%	\$1,235	1%
Labour - paid	\$25,512	24%	\$27,025	24%	\$29,307	24%
(2) Labour - unpaid ^d	\$30,446	28%	\$32,252	28%	\$34,974	29%
Other	\$13,821	13%	\$14,238	13%	\$14,702	12%
(3) Total Variable Costs	\$88,707	82%	\$93,275	82%	\$100,542	82%
Fixed Costs						
Licence Fee	\$4,870	5%	\$5,175	5%	\$6,390	5%
Insurance	\$1,227	1%	\$1,264	1%	\$1,306	1%
(4) Interest	\$4,177	4%	\$4,285	4%	\$4,394	4%
(5) Labour - unpaid ^d	\$2,617	2%	\$2,718	2%	\$2,813	2%
Legal & Accounting	\$1,423	1%	\$1,465	1%	\$1,513	1%
Telephone etc.	\$1,477	1%	\$1,522	1%	\$1,572	1%
Slipping & Mooring	\$0	0%	\$0	0%	\$0	0%
Travel	\$452	0%	\$465	0%	\$480	0%
Office & Admin	\$3,262	3%	\$3,360	3%	\$3,470	3%
(6) Total Fixed Costs	\$19,505	18%	\$20,256	18%	\$21,938	18%
(7) Total Boat Cash Costs (3+6)	\$108,212	100%	\$113,531	100%	\$122,480	100%
Boat Gross Margin (1-3)	\$43,941		\$66,577		\$62,680	
(8) Total Unpaid Labour (2+5)	\$33,063		\$34,969		\$37,787	
Gross Operating Surplus (1-7+8)	\$57,499		\$81,291		\$78,529	
(9) Boat Cash Income (1-7)	\$24,436		\$46,321		\$40,742	
(10) Depreciation	\$14,968		\$15,420		\$19,303	
(11) Boat Business Profit (9-10)	\$9,468		\$30,902		\$21,440	
(12) Profit at Full Equity (11+4)	\$13,644		\$35,187		\$25,833	
Boat Capital						
(13) Fishing Gear & Equip	\$90,014		\$92,727		\$116,080	
Licence Value	\$112,931		\$136,092		\$138,961	
(14) Total Boat Capital	\$202,945		\$228,818		\$255,041	
Rate of Return on Fishing Gear & Equip (12/13*100)	15.2%		37.9%		22.3%	
Rate of Return on Total Boat Capital (12/14*100)	6.7%		15.4%		10.1%	

^a Estimates of financial performance for the years 2002/03 to 2004/05 are based on the 2003 survey of licence.

^b Total boat cash costs.

^c Repairs and maintenance is classified as a variable cost although it is likely that a proportion of these costs are fixed (e.g. regulatory maintenance).

^d Unpaid labour was divided between variable (time spent fishing and on repairs and maintenance) and fixed (management and administration duties) based on the 2003 survey responses.

Source: BDO EconSearch analysis

Appendix Table 3-2 Financial performance in the Lakes and Coorong Fishery, 2005/06 to 2007/08^a

	2005/06		2006/07		2007/08	
	Average per boat	Share of TBCC ^b	Average per boat	Share of TBCC ^b	Average per boat	Share of TBCC ^b
(1) Total Boat Gross Income	\$192,547		\$216,341		\$228,485	
Variable Costs						
Fuel	\$13,949	10%	\$14,811	10%	\$14,779	10%
Repairs & Maintenance ^c	\$6,382	5%	\$6,801	5%	\$6,773	5%
Bait/Ice	\$1,304	1%	\$1,390	1%	\$1,384	1%
Provisions	\$231	0%	\$246	0%	\$245	0%
Labour - paid	\$30,518	22%	\$33,225	22%	\$33,152	22%
(2) Labour - unpaid ^d	\$38,425	28%	\$41,833	28%	\$41,742	28%
Other	\$15,920	11%	\$16,193	11%	\$16,930	11%
(3) Total Variable Costs	\$106,728	77%	\$114,499	77%	\$115,006	77%
Fixed Costs						
Licence Fee	\$8,660	6%	\$9,770	7%	\$9,191	6%
Insurance	\$1,593	1%	\$1,620	1%	\$1,694	1%
(4) Interest	\$4,900	4%	\$5,258	4%	\$5,915	4%
(5) Labour - unpaid ^d	\$6,740	5%	\$7,004	5%	\$7,336	5%
Legal & Accounting	\$1,936	1%	\$1,969	1%	\$2,059	1%
Telephone etc.	\$2,194	2%	\$2,232	2%	\$2,333	2%
Slipping & Mooring	\$63	0%	\$64	0%	\$66	0%
Travel	\$942	1%	\$958	1%	\$1,001	1%
Office & Admin	\$4,844	3%	\$4,927	3%	\$5,151	3%
(6) Total Fixed Costs	\$31,871	23%	\$33,800	23%	\$34,747	23%
(7) Total Boat Cash Costs (3+6)	\$138,599	100%	\$148,299	100%	\$149,753	100%
Boat Gross Margin (1-3)	\$85,819		\$101,842		\$113,479	
(8) Total Unpaid Labour (2+5)	\$45,165		\$48,837		\$49,078	
Gross Operating Surplus (1-7+8)	\$99,113		\$116,879		\$127,810	
(9) Boat Cash Income (1-7)	\$53,948		\$68,042		\$78,731	
(10) Depreciation	\$18,084		\$21,962		\$24,811	
(11) Boat Business Profit (9-10)	\$35,864		\$46,079		\$53,920	
(12) Profit at Full Equity (11+4)	\$40,764		\$51,338		\$59,835	
Boat Capital						
(13) Fishing Gear & Equip	\$121,908		\$148,056		\$167,262	
Licence Value	\$177,500		\$214,026		\$226,040	
(14) Total Boat Capital	\$299,408		\$362,082		\$393,303	
Rate of Return on Fishing Gear & Equip (12/13*100)	33.4%		34.7%		35.8%	
Rate of Return on Total Boat Capital (12/14*100)	13.6%		14.2%		15.2%	

^a Financial performance estimates for the years 2005/06 to 2007/08 are based on the 2006 licence holder survey.

^{b-d} See Appendix Table 2-1.

Source: BDO EconSearch analysis

Appendix Table 3-3 Financial performance in the Lakes and Coorong Fishery, 2008/09 to 2010/11^a

	2008/09		2009/10		2010/11	
	Average per boat	Share of TBCC ^b	Average per boat	Share of TBCC ^b	Average per boat	Share of TBCC ^b
(1) Total Boat Gross Income	\$222,385		\$171,174		\$182,259	
Variable Costs						
Fuel	\$11,808	8%	\$10,352	7%	\$10,447	7%
Repairs & Maintenance ^c	\$8,851	6%	\$7,948	5%	\$8,174	5%
Bait/Ice	\$2,255	1%	\$2,025	1%	\$2,082	1%
Provisions	\$482	0%	\$433	0%	\$445	0%
Labour - paid	\$32,959	21%	\$29,608	20%	\$30,337	20%
(2) Labour - unpaid ^d	\$46,313	30%	\$41,604	28%	\$42,628	28%
Other	\$17,977	12%	\$18,473	13%	\$19,191	13%
(3) Total Variable Costs	\$120,645	77%	\$110,444	76%	\$113,305	75%
Fixed Costs						
Licence Fee	\$8,386	5%	\$7,539	5%	\$8,914	6%
Insurance	\$1,355	1%	\$1,392	1%	\$1,446	1%
(4) Interest	\$3,174	2%	\$3,663	3%	\$3,781	2%
(5) Labour - unpaid ^d	\$9,645	6%	\$9,915	7%	\$10,262	7%
Legal & Accounting	\$2,326	1%	\$2,390	2%	\$2,483	2%
Telephone etc.	\$3,227	2%	\$3,316	2%	\$3,445	2%
Slipping & Mooring	\$15	0%	\$16	0%	\$16	0%
Travel	\$412	0%	\$423	0%	\$440	0%
Office & Admin	\$6,989	4%	\$7,182	5%	\$7,461	5%
(6) Total Fixed Costs	\$35,527	23%	\$35,835	24%	\$38,248	25%
(7) Total Boat Cash Costs (3+6)	\$156,172	100%	\$146,279	100%	\$151,553	100%
Boat Gross Margin (1-3)	\$101,740		\$60,730		\$68,953	
(8) Total Unpaid Labour (2+5)	\$55,957		\$51,519		\$52,890	
Gross Operating Surplus (1-7+8)	\$122,171		\$76,414		\$83,596	
(9) Boat Cash Income (1-7)	\$66,213		\$24,895		\$30,705	
(10) Depreciation	\$18,809		\$20,806		\$22,651	
(11) Boat Business Profit (9-10)	\$47,404		\$4,088		\$8,055	
(12) Profit at Full Equity (11+4)	\$50,578		\$7,752		\$11,836	
Boat Capital						
(13) Fishing Gear & Equip	\$103,463		\$114,448		\$124,594	
Licence Value	\$272,941		\$199,943		\$212,890	
(14) Total Boat Capital	\$376,404		\$314,391		\$337,484	
Rate of Return on Fishing Gear & Equip (12/13*100)	48.9%		6.8%		9.5%	
Rate of Return on Total Boat Capital (12/14*100)	13.4%		2.5%		3.5%	

^a Financial performance estimates for the years 2008/09 to 2010/11 are based on the 2010 licence holder.

^{b-d} See Appendix Table 2-1.

Source: BDO EconSearch analysis

Appendix Table 3-4 Financial performance in the Lakes and Coorong Fishery, 2011/12 to 2013/14^a

	2011/12		2012/13		2013/14	
	Average per boat	Share of TBCC ^b	Average per boat	Share of TBCC ^b	Average per boat	Share of TBCC ^b
(1) Total Boat Gross Income	\$246,507		\$271,029		\$280,273	
Variable Costs						
Fuel	\$10,063	6%	\$10,300	6%	\$12,165	7%
Repairs & Maintenance ^c	\$5,527	4%	\$5,791	3%	\$6,770	4%
Bait/Ice	\$3,055	2%	\$3,201	2%	\$3,742	2%
Provisions	\$535	0%	\$560	0%	\$655	0%
Labour - paid	\$51,180	33%	\$53,999	32%	\$68,039	37%
(2) Labour - unpaid ^d	\$20,890	13%	\$21,593	13%	\$22,295	12%
Other	\$7,974	5%	\$8,189	5%	\$8,396	5%
(3) Total Variable Costs	\$99,224	64%	\$103,634	62%	\$122,063	66%
Fixed Costs						
Licence Fee	\$18,486	12%	\$25,256	15%	\$24,043	13%
Insurance	\$3,269	2%	\$3,357	2%	\$3,442	2%
(4) Interest	\$11,841	8%	\$10,691	6%	\$10,903	6%
(5) Labour - unpaid ^d	\$4,825	3%	\$4,987	3%	\$5,150	3%
Legal & Accounting	\$4,244	3%	\$4,358	3%	\$4,468	2%
Telephone etc.	\$2,420	2%	\$2,485	1%	\$2,548	1%
Slipping & Mooring	\$15	0%	\$17	0%	\$18	0%
Travel	\$604	0%	\$620	0%	\$636	0%
Office & Admin	\$11,130	7%	\$11,430	7%	\$11,719	6%
(6) Total Fixed Costs	\$56,833	36%	\$63,202	38%	\$62,926	34%
(7) Total Boat Cash Costs (3+6)	\$156,058	100%	\$166,836	100%	\$184,988	100%
Boat Gross Margin (1-3)	\$147,283		\$167,396		\$158,210	
(8) Total Unpaid Labour (2+5)	\$25,715		\$26,580		\$27,445	
Gross Operating Surplus (1-7+8)	\$116,165		\$130,774		\$122,730	
(9) Boat Cash Income (1-7)	\$90,450		\$104,194		\$95,285	
(10) Depreciation	\$19,145		\$19,855		\$20,578	
(11) Boat Business Profit (9-10)	\$71,305		\$84,339		\$74,707	
(12) Profit at Full Equity (11+4)	\$83,146		\$95,030		\$85,610	
Boat Capital						
(13) Fishing Gear & Equip	\$120,357		\$124,822		\$129,365	
Licence Value	\$646,938		\$711,295		\$735,554	
(14) Total Boat Capital	\$767,295		\$836,117		\$864,919	
Rate of Return on Fishing Gear & Equip (12/13*100)	69.1%		76.1%		66.2%	
Rate of Return on Total Boat Capital (12/14*100)	10.8%		11.4%		9.9%	

^a Financial performance estimates for the years 2011/12 to 2013/14 are based on the 2013 licence holders survey.

^{b-d} See Appendix Table 2-1.

Source: BDO EconSearch analysis

Appendix Table 3-5 Financial performance in the Lakes and Coorong Fishery, 2014/15 to 2016/17^a

	2014/15		2015/16		2016/17	
	Average per boat	Share of TBCC ^b	Average per boat	Share of TBCC ^b	Average per boat	Share of TBCC ^b
(1) Total Boat Gross Income	\$285,046		\$308,373		\$355,818	
Variable Costs						
Fuel	\$13,778	8%	\$12,559	8%	\$12,260	8%
Repairs & Maintenance ^c	\$11,859	7%	\$11,041	7%	\$10,927	7%
Bait/Ice	\$1,182	1%	\$1,100	1%	\$1,089	1%
Provisions	\$34	0%	\$32	0%	\$31	0%
Labour - paid	\$57,820	33%	\$52,090	33%	\$50,952	33%
(2) Labour - unpaid ^d	\$25,786	15%	\$26,364	17%	\$26,942	17%
Other	\$4,279	2%	\$4,308	3%	\$4,376	3%
(3) Total Variable Costs	\$114,738	66%	\$107,494	69%	\$106,577	69%
Fixed Costs						
Licence Fee	\$25,519	15%	\$15,197	10%	\$15,366	10%
Insurance	\$4,284	2%	\$4,312	3%	\$4,380	3%
(4) Interest	\$3,352	2%	\$3,313	2%	\$3,294	2%
(5) Labour - unpaid ^d	\$8,034	5%	\$8,214	5%	\$8,394	5%
Legal & Accounting	\$2,736	2%	\$2,754	2%	\$2,798	2%
Telephone etc.	\$2,805	2%	\$2,824	2%	\$2,868	2%
Slipping & Mooring	\$385	0%	\$387	0%	\$480	0%
Travel	\$913	1%	\$919	1%	\$933	1%
Office & Admin	\$10,035	6%	\$10,101	6%	\$10,261	7%
(6) Total Fixed Costs	\$58,061	34%	\$48,021	31%	\$48,774	31%
(7) Total Boat Cash Costs (3+6)	\$172,799	100%	\$155,515	100%	\$155,352	100%
Boat Gross Margin (1-3)	\$170,308		\$200,879		\$249,240	
(8) Total Unpaid Labour (2+5)	\$33,819		\$34,578		\$35,336	
Gross Operating Surplus (1-7+8)	\$146,067		\$187,437		\$235,802	
(9) Boat Cash Income (1-7)	\$112,247		\$152,859		\$200,466	
(10) Depreciation	\$22,838		\$22,444		\$22,307	
(11) Boat Business Profit (9-10)	\$89,409		\$130,415		\$178,159	
(12) Profit at Full Equity (11+4)	\$92,761		\$133,728		\$181,453	
Boat Capital						
(13) Fishing Gear & Equip	\$207,165		\$203,588		\$202,348	
Licence Value	\$704,153		\$761,778		\$878,981	
(14) Total Boat Capital	\$911,318		\$965,366		\$1,081,329	
Rate of Return on Fishing Gear & Equip (12/13*100)	44.8%		65.7%		89.7%	
Rate of Return on Total Boat Capital (12/14*100)	10.2%		13.9%		16.8%	

^a Financial performance estimates for the years 2014/15 to 2016/17 are based on the 2016 licence holder survey.

^{b-d} See Appendix Table 2-1.

Source: BDO EconSearch analysis

Appendix Table 3-6 Financial performance in the Lakes and Coorong Fishery, 2017/18 to 2018/19^a

	2017/18		2018/19	
	Average per boat	Share of TBCC ^b	Average per boat	Share of TBCC ^b
(1) Total Boat Gross Income	\$481,450		\$549,242	
Variable Costs				
Fuel	\$10,167	7%	\$9,870	7%
Repairs & Maintenance ^c	\$5,856	4%	\$5,626	4%
Bait/Ice	\$1,570	1%	\$1,508	1%
Provisions	\$1,485	1%	\$1,426	1%
Labour - paid	\$54,869	40%	\$52,033	38%
(2) Labour - unpaid ^d	\$12,456	9%	\$12,727	9%
Other	\$2,287	2%	\$2,319	2%
(3) Total Variable Costs	\$88,690	64%	\$85,510	63%
Fixed Costs				
Licence Fee	\$17,039	12%	\$17,328	13%
Insurance	\$2,802	2%	\$2,842	2%
(4) Interest	\$4,286	3%	\$4,237	3%
(5) Labour - unpaid ^d	\$7,358	5%	\$7,518	6%
Legal & Accounting	\$4,488	3%	\$4,552	3%
Telephone etc.	\$1,982	1%	\$2,010	1%
Slipping & Mooring	\$526	0%	\$534	0%
Travel	\$1,047	1%	\$1,062	1%
Office & Admin	\$10,198	7%	\$10,343	8%
(6) Total Fixed Costs	\$49,727	36%	\$50,427	37%
(7) Total Boat Cash Costs (3+6)	\$138,417	100%	\$135,937	100%
Boat Gross Margin (1-3)	\$392,761		\$463,731	
(8) Total Unpaid Labour (2+5)	\$19,814		\$20,246	
Gross Operating Surplus (1-7+8)	\$362,847		\$433,550	
(9) Boat Cash Income (1-7)	\$343,034		\$413,305	
(10) Depreciation	\$22,048		\$21,036	
(11) Boat Business Profit (9-10)	\$320,986		\$392,269	
(12) Profit at Full Equity (11+4)	\$325,272		\$396,506	
Boat Capital				
(13) Fishing Gear & Equip	\$191,989		\$183,174	
Licence Value	\$1,158,800		\$1,321,966	
(14) Total Boat Capital	\$1,350,789		\$1,505,140	
Rate of Return on Fishing Gear & Equip (12/13*100)	169.4%		216.5%	
Rate of Return on Total Boat Capital (12/14*100)	24.1%		26.3%	

^a Financial performance estimates for 2017/18 and 2018/19 are based on the 2019 licence holder survey.

^{b-d} See Appendix Table 2-1.

Source: BDO EconSearch analysis

APPENDIX 4 Financial Performance, by Licence Type

Appendix Table 4-1 Financial performance in the Lakes and Coorong Fishery, by licence type, 2020/21 (average per licence)

	Net Licence Only ^a		Net and Pipi Licence		Whole Fishery	
	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b
(1) Total Boat Gross Income	\$160,821		\$874,140		\$517,480	
Variable Costs						
Fuel	\$16,464	17%	\$17,395	7%	\$16,878	10%
Repairs & Maintenance ^c	\$5,340	5%	\$21,294	8%	\$12,430	7%
Bait/Ice	\$2,326	2%	\$563	0%	\$1,542	1%
Provisions	\$600	1%	\$622	0%	\$610	0%
Labour - paid	\$16,358	17%	\$146,817	55%	\$66,979	39%
(2) Labour - unpaid ^d	\$16,765	17%	\$2,191	1%	\$14,746	9%
Other	\$1,075	1%	\$1,183	0%	\$1,123	1%
(3) Total Variable Costs	\$58,928	60%	\$190,064	71%	\$114,309	66%
Fixed Costs						
Licence Fee	\$13,825	14%	\$19,025	7%	\$16,136	9%
Insurance	\$2,524	3%	\$8,775	3%	\$5,302	3%
(4) Interest	\$2,587	3%	\$5,794	2%	\$4,012	2%
(5) Labour - unpaid ^d	\$11,067	11%	\$1,061	0%	\$9,522	6%
(6) Leasing	\$0	0%	\$16,000	6%	\$7,111	4%
Legal & Accounting	\$1,627	2%	\$8,175	3%	\$4,537	3%
Telephone etc.	\$1,821	2%	\$2,024	1%	\$1,911	1%
Boat Survey	\$0	0%	\$622	0%	\$276	0%
Travel	\$1,568	2%	\$125	0%	\$927	1%
Office & Admin	\$4,519	5%	\$14,419	5%	\$8,919	5%
(6) Total Fixed Costs	\$39,537	40%	\$76,020	29%	\$58,654	34%
(7) Total Boat Cash Costs (3+6)	\$98,465	100%	\$266,085	100%	\$172,962	100%
Boat Gross Margin (1-3)	\$101,893		\$684,075		\$403,171	
(8) Total Unpaid Labour (2+5)	\$27,832		\$3,253		\$24,268	
Gross Operating Surplus (1-7+8)	\$90,188		\$611,308		\$368,786	
(9) Boat Cash Income (1-7)	\$62,356		\$608,055		\$344,518	
(10) Depreciation	\$69,965		\$38,592		\$54,278	
(11) Boat Business Profit (9-10)	-\$7,609		\$569,463		\$290,239	
(12) Profit at Full Equity (11+4)	-\$5,022		\$575,257		\$294,252	
Boat Capital						
(13) Fishing Gear & Equip	\$196,906		\$667,985		\$432,446	
Licence Value	\$116,250		\$2,704,469		\$1,469,734	
(14) Total Boat Capital	\$313,156		\$3,372,454		\$1,902,180	
Rate of Return on Fishing Gear & Equip (12/13*100)	-2.6%		86.1%		68.0%	
Rate of Return on Total Boat Capital (12/14*100)	-1.6%		17.1%		15.5%	

^a Includes licences which lease out their Pipi entitlement. For the purpose of this part of the analysis, all income and costs associated with the leased out Pipi entitlement have been excluded.

^b Total boat cash costs

^c Repairs and maintenance costs have been classified as a variable cost although it is noted that some of these costs may be fixed (e.g. regulated maintenance).

^d Unpaid labour was divided between variable (time spent fishing and on repairs and maintenance) and fixed (management and administrative duties) based on survey responses.

Source: BDO EconSearch analysis

Appendix Table 4-2 Financial performance in the Lakes and Coorong Fishery, by licence type, 2019/20 (average per licence)

	Net Licence Only ^a		Net and Pipi Licence		Whole Fishery	
	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b
(1) Total Boat Gross Income	\$126,186		\$996,182		\$535,596	
Variable Costs						
Fuel	\$8,061	8%	\$11,077	6%	\$9,480	7%
Repairs & Maintenance ^c	\$7,601	7%	\$3,048	2%	\$5,458	4%
Bait/Ice	\$1,292	1%	\$1,655	1%	\$1,463	1%
Provisions	\$1,760	2%	\$960	1%	\$1,384	1%
Labour - paid	\$14,364	14%	\$91,136	49%	\$50,492	35%
(2) Labour - unpaid ^d	\$16,183	16%	\$9,554	5%	\$13,028	9%
Other	\$3,586	3%	\$933	0%	\$2,338	2%
(3) Total Variable Costs	\$52,848	51%	\$118,364	63%	\$83,644	59%
Fixed Costs						
Licence Fee	\$12,911	12%	\$41,384	22%	\$26,310	18%
Insurance	\$2,342	2%	\$3,453	2%	\$2,865	2%
(4) Interest	\$1,362	1%	\$6,224	3%	\$3,650	3%
(5) Labour - unpaid ^d	\$9,264	9%	\$5,857	3%	\$7,696	5%
Legal & Accounting	\$3,408	3%	\$5,916	3%	\$4,588	3%
Telephone etc.	\$1,949	2%	\$2,112	1%	\$2,026	1%
Slipping & Mooring	\$760	1%	\$389	0%	\$586	0%
Travel	\$1,670	2%	\$396	0%	\$1,070	1%
Office & Admin	\$16,785	16%	\$3,271	2%	\$10,425	7%
(6) Total Fixed Costs	\$50,451	49%	\$69,002	37%	\$59,216	41%
(7) Total Boat Cash Costs (3 + 6)	\$103,300	100%	\$187,366	100%	\$142,860	100%
Boat Gross Margin (1 - 3)	\$73,338		\$877,818		\$451,952	
(8) Total Unpaid Labour (2 + 5)	\$25,447		\$15,411		\$20,724	
Gross Operating Surplus (1 - 7 + 8)	\$48,334		\$824,227		\$413,460	
(9) Boat Cash Income (1 - 7)	\$22,887		\$808,816		\$392,736	
(10) Depreciation (10)	\$18,055		\$22,227		\$20,018	
(11) Boat Business Profit (9 - 10)	\$4,832		\$786,589		\$372,718	
(12) Profit at Full Equity (11 + 4)	\$6,194		\$792,813		\$376,368	
Boat Capital						
(13) Fishing Gear & Equip	\$99,546		\$258,430		\$174,315	
Licence Value	\$111,494		\$2,471,838		\$1,289,123	
(14) Total Boat Capital	\$211,039		\$2,730,268		\$1,463,437	
Rate of Return on Fishing Gear & Equip (12 / 13 * 100)	6.2%		306.8%		215.9%	
Rate of Return on Total Boat Capital (12 / 14 * 100)	2.9%		29.0%		25.7%	

^a Includes licences which lease out their Pipi entitlement. For the purpose of this part of the analysis, all income and costs associated with the leased out Pipi entitlement have been excluded.

^{b-d} See Appendix Table 2-1.

Source: BDO EconSearch analysis

Appendix Table 4-3 Financial performance in the Lakes and Coorong Fishery, by licence type, 2018/19 (average per licence)

	Net Licence Only ^a		Net and Pipi Licence		Whole Fishery	
	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b
(1) Total Boat Gross Income	\$126,735		\$1,000,512		\$537,924	
Variable Costs						
Fuel	\$8,392	8%	\$11,533	7%	\$9,870	7%
Repairs & Maintenance ^c	\$7,835	8%	\$3,141	2%	\$5,626	4%
Bait/Ice	\$1,332	1%	\$1,706	1%	\$1,508	1%
Provisions	\$1,815	2%	\$990	1%	\$1,426	1%
Labour - paid	\$15,545	16%	\$93,081	53%	\$52,033	38%
(2) Labour - unpaid ^d	\$15,809	16%	\$9,333	5%	\$12,727	9%
Other	\$3,558	4%	\$926	1%	\$2,319	2%
(3) Total Variable Costs	\$54,287	54%	\$120,710	68%	\$85,510	63%
Fixed Costs						
Licence Fee	\$8,503	8%	\$27,256	15%	\$17,328	13%
Insurance	\$2,324	2%	\$3,426	2%	\$2,842	2%
(4) Interest	\$1,581	2%	\$7,224	4%	\$4,237	3%
(5) Labour - unpaid ^d	\$9,050	9%	\$5,722	3%	\$7,518	6%
Legal & Accounting	\$3,381	3%	\$5,870	3%	\$4,552	3%
Telephone etc.	\$1,934	2%	\$2,095	1%	\$2,010	1%
Slipping & Mooring	\$693	1%	\$355	0%	\$534	0%
Travel	\$1,657	2%	\$393	0%	\$1,062	1%
Office & Admin	\$16,653	17%	\$3,245	2%	\$10,343	8%
(6) Total Fixed Costs	\$45,776	46%	\$55,586	32%	\$50,427	37%
(7) Total Boat Cash Costs (3 + 6)	\$100,063	100%	\$176,296	100%	\$135,937	100%
Boat Gross Margin (1 - 3)	\$72,448		\$879,802		\$452,414	
(8) Total Unpaid Labour (2 + 5)	\$24,859		\$15,055		\$20,246	
Gross Operating Surplus (1 - 7 + 8)	\$51,532		\$839,272		\$422,233	
(9) Boat Cash Income (1 - 7)	\$26,672		\$824,217		\$401,987	
(10) Depreciation (10)	\$18,973		\$23,357		\$21,036	
(11) Boat Business Profit (9 - 10)	\$7,700		\$800,860		\$380,951	
(12) Profit at Full Equity (11 + 4)	\$9,281		\$808,084		\$385,188	
Boat Capital						
(13) Fishing Gear & Equip	\$104,605		\$271,565		\$183,174	
Licence Value	\$111,978		\$2,482,583		\$1,294,726	
(14) Total Boat Capital	\$216,583		\$2,754,148		\$1,477,901	
Rate of Return on Fishing Gear & Equip (12 / 13 * 100)	8.9%		297.6%		210.3%	
Rate of Return on Total Boat Capital (12 / 14 * 100)	4.3%		29.3%		26.1%	

^a Includes licences which lease out their Pipi entitlement. For the purpose of this part of the analysis, all income and costs associated with the leased out Pipi entitlement have been excluded.

^{b-d} See Appendix Table 2-1.

Source: BDO EconSearch analysis

Appendix Table 4-4 Financial performance in the Lakes and Coorong Fishery, by licence type, 2017/18 (average per licence)

	Net Licence Only ^a		Net and Pipi Licence		Whole Fishery	
	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b
(1) Total Boat Gross Income	\$113,430		\$895,474		\$481,450	
Variable Costs						
Fuel	\$8,644	9%	\$11,880	7%	\$10,167	7%
Repairs & Maintenance ^c	\$8,156	8%	\$3,270	2%	\$5,856	4%
Bait/Ice	\$1,387	1%	\$1,776	1%	\$1,570	1%
Provisions	\$1,889	2%	\$1,030	1%	\$1,485	1%
Labour - paid	\$17,420	17%	\$97,000	54%	\$54,869	40%
(2) Labour - unpaid ^d	\$15,472	15%	\$9,134	5%	\$12,456	9%
Other	\$3,508	3%	\$913	1%	\$2,287	2%
(3) Total Variable Costs	\$56,476	56%	\$125,002	69%	\$88,690	64%
Fixed Costs						
Licence Fee	\$8,362	8%	\$26,801	15%	\$17,039	12%
Insurance	\$2,291	2%	\$3,378	2%	\$2,802	2%
(4) Interest	\$1,600	2%	\$7,309	4%	\$4,286	3%
(5) Labour - unpaid ^d	\$8,857	9%	\$5,600	3%	\$7,358	5%
Legal & Accounting	\$3,333	3%	\$5,787	3%	\$4,488	3%
Telephone etc.	\$1,907	2%	\$2,066	1%	\$1,982	1%
Slipping & Mooring	\$683	1%	\$350	0%	\$526	0%
Travel	\$1,633	2%	\$388	0%	\$1,047	1%
Office & Admin	\$16,419	16%	\$3,199	2%	\$10,198	7%
(6) Total Fixed Costs	\$45,085	44%	\$54,877	31%	\$49,727	36%
(7) Total Boat Cash Costs (3 + 6)	\$101,561	100%	\$179,880	100%	\$138,417	100%
Boat Gross Margin (1 - 3)	\$56,954		\$770,472		\$392,761	
(8) Total Unpaid Labour (2 + 5)	\$24,329		\$14,734		\$19,814	
Gross Operating Surplus (1 - 7 + 8)	\$36,198		\$730,328		\$362,847	
(9) Boat Cash Income (1 - 7)	\$11,869		\$715,594		\$343,034	
(10) Depreciation (10)	\$19,886		\$24,481		\$22,048	
(11) Boat Business Profit (9 - 10)	-\$8,017		\$691,113		\$320,986	
(12) Profit at Full Equity (11 + 4)	-\$6,417		\$698,422		\$325,272	
Boat Capital						
(13) Fishing Gear & Equip	\$109,639		\$284,634		\$191,989	
Licence Value	\$100,222		\$2,221,950		\$1,158,800	
(14) Total Boat Capital	\$209,861		\$2,506,584		\$1,350,789	
Rate of Return on Fishing Gear & Equip (12 / 13 * 100)	-5.9%		245.4%		169.4%	
Rate of Return on Total Boat Capital (12 / 14 * 100)	-3.1%		27.9%		24.1%	

^a Includes licences which lease out their Pipi entitlement. For the purpose of this part of the analysis, all income and costs associated with the leased out Pipi entitlement have been excluded.

^{b-d} See Appendix Table 2-1.

Source: BDO EconSearch analysis

Appendix Table 4-5 Financial performance in the Lakes and Coorong Fishery, by licence type, 2016/17 (average per licence)

	Net Licence Only ^a		Net and Pipi Licence		Whole Fishery	
	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b
(1) Total Boat Gross Income	\$159,757		\$623,268		\$355,818	
Variable Costs						
Fuel	\$6,972	6%	\$19,391	9%	\$12,260	8%
Repairs & Maintenance ^c	\$8,011	7%	\$14,729	7%	\$10,927	7%
Bait/Ice	\$1,319	1%	\$728	0%	\$1,089	1%
Provisions	\$0	0%	\$75	0%	\$31	0%
Labour - paid	\$19,769	17%	\$93,666	45%	\$50,952	33%
(2) Labour - unpaid ^d	\$33,029	29%	\$17,453	8%	\$26,942	17%
Other	\$3,268	3%	\$5,812	3%	\$4,376	3%
(3) Total Variable Costs	\$72,368	64%	\$151,855	72%	\$106,577	69%
Fixed Costs						
Licence Fee	\$9,350	8%	\$23,435	11%	\$15,366	10%
Insurance	\$3,182	3%	\$5,946	3%	\$4,380	3%
(4) Interest	\$3,904	3%	\$2,326	1%	\$3,294	2%
(5) Labour - unpaid ^d	\$8,695	8%	\$7,704	4%	\$8,394	5%
Legal & Accounting	\$1,343	1%	\$4,777	2%	\$2,798	2%
Telephone etc.	\$1,867	2%	\$4,201	2%	\$2,868	2%
Slipping & Mooring	\$0	0%	\$1,147	1%	\$480	0%
Travel	\$1,010	1%	\$794	0%	\$933	1%
Office & Admin	\$11,958	11%	\$7,529	4%	\$10,261	7%
(6) Total Fixed Costs	\$41,308	36%	\$57,860	28%	\$48,774	31%
(7) Total Boat Cash Costs (3 + 6)	\$113,676	100%	\$209,714	100%	\$155,352	100%
Boat Gross Margin (1 - 3)	\$87,389		\$471,413		\$249,240	
(8) Total Unpaid Labour (2 + 5)	\$41,724		\$25,157		\$35,336	
Gross Operating Surplus (1 - 7 + 8)	\$87,805		\$438,711		\$235,802	
(9) Boat Cash Income (1 - 7)	\$46,081		\$413,554		\$200,466	
(10) Depreciation (10)	\$15,938		\$30,660		\$22,307	
(11) Boat Business Profit (9 - 10)	\$30,143		\$382,894		\$178,159	
(12) Profit at Full Equity (11 + 4)	\$34,047		\$385,220		\$181,453	
Boat Capital						
(13) Fishing Gear & Equip	\$126,284		\$304,101		\$202,348	
Licence Value	\$95,282		\$1,965,003		\$878,981	
(14) Total Boat Capital	\$221,566		\$2,269,104		\$1,081,329	
Rate of Return on Fishing Gear & Equip (12 / 13 * 100)	27.0%		126.7%		89.7%	
Rate of Return on Total Boat Capital (12 / 14 * 100)	15.4%		17.0%		16.8%	

^a Includes licences which lease out their Pipi entitlement. For the purpose of this part of the analysis, all income and costs associated with the leased out Pipi entitlement have been excluded.

^{b-d} See Appendix Table 2-1.

Source: BDO EconSearch analysis

Appendix Table 4-6 Financial performance in the Lakes and Coorong Fishery, by licence type, 2015/16 (average per licence)

	Net Licence Only ^a		Net and Pipi Licence		Whole Fishery	
	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b
(1) Total Boat Gross Income	\$152,885		\$489,777		\$308,373	
Variable Costs						
Fuel	\$7,887	6%	\$18,011	9%	\$12,559	8%
Repairs & Maintenance ^c	\$8,938	7%	\$13,495	7%	\$11,041	7%
Bait/Ice	\$1,471	1%	\$667	0%	\$1,100	1%
Provisions	\$0	0%	\$68	0%	\$32	0%
Labour - paid	\$23,116	18%	\$85,892	43%	\$52,090	32%
(2) Labour - unpaid ^d	\$35,688	27%	\$15,486	8%	\$26,364	16%
Other	\$3,553	3%	\$5,188	3%	\$4,308	3%
(3) Total Variable Costs	\$80,653	61%	\$138,807	69%	\$107,494	66%
Fixed Costs						
Licence Fee	\$15,850	12%	\$32,622	16%	\$23,591	14%
Insurance	\$3,459	3%	\$5,307	3%	\$4,312	3%
(4) Interest	\$4,336	3%	\$2,121	1%	\$3,313	2%
(5) Labour - unpaid ^d	\$9,395	7%	\$6,835	3%	\$8,214	5%
Legal & Accounting	\$1,460	1%	\$4,264	2%	\$2,754	2%
Telephone etc.	\$2,030	2%	\$3,750	2%	\$2,824	2%
Slipping & Mooring	\$0	0%	\$839	0%	\$387	0%
Travel	\$1,098	1%	\$709	0%	\$919	1%
Office & Admin	\$12,998	10%	\$6,720	3%	\$10,101	6%
(6) Total Fixed Costs	\$50,625	39%	\$63,168	31%	\$56,414	34%
(7) Total Boat Cash Costs (3 + 6)	\$131,279	100%	\$201,976	100%	\$163,908	100%
Boat Gross Margin (1 - 3)	\$72,231		\$350,969		\$200,879	
(8) Total Unpaid Labour (2 + 5)	\$45,084		\$22,321		\$34,578	
Gross Operating Surplus (1 - 7 + 8)	\$66,690		\$310,122		\$179,043	
(9) Boat Cash Income (1 - 7)	\$21,606		\$287,801		\$144,465	
(10) Depreciation (10)	\$17,707		\$27,970		\$22,444	
(11) Boat Business Profit (9 - 10)	\$3,899		\$259,831		\$122,021	
(12) Profit at Full Equity (11 + 4)	\$8,235		\$261,952		\$125,335	
Boat Capital						
(13) Fishing Gear & Equip	\$140,300		\$277,425		\$203,588	
Licence Value	\$91,183		\$1,544,139		\$761,778	
(14) Total Boat Capital	\$231,483		\$1,821,564		\$965,366	
Rate of Return on Fishing Gear & Equip (12 / 13 * 100)	5.9%		94.4%		61.6%	
Rate of Return on Total Boat Capital (12 / 14 * 100)	3.6%		14.4%		13.0%	

^a Includes licences which lease out their Pipi entitlement. For the purpose of this part of the analysis, all income and costs associated with the leased out Pipi entitlement have been excluded.

^{b-d} See Appendix Table 2-1.

Source: BDO EconSearch analysis

Appendix Table 4-7 Financial performance in the Lakes and Coorong Fishery, by licence type, 2014/15 (average per licence)

	Net Licence Only ^a		Net and Pipi Licence		Whole Fishery	
	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b
(1) Total Boat Gross Income	\$141,320		\$452,727		\$285,046	
Variable Costs						
Fuel	\$8,652	6%	\$19,758	9%	\$13,778	8%
Repairs & Maintenance ^c	\$9,600	7%	\$14,494	7%	\$11,859	7%
Bait/Ice	\$1,580	1%	\$717	0%	\$1,182	1%
Provisions	\$0	0%	\$74	0%	\$34	0%
Labour - paid	\$28,018	20%	\$92,590	43%	\$57,820	33%
(2) Labour - unpaid ^d	\$34,906	25%	\$15,146	7%	\$25,786	15%
Other	\$3,530	3%	\$5,154	2%	\$4,279	2%
(3) Total Variable Costs	\$86,285	63%	\$147,933	69%	\$114,738	66%
Fixed Costs						
Licence Fee	\$17,145	12%	\$35,288	17%	\$25,519	15%
Insurance	\$3,436	2%	\$5,273	2%	\$4,284	2%
(4) Interest	\$4,385	3%	\$2,145	1%	\$3,352	2%
(5) Labour - unpaid ^d	\$9,189	7%	\$6,685	3%	\$8,034	5%
Legal & Accounting	\$1,450	1%	\$4,237	2%	\$2,736	2%
Telephone etc.	\$2,016	1%	\$3,725	2%	\$2,805	2%
Slipping & Mooring	\$0	0%	\$833	0%	\$385	0%
Travel	\$1,091	1%	\$705	0%	\$913	1%
Office & Admin	\$12,914	9%	\$6,677	3%	\$10,035	6%
(6) Total Fixed Costs	\$51,627	37%	\$65,568	31%	\$58,061	34%
(7) Total Boat Cash Costs (3 + 6)	\$137,912	100%	\$213,501	100%	\$172,799	100%
Boat Gross Margin (1 - 3)	\$55,035		\$304,794		\$170,308	
(8) Total Unpaid Labour (2 + 5)	\$44,095		\$21,832		\$33,819	
Gross Operating Surplus (1 - 7 + 8)	\$47,502		\$261,058		\$146,067	
(9) Boat Cash Income (1 - 7)	\$3,407		\$239,227		\$112,247	
(10) Depreciation (10)	\$18,018		\$28,462		\$22,838	
(11) Boat Business Profit (9 - 10)	-\$14,610		\$210,765		\$89,409	
(12) Profit at Full Equity (11 + 4)	-\$10,225		\$212,910		\$92,761	
Boat Capital						
(13) Fishing Gear & Equip	\$142,764		\$282,298		\$207,165	
Licence Value	\$84,286		\$1,427,332		\$704,153	
(14) Total Boat Capital	\$227,050		\$1,709,630		\$911,318	
Rate of Return on Fishing Gear & Equip (12 / 13 * 100)	-7.2%		75.4%		44.8%	
Rate of Return on Total Boat Capital (12 / 14 * 100)	-4.5%		12.5%		10.2%	

^a Includes licences which lease out their Pipi entitlement. For the purpose of this part of the analysis, all income and costs associated with the leased out Pipi entitlement have been excluded.

^{b-d} See Appendix Table 2-1.

Source: BDO EconSearch analysis

Appendix Table 4-8 Financial performance in the Lakes and Coorong Fishery, by licence type, 2013/14 (average per licence)

	Net Licence Only ^a		Net and Pipi Licence		Whole Fishery	
	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b
(1) Total Boat Gross Income	\$242,441		\$314,322		\$280,273	
Variable Costs						
Fuel	\$11,222	8%	\$13,014	6%	\$12,165	7%
Repairs & Maintenance ^c	\$6,208	4%	\$7,277	3%	\$6,770	4%
Bait/Ice	\$1,448	1%	\$5,806	3%	\$3,742	2%
Provisions	\$702	0%	\$613	0%	\$655	0%
Labour - paid	\$40,398	29%	\$92,916	41%	\$68,039	37%
(2) Labour - unpaid ^d	\$32,594	23%	\$13,027	6%	\$22,295	12%
Other	\$3,883	3%	\$12,458	6%	\$8,396	5%
(3) Total Variable Costs	\$96,455	68%	\$145,109	65%	\$122,063	66%
Fixed Costs						
Licence Fee	\$14,145	10%	\$32,952	15%	\$24,043	13%
Insurance	\$3,058	2%	\$3,787	2%	\$3,442	2%
(4) Interest	\$4,663	3%	\$16,519	7%	\$10,903	6%
(5) Labour - unpaid ^d	\$9,094	6%	\$1,600	1%	\$5,150	3%
Legal & Accounting	\$2,069	1%	\$6,628	3%	\$4,468	2%
Telephone etc.	\$3,023	2%	\$2,120	1%	\$2,548	1%
Slipping & Mooring	\$0	0%	\$33	0%	\$18	0%
Travel	\$429	0%	\$821	0%	\$636	0%
Office & Admin	\$8,312	6%	\$14,785	7%	\$11,719	6%
(6) Total Fixed Costs	\$44,793	32%	\$79,246	35%	\$62,926	34%
(7) Total Boat Cash Costs (3 + 6)	\$141,248	100%	\$224,355	100%	\$184,988	100%
Boat Gross Margin (1 - 3)	\$145,985		\$169,213		\$158,210	
(8) Total Unpaid Labour (2 + 5)	\$41,688		\$14,626		\$27,445	
Gross Operating Surplus (1 - 7 + 8)	\$142,881		\$104,594		\$122,730	
(9) Boat Cash Income (1 - 7)	\$101,193		\$89,968		\$95,285	
(10) Depreciation (10)	\$17,024		\$23,776		\$20,578	
(11) Boat Business Profit (9 - 10)	\$84,169		\$66,192		\$74,707	
(12) Profit at Full Equity (11 + 4)	\$88,832		\$82,710		\$85,610	
Boat Capital						
(13) Fishing Gear & Equip	\$118,398		\$184,809		\$129,365	
Licence Value	\$135,553		\$1,155,168		\$735,554	
(14) Total Boat Capital	\$253,950		\$1,339,978		\$864,919	
Rate of Return on Fishing Gear & Equip (12 / 13 * 100)	75.0%		44.8%		66.2%	
Rate of Return on Total Boat Capital (12 / 14 * 100)	35.0%		6.2%		9.9%	

^a Includes licences which lease out their Pipi entitlement. For the purpose of this part of the analysis, all income and costs associated with the leased out Pipi entitlement have been excluded.

^{b-d} See Appendix Table 2-1.

Source: BDO EconSearch analysis

Appendix Table 4-9 Financial performance in the Lakes and Coorong Fishery, by licence type, 2012/13 (average per licence)

	Net licence only ^a		Net and Pipi licence		Whole fishery	
	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b
(1) Total Boat Gross Income	\$234,445		\$303,956		\$271,029	
Variable Costs						
Fuel	\$9,501	8%	\$11,018	5%	\$10,300	6%
Repairs & Maintenance ^c	\$5,310	4%	\$6,225	3%	\$5,791	3%
Bait/Ice	\$1,239	1%	\$4,967	2%	\$3,201	2%
Provisions	\$601	0%	\$524	0%	\$560	0%
Labour - paid	\$28,898	23%	\$76,590	38%	\$53,999	32%
(2) Labour - unpaid ^d	\$31,567	25%	\$12,616	6%	\$21,593	13%
Other	\$3,787	3%	\$12,151	6%	\$8,189	5%
(3) Total Variable Costs	\$80,904	64%	\$124,091	61%	\$103,634	62%
Fixed Costs						
Licence Fee	\$14,858	12%	\$34,614	17%	\$25,256	15%
Insurance	\$2,983	2%	\$3,694	2%	\$3,357	2%
(4) Interest	\$4,573	4%	\$16,198	8%	\$10,691	6%
(5) Labour - unpaid ^d	\$8,807	7%	\$1,549	1%	\$4,987	3%
Legal & Accounting	\$2,018	2%	\$6,465	3%	\$4,358	3%
Telephone etc.	\$2,948	2%	\$2,068	1%	\$2,485	1%
Slipping & Mooring	\$0	0%	\$32	0%	\$17	0%
Travel	\$419	0%	\$801	0%	\$620	0%
Office & Admin	\$8,107	6%	\$14,421	7%	\$11,430	7%
(6) Total Fixed Costs	\$44,713	36%	\$79,842	39%	\$63,202	38%
(7) Total Boat Cash Costs (3 + 6)	\$125,617	100%	\$203,932	100%	\$166,836	100%
Boat Gross Margin (1 - 3)	\$153,541		\$179,865		\$167,396	
(8) Total Unpaid Labour (2 + 5)	\$40,374		\$14,165		\$26,580	
Gross Operating Surplus (1 - 7 + 8)	\$149,202		\$114,189		\$130,774	
(9) Boat Cash Income (1 - 7)	\$108,828		\$100,023		\$104,194	
(10) Depreciation (10)	\$16,426		\$22,941		\$19,855	
(11) Boat Business Profit (9 - 10)	\$92,402		\$77,082		\$84,339	
(12) Profit at Full Equity (11 + 4)	\$96,975		\$93,280		\$95,030	
Boat Capital						
(13) Fishing Gear & Equip	\$114,240		\$178,319		\$124,822	
Licence Value	\$131,082		\$1,117,070		\$711,295	
(14) Total Boat Capital	\$245,322		\$1,295,389		\$836,117	
Rate of Return on Fishing Gear & Equip (12 / 13 * 100)	84.9%		52.3%		76.1%	
Rate of Return on Total Boat Capital (12 / 14 * 100)	39.5%		7.2%		11.4%	

^a Includes licences which lease out their Pipi entitlement. For the purpose of this part of the analysis, all income and costs associated with the leased out Pipi entitlement have been excluded.

^{b-d} See Appendix Table 2-1.

Source: BDO EconSearch analysis

Appendix Table 4-10 Financial performance in the Lakes and Coorong Fishery, by licence type, 2011/12 (average per licence)

	Net licence only ^a		Net and Pipi licence		Whole fishery	
	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b	Average per Licence	Share of TBCC ^b
(1) Total Boat Gross Income	\$213,233		\$276,454		\$246,507	
Variable Costs						
Fuel	\$9,284	8%	\$10,765	6%	\$10,063	6%
Repairs & Maintenance ^c	\$5,067	4%	\$5,940	3%	\$5,527	4%
Bait/Ice	\$1,182	1%	\$4,740	2%	\$3,055	2%
Provisions	\$573	0%	\$500	0%	\$535	0%
Labour - paid	\$27,045	23%	\$72,902	38%	\$51,180	33%
(2) Labour - unpaid ^d	\$30,540	26%	\$12,205	6%	\$20,890	13%
Other	\$3,688	3%	\$11,832	6%	\$7,974	5%
(3) Total Variable Costs	\$77,380	66%	\$118,885	62%	\$99,224	64%
Fixed Costs						
Licence Fee ^e	\$10,875	9%	\$25,335	13%	\$18,486	12%
Insurance	\$2,905	2%	\$3,597	2%	\$3,269	2%
(4) Interest	\$5,064	4%	\$17,940	9%	\$11,841	8%
(5) Labour - unpaid ^d	\$8,521	7%	\$1,499	1%	\$4,825	3%
Legal & Accounting	\$1,965	2%	\$6,295	3%	\$4,244	3%
Telephone etc.	\$2,871	2%	\$2,013	1%	\$2,420	2%
Slipping & Mooring	\$0	0%	\$29	0%	\$15	0%
Travel	\$408	0%	\$780	0%	\$604	0%
Office & Admin	\$7,894	7%	\$14,043	7%	\$11,130	7%
(6) Total Fixed Costs	\$40,502	34%	\$71,531	38%	\$56,833	36%
(7) Total Boat Cash Costs (3 + 6)	\$117,882	100%	\$190,416	100%	\$156,058	100%
Boat Gross Margin (1 - 3)	\$135,853		\$157,570		\$147,283	
(8) Total Unpaid Labour (2 + 5)	\$39,060		\$13,704		\$25,715	
Gross Operating Surplus (1 - 7 + 8)	\$134,411		\$99,743		\$116,165	
(9) Boat Cash Income (1 - 7)	\$95,351		\$86,039		\$90,450	
(10) Depreciation (10)	\$15,838		\$22,120		\$19,145	
(11) Boat Business Profit (9 - 10)	\$79,513		\$63,918		\$71,305	
(12) Profit at Full Equity (11 + 4)	\$84,577		\$81,858		\$83,146	
Boat Capital						
(13) Fishing Gear & Equip	\$110,153		\$171,940		\$120,357	
Licence Value	\$119,222		\$1,016,000		\$646,938	
(14) Total Boat Capital	\$229,375		\$1,187,940		\$767,295	
Rate of Return on Fishing Gear & Equip (12 / 13 * 100)	76.8%		47.6%		69.1%	
Rate of Return on Total Boat Capital (12 / 14 * 100)	36.9%		6.9%		10.8%	

^a Includes licences which lease out their Pipi entitlement. For the purpose of this part of the analysis, all income and costs associated with the leased out Pipi entitlement have been excluded.

^{b-d} See Appendix Table 2-1.

Source: BDO EconSearch analysis

APPENDIX 5 Summary Economic Indicators for SA Commercial Fisheries

Appendix Table 5-1 Commercial fisheries catch, South Australia, 2001/02 to 2020/21 (tonnes)

Year	Abalone	GSV Prawns ^a	SGWC Prawns ^a	Sth'n Zone Rock Lobster ^a	Nth'n Zone Rock Lobster ^a	Blue Crabs	Lakes and Coorong ^b	Sardines	Marine Scalefish	Misc ^c	Total SA Fisheries ^d
2001/02	850	322	2,309	1,717	675	481	1,640	12,165	4,801	-	24,960
2002/03	890	232	1,508	1,766	595	515	1,979	21,741	4,243	-	33,469
2003/04	879	172	1,958	1,896	504	559	2,180	33,160	4,221	-	45,529
2004/05	902	213	1,960	1,897	446	584	2,277	56,952	3,857	-	69,089
2005/06	896	175	1,891	1,889	476	600	2,440	28,626	3,234	-	40,227
2006/07	883	209	2,024	1,895	492	617	2,443	30,355	2,855	-	41,773
2007/08	889	229	2,088	1,850	459	625	2,146	29,692	2,925	28	40,931
2008/09	837	273	1,915	1,407	403	604	2,023	27,850	2,998	28	38,338
2009/10	855	250	2,445	1,243	310	539	1,916	36,573	3,330	24	47,485
2010/11	815	178	2,115	1,244	313	591	1,681	33,220	3,068	24	43,249
2011/12	822	125	1,840	1,242	307	611	1,641	36,962	3,208	25	46,783
2012/13	875	0	1,881	1,234	325	511	1,811	35,065	2,603	28	44,333
2013/14	661	0	1,805	1,247	331	571	1,852	33,197	2,302	22	41,988
2014/15	744	249	1,848	1,238	321	576	1,598	36,020	2,582	22	45,198
2015/16	625	218	2,357	1,244	347	625	1,646	41,103	2,550	21	50,736
2016/17	743	225	2,205	1,238	320	627	1,847	39,745	2,519	22	49,491
2017/18	700	237	2,197	1,246	308	603	1,873	43,293	2,303	22	52,782
2018/19	658	212	2,121	1,245	294	616	1,861	40,041	2,099	22	49,169
2019/20	509	133	1,743	1,203	226	620	1,978	39,889	2,130	17	48,448
2020/21	493	110	1,837	1,275	251	592	1,926	38,024	1,689	18	46,215

^a Excludes retained by-catch of Octopus and Southern Calamari.

^b The River fishery was closed from July 2003. There are 6 River fishery licences with access to non-native species and their production is included in this table.

^c Prior to 2007/08 catch from the Miscellaneous Fishery was included in the Marine Scalefish Fishery.

^d Excludes retained by-catch of Octopus, Southern Calamari and Bugs (49t of Octopus, 45t of Southern Calamari and 4t of Bugs in 2020/21) from the Rock Lobster and Prawn Fisheries. Excludes catch from Charter Boat Fishery, aquaculture and south east non-trawl and deep water trawl Commonwealth Fisheries.

Source: BDO EconSearch (2022b)

Appendix Table 5-2 Commercial fisheries gross value of production, South Australia, 2001/02 to 2020/21 (\$m)

Year	Abalone	GSV Prawns ^a	SGWC Prawns ^a	Sth'n Zone Rock Lobster ^a	Nth'n Zone Rock Lobster ^a	Blue Crabs	Lakes and Coorong ^b	Sardines	Marine Scalefish	Misc ^c	Charter Boat	Total SA Fisheries ^d
2001/02	54	9	62	98	41	5	7	13	30	-	-	319
2002/03	54	6	41	96	28	5	7	27	31	-	-	296
2003/04	46	5	58	72	18	5	8	33	33	-	-	277
2004/05	46	5	45	77	17	5	8	41	30	-	-	274
2005/06	46	4	46	90	21	7	8	22	24	-	6	275
2006/07	42	4	53	106	24	7	10	25	26	-	6	305
2007/08	40	4	41	98	21	7	10	21	26	1	5	274
2008/09	41	4	38	108	25	7	11	22	27	1	5	290
2009/10	35	3	34	87	19	5	8	28	28	1	6	254
2010/11	33	3	36	80	17	6	8	23	26	1	5	238
2011/12	34	2	29	93	20	6	9	24	27	1	6	252
2012/13	34	0	32	82	18	6	11	24	28	1	6	241
2013/14	25	0	31	99	22	7	11	21	24	1	5	246
2014/15	28	5	32	112	25	7	9	24	26	1	4	272
2015/16	24	4	42	124	27	8	9	28	24	2	4	297
2016/17	30	5	42	108	22	9	10	26	25	2	4	281
2017/18	29	5	46	103	26	9	12	28	24	2	4	287
2018/19	30	4	43	115	26	9	14	27	21	2	3	295
2019/20	22	2	23	106	19	9	13	27	20	2	2	247
2020/21	18	2	36	71	12	8	14	24	19	1	3	209

^a Excludes retained by-catch of Octopus and Southern Calamari.

^b The River fishery was closed from July 2003. There are 6 River fishery licences with access to non-native species and their production is included in this table.

^c Prior to 2007/08 catch from the Miscellaneous Fishery was included in the Marine Scalefish Fishery.

^d Excludes retained by-catch of Octopus, Southern Calamari and bugs (\$433,000 of Octopus, \$791,000 of Southern Calamari and \$66,000 of Bugs in 2020/21) from the Rock Lobster and Prawn Fisheries. Excludes catch of aquaculture and south east non-trawl, tuna, deep water trawl Commonwealth Fisheries. All values are expressed in real 2020/21 dollars.

Source: BDO EconSearch (2022b)

Appendix Table 5-3 Cost of management in South Australian commercial fisheries, 2020/21

	Licence Fees	GVP	Fees/ GVP	Catch ^a	Fees/ Catch	Licence Holders	Fees/ Licence
	(\$'000)	(\$'000)	(%)	(t)	(\$/kg)	(no.)	(\$/licence)
Abalone	2,431	18,337	13.3%	493	\$4.93	34	\$71,505
Charter Boats ^b	180	2,907	6.2%	12,077	\$14.87	82	\$2,191
GSV Prawns	410	2,093	19.6%	110	\$3.73	10	\$40,991
SG Prawns ^c	1,055	35,653	3.0%	1,837	\$0.57	39	\$27,049
Sth'n Zone Rock Lobster	3,444	71,299	4.8%	1,275	\$2.70	180	\$19,131
Nth'n Zone Rock Lobster	1,601	11,643	13.8%	251	\$6.38	63	\$25,414
Blue Crabs	320	8,410	3.8%	592	\$0.54	9	\$35,565
Lakes and Coorong	704	13,721	5.1%	1,926	\$0.37	36	\$19,562
Marine Scalefish ^d	1,973	19,103	10.3%	1,689	\$1.17	305	\$6,469
Miscellaneous	119	1,484	8.0%	18	\$6.60	15	\$7,916
Sardines	893	23,955	3.7%	38,024	\$0.02	14	\$63,769
Total SA	13,129	208,604	6.3%	46,215	\$0.28	787	\$16,683

^a Total catch for the Charter Boat Fishery is the total number of clients rather than total volume of catch and has therefore been excluded from the total catch for all SA commercial fisheries.

^b Management costs for the Charter Boat Fishery are reported per client rather than per kg of catch.

^c Excludes West Coast Prawn Fishery.

^d Licence fees include access/entitlement fees paid by rock lobster and Lakes and Coorong licence holders. Number of licence holders and average fee per licence holder relates only to Marine Scalefish licence holders and excludes access/entitlement holders from other fisheries.

Source: BDO EconSearch (2022b)

Appendix Table 5-4 Financial performance in South Australian commercial fisheries, 2020/21, (average per boat) ^a

	Abalone	Charter Boats	GSV Prawns	SG Prawns	Sth'n Zone Rock Lob	Nth'n Zone Rock Lob	Blue Crabs ^a	Marine Scalefish	Sardine	Lakes and Coorong
(1) Total Boat Gross Income	585,788	95,682	418,600	858,836	440,222	250,721	8,409,508	122,224	1,726,433	517,480
Variable Costs										
Fuel	15,214	16,015	60,732	80,931	24,940	24,264	530,977	13,025	108,435	16,878
Repairs &	24,130	17,007	41,471	97,439	35,796	17,104	438,956	8,151	130,409	12,430
Bait/Ice	527	3,525	0	5,001	14,584	13,170	134,934	2,411	1,591	1,542
Provisions	3,806	854	2,477	4,605	1,067	6,159	29,862	980	1,385	610
Labour - paid	185,740	6,185	212,626	361,846	158,999	113,626	2,462,702	12,639	432,268	66,979
(2) Labour - unpaid	1,342	13,126	9,867	2,001	7,280	15,902	9,604	18,510	2,801	14,746
Other	3,593	2,967	37,985	367	1,312	3,581	1,781	1,568	427	1,123
(3) Total Variable Costs	234,353	59,679	365,158	552,190	243,978	193,805	3,608,815	57,283	677,316	114,309
Fixed Costs										
Licence Fee	72,620	4,185	81,983	27,634	23,122	26,786	343,300	5,769	68,666	16,136
Insurance	8,283	4,179	9,796	20,831	8,734	7,461	198,233	3,036	39,123	5,302
(4) Interest	18,080	1,141	4,154	38,018	12,378	3,411	388,980	4,239	86,292	4,012
(5) Labour - unpaid	13,418	17,493	23,796	3,419	10,693	3,971	127,993	5,041	24,916	9,522
(6) Leasing	0	0	0	5,365	4,452	42,432	320,184	0	0	7,111
Legal & Accounting	9,191	2,030	6,579	4,872	6,764	4,206	26,823	2,292	5,872	4,537
Telephone etc.	2,451	1,296	1,805	2,995	2,518	1,032	5,696	1,266	1,098	1,911
Slipping & Mooring	1,271	2,193	20,061	21,804	6,383	5,825	70,083	1,629	7,704	276
Travel	5,482	659	0	570	1,363	1,598	3,561	594	883	927
Office & Admin	6,229	7,027	3,869	30,556	6,869	11,429	144,778	7,369	17,988	8,919
(7) Total Fixed Costs	137,025	40,203	152,042	156,062	83,275	108,151	1,629,632	31,234	252,542	58,654
(8) Total Boat Cash Costs (3 + 7)	371,377	99,882	517,201	708,252	327,254	301,957	5,238,447	88,517	929,858	172,962
Boat Gross Margin (1 - 3)	351,435	36,003	53,442	306,646	196,243	56,916	4,800,692	64,941	1,049,117	403,171
(9) Total Unpaid Labour (2 + 5)	14,760	30,618	33,662	5,420	17,973	19,872	137,597	23,550	27,717	24,268
Gross Operating Surplus (1- 8+ 9)	229,170	26,418	-64,938	156,004	130,942	-31,363	3,308,657	57,258	824,292	368,786
(10) Boat Cash Income (1 - 8)	214,411	-4,200	-98,601	150,584	112,968	-51,235	3,171,061	33,707	796,575	344,518
(11) Depreciation	53,300	22,687	73,852	110,310	41,973	47,587	740,508	19,848	328,118	54,278
(12) Boat Business Profit (10 - 11)	161,111	-26,887	-172,453	40,274	70,995	-98,823	2,430,552	13,859	468,457	290,239
(13) Profit at Full Equity (12 + 4 + 6)	179,191	-25,746	-168,299	83,656	87,825	-52,980	3,139,717	18,097	554,748	301,363
Boat Capital										
(14) Fishing Gear & Licence Value	369,703	273,514	1,136,412	1,435,546	512,056	514,497	8,036,811	150,058	3,132,734	432,446
(15) Total Boat Capital	6,326,294	7,750	2,000,000	4,198,095	5,257,050	2,296,864	47,285,237	226,097	6,076,511	1,469,734
(15) Total Boat Capital	6,695,997	281,264	3,136,412	5,633,641	5,769,107	2,811,360	55,322,048	376,155	9,209,245	1,902,180
Rate of Return on										
Fishing Gear & Equip (13 / 14 * 100)	48.5%	-9.4%	-14.8%	6%	17%	-10.3%	39.1%	12.1%	17.7%	69.7%
Rate of Return on										
Total Boat Capital (13 / 15 * 100)	2.7%	-9.2%	-5.4%	1.5%	1.5%	-1.9%	5.7%	4.8%	6.0%	15.8%

^a Excludes aquaculture and Commonwealth fisheries including; the Southern Eastern Scalefish and Shark fishery, Southern Bluefin Tuna fishery, Great Australian Bight fishery, Western Skipjack fishery, the Western Tuna and Billfish fishery

^b Estimates of financial performance for the blue crab fishery have been presented on a whole of fishery basis.

Source: BDO EconSearch (2022b)

Appendix Table 5-5 Costs as a percentage of total cash costs in South Australian commercial fisheries, 2020/21 ^a

	Abalone	Charter Boats	Gulf St Vincent Prawns	Spencer Gulf Prawns	Sth'n Zone Rock Lob	Nth'n Zone Rock Lob	Blue Crabs	Marine Scalefish	Sardines	Lakes and Coorong
Variable Costs										
Fuel	4%	16%	12%	11%	8%	8%	10%	15%	12%	10%
R&M	6%	17%	8%	14%	11%	6%	8%	9%	14%	7%
Bait/Ice	0%	4%	0%	1%	4%	4%	3%	3%	0%	1%
Provisions	1%	1%	0%	1%	0%	2%	1%	1%	0%	0%
Labour - paid	50%	6%	41%	51%	49%	38%	47%	14%	46%	39%
Labour - unpaid	0%	13%	2%	0%	2%	5%	0%	21%	0%	9%
Other	1%	3%	7%	0%	0%	1%	0%	2%	0%	1%
Fixed Costs										
Licence Fee	20%	4%	16%	4%	7%	9%	7%	7%	7%	9%
Insurance	2%	4%	2%	3%	3%	2%	4%	3%	4%	3%
Interest	5%	1%	1%	5%	4%	1%	7%	5%	9%	2%
Labour - unpaid	4%	18%	5%	0%	3%	1%	2%	6%	3%	6%
Leasing	0%	2%	0%	1%	1%	14%	6%	0%	0%	4%
Legal & Accounting	2%	1%	1%	1%	2%	1%	1%	3%	1%	3%
Telephone etc.	1%	2%	0%	0%	1%	0%	0%	1%	0%	1%
Slipping & Mooring	0%	1%	4%	3%	2%	2%	1%	2%	1%	0%
Travel	1%	7%	0%	0%	0%	1%	0%	1%	0%	1%
Office & Admin	2%	40%	1%	4%	2%	4%	3%	8%	2%	5%
Total Variable Costs	63%	60%	71%	78%	75%	64%	69%	65%	73%	66%
Total Fixed Costs	37%	40%	29%	22%	25%	36%	31%	35%	27%	34%
Total Cash Costs	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

^a Excludes aquaculture and Commonwealth fisheries including; the Southern Eastern Scalefish and Shark fishery, Southern Bluefin Tuna fishery, Great Australian Bight fishery, Western Skipjack fishery, the Western Tuna and Billfish fishery.

Source: Derived from BDO EconSearch (2022b)

Appendix Table 5-6 Economic contributions of South Australian commercial fisheries, 2020/21 ^{a,b}

	Abalone	Charter Boats	Gulf St Vincent Prawn	SG Prawns	Sth'n Zone Rock Lob	Nth'n Zone Rock Lob	Blue Crabs	Marine Scalefish	Sardines	Lakes and Coorong	All Fisheries
Output (\$m)											
Direct											
Fishing	18.3	2.9	2.1	35.7	71.7	11.7	8.4	19.1	24.0	13.7	207.6
Downstream	15.2	5.7	2.2	35.9	29.8	6.1	7.5	8.7	2.2	6.6	119.9
All other sectors	56.9	14.4	7.3	91.4	125.3	29.5	18.4	57.3	22.1	19.5	442.3
Total	90.5	23.0	11.6	163.0	226.8	47.3	34.4	85.1	48.3	39.8	769.8
Total/Direct	2.7	2.7	2.7	2.3	2.2	2.7	2.2	3.1	1.8	2.0	2.4
Total/Tonne (\$)	\$183,500	\$1,900	\$105,600	\$88,700	\$172,300	\$182,500	\$58,000	\$50,300	\$1,200	\$24,900	\$16,000
Contribution to GSP (\$m)											
Direct											
Fishing	13.9	1.2	0.9	24.3	51.1	3.8	6.5	7.9	18.7	11.3	139.6
Downstream	13.8	2.8	1.3	20.6	14.8	3.0	3.8	4.2	1.1	3.2	68.6
All other sectors	18.1	8.1	4.1	50.9	71.5	16.8	10.4	32.8	12.5	11.1	236.4
Total	45.9	12.1	6.3	95.9	137.4	23.7	20.8	44.8	32.3	25.5	444.6
Total/Direct	1.7	3.1	2.9	2.1	2.1	3.5	2.0	3.7	1.6	11.1	2.1
Total/Tonne (\$)	\$93,000	\$1,000	\$56,900	\$52,100	\$104,400	\$91,300	\$35,000	\$26,500	\$800	\$26	\$9,200
Employment (fte jobs)											
Direct											
Fishing	51	32	18	116	327	89	29	211	82	109	1,064
Downstream	125	29	19	305	194	39	58	55	13	40	876
All other sectors	148	68	33	413	584	139	82	274	104	88	1,934
Total	323	128	70	834	1,105	268	169	540	199	238	3,874
Total/Direct	1.8	2.1	1.9	2.0	2.1	2.1	2.0	2.0	2.1	1.6	2.0
Total/Tonne	0.7	0.0	0.6	0.5	0.8	1.0	0.3	0.3	0.0	0.1	0.1
Household Income (\$m)											
Direct											
Fishing	6.8	0.6	1.2	14.3	28.0	6.2	2.6	8.7	6.4	3.3	78.2
Downstream	6.6	1.6	0.9	15.1	11.0	2.2	2.7	3.0	0.8	2.3	46.1
All other sectors	10.4	4.9	2.4	28.5	41.2	9.8	5.9	19.8	7.2	6.5	136.4
Total	23.8	7.1	4.5	57.9	80.1	18.3	11.2	31.5	14.3	12.0	260.7
Total/Direct	1.8	3.2	2.1	2.0	2.1	2.2	2.1	2.7	2.0	2.2	2.1
Total/Tonne (\$)	\$48,200	\$500	\$41,100	\$31,500	\$60,800	\$70,400	\$18,800	\$18,600	\$300	\$7,500	\$5,400

^a Excludes aquaculture and Commonwealth fisheries including; the Southern Eastern Scalefish and Shark fishery, Southern Bluefin Tuna fishery, Great Australian Bight fishery, Western Skipjack fishery, the Western Tuna and Billfish fishery.

^b Downstream activities include net value of processing, transport services and retail/food services trade.

Source: BDO EconSearch (2022b)

Appendix Table 5-7 Net economic return (NER) in South Australian commercial fisheries, 2020/21 (\$m)

	Abalone	GSV Prawns	SGWC Prawns	Sth'n Zone Rock Lob	Nth'n Zone Rock Lob	Blue Crabs	Marine Scalefish	Sardines	Lakes and Coorong	All Fisheries ^a
Gross Income	18.3	2.1	35.7	71.7	11.7	8.4	19.1	24.0	13.7	204.6
Less Labour	6.3	1.2	15.0	28.8	6.2	2.6	5.7	6.4	2.4	74.6
Less Materials & Services	4.8	1.3	12.1	21.7	5.7	1.9	9.0	5.3	2.1	64.0
Less Depreciation	1.7	0.4	4.5	6.8	2.2	0.7	3.1	4.6	1.4	25.4
Less Opportunity Cost of Capital (@10%)	1.2	0.6	5.8	8.3	2.4	0.8	2.3	4.3	1.1	27.0
NER	4	-1	-2	6	-5	2	-1	3	7	14
NER/GVP	24%	-64%	-5%	8%	-42%	28%	-5%	14%	49%	5%

^a Excludes aquaculture and Commonwealth fisheries including; the Southern Eastern Scalefish and Shark fishery, Southern Bluefin Tuna fishery, Great Australian Bight fishery, Western Skipjack fishery, the Western Tuna and Billfish fishery.

Source: BDO EconSearch (2022b)

APPENDIX 6 Nominal Licence Fees and Rent

Appendix Table 6-1 Costs of management in the Lakes and Coorong Fishery, 2002/03 to 2022/23 ^a

	Licence Fee	GVP	Fee/GVP	Catch	Fee/Catch	Licences	Fee/Licence ^b
	(\$'000)	(\$'000)	(%)	(tonnes)	(\$/kg)	(No.)	(\$/licence)
2002/03	185	4,466	4.1%	1,979	\$0.09	37	\$5,001
2003/04	197	5,382	3.7%	2,180	\$0.09	37	\$5,315
2004/05	243	5,495	4.4%	2,277	\$0.11	37	\$6,562
2005/06	265	5,924	4.5%	2,440	\$0.11	37	\$7,175
2006/07	299	7,143	4.2%	2,443	\$0.12	37	\$8,094
2007/08	282	7,544	3.7%	2,146	\$0.13	37	\$7,614
2008/09	437	8,412	5.2%	2,023	\$0.22	36	\$12,144
2009/10	393	6,162	6.4%	1,916	\$0.21	36	\$10,918
2010/11	465	6,561	7.1%	1,681	\$0.28	36	\$12,910
2011/12	489	8,037	6.1%	1,641	\$0.30	36	\$13,570
2012/13	667	9,399	7.1%	1,811	\$0.37	36	\$18,540
2013/14	635	9,466	6.7%	1,852	\$0.34	36	\$17,650
2014/15	704	7,774	9.1%	1,598	\$0.44	36	\$19,556
2015/16 ^c	419	8,410	5.0%	1,646	\$0.25	36	\$11,646
2016/17 ^d	424	9,704	4.4%	1,847	\$0.23	36	\$11,776
2017/18 ^e	413	11,339	3.6%	1,873	\$0.22	36	\$11,462
2018/19 ^f	420	13,063	3.2%	1,861	\$0.23	36	\$11,656
2019/20 ^g	637	12,775	5.0%	1,978	\$0.32	36	\$17,698
2020/21	704	13,721	5.1%	1,926	\$0.37	36	\$19,562
2021/22	652	12,415	5.3%	1,562	\$0.42	36	\$18,107
2022/23	734	n.a.	-	n.a.	-	36	\$20,395

^a Values are in nominal terms.

^b Comprised of base licence fees, Marine Scalefish net fees, Pipi base fees and Pipi unit fees.

^c Excludes net fees of \$231,564 waived by PIRSA, an average of \$6,432 per licence holder.

^d Excludes net fees of \$239,799 waived by PIRSA, an average of \$6,661 per licence holder.

^e Excludes net fees of \$167,449 waived by PIRSA, an average of \$4,651 per licence holder.

^f Excludes net fees of \$192,033 waived by PIRSA, an average of \$5,334 per licence holder.

^g Excludes net fees of \$101,506 waived by PIRSA, an average of \$2,820 per licence holder.

Source: PIRSA Fisheries and Aquaculture, SARDI Aquatic Sciences and ABS (2021a)

Appendix Table 6-2 Net economic return ^a in the Lakes and Coorong Fishery, 2002/03 to 2021/22 (\$'000)^b

	Gross Income	Less Labour	Less Cash Costs	Less Depreciation	Less Opportunity Cost of Capital (@10%)	Net economic return
2002/03	4,466	1,972	1,530	504	303	156
2003/04	5,382	2,087	1,591	519	312	872
2004/05	5,495	2,259	1,717	650	391	479
2005/06	5,924	2,168	1,785	556	375	1,039
2006/07	7,143	2,709	2,013	725	489	1,206
2007/08	7,544	2,715	2,034	819	552	1,423
2008/09	8,412	3,363	2,424	711	391	1,522
2009/10	6,162	2,921	2,214	749	412	-133
2010/11	6,561	2,996	2,324	815	449	-22
2011/12	7,170	2,237	1,958	557	350	2,068
2012/13	7,884	2,344	2,198	578	363	2,401
2013/14	8,152	2,777	2,286	599	376	2,114
2014/15	7,774	2,499	2,122	623	565	1,965
2015/16	8,410	2,364	2,194	612	555	2,685
2016/17	9,704	2,353	2,034	608	552	4,157
2017/18	11,486	1,782	1,586	526	458	7,135
2018/19	13,103	1,724	1,763	502	437	8,677
2019/20	12,778	1,699	1,724	478	416	8,462
2020/21	13,721	2,419	2,060	1,439	1,147	6,655
2021/22	12,415	2,349	2,088	1,487	1,184	5,307

^a Adjusted for sample bias. Values are in nominal terms.

^b Estimates of cash costs from 2015/16 to 2019/20 have been revised to include waived licence fees.

Source: BDO EconSearch analysis

APPENDIX 7 Catch and Real GVP by Species, 2002/03 - 2021/22

Appendix Table 7-1 Catch (tonnes) and real GVP (\$'000), by species, 2002/03 to 2021/22 ^a

Year	Australian				European						Yellow-Eye				Other		Pipi (Goolwa Cockle)					
	Salmon		Black Bream		Bony Bream		Callop		Carp		Flounder		Mullet		Mulloway		Redfin		Catch	GVP	Catch	GVP
	Catch (t)	GVP (\$'000)	Catch (t)	GVP (\$'000)	Catch (t)	GVP (\$'000)	Catch (t)	GVP (\$'000)	Catch (t)	GVP (\$'000)	Catch (t)	GVP (\$'000)	Catch (t)	GVP (\$'000)	Catch (t)	GVP (\$'000)	Catch (t)	GVP (\$'000)	(t)	(\$'000)	(t)	(\$'000)
2002/03	1	1	12	175	212	362	38	930	404	1,192	6	84	167	625	45	488	6	40	2	11	1,086	3,210
2003/04	2	3	10	155	279	362	82	1,822	579	1,595	6	76	111	398	31	298	n.a.	n.a.	10	54	1,070	3,570
2004/05	4	5	6	83	340	433	103	2,217	567	1,455	9	118	110	371	39	389	n.a.	n.a.	14	82	1,085	3,170
2005/06	3	4	7	101	318	464	123	1,597	737	1,390	7	91	126	453	38	338	n.a.	n.a.	29	185	1,052	4,026
2006/07	4	6	4	73	382	548	152	3,297	697	1,268	5	73	141	576	44	410	n.a.	n.a.	25	177	989	3,821
2007/08	6	10	4	56	416	571	117	2,820	713	1,566	2	27	216	852	32	328	n.a.	n.a.	35	266	605	3,852
2008/09	10	22	2	24	425	574	87	2,476	792	1,167	1	22	210	953	30	324	n.a.	n.a.	29	181	437	5,619
2009/10	10	22	1	20	573	309	49	1,368	710	850	1	16	207	1,177	26	246	n.a.	n.a.	47	289	292	3,798
2010/11	8	14	2	n.a.	476	368	68	1,790	474	427	n.a.	n.a.	243	1,262	n.a.	n.a.	61	394	53	487	296	3,558
2011/12	1	2	3	42	451	607	57	1,056	438	606	31	285	144	1,950	64	848	68	609	20	185	364	3,829
2012/13	n.a.	n.a.	n.a.	n.a.	514	644	34	539	479	704	n.a.	n.a.	217	3,340	103	1,416	n.a.	n.a.	29	282	435	4,587
2013/14	n.a.	n.a.	n.a.	n.a.	475	579	88	1,680	570	820	n.a.	n.a.	196	2,809	68	950	n.a.	n.a.	14	132	441	4,272
2014/15	n.a.	n.a.	n.a.	n.a.	417	266	84	1,632	472	569	n.a.	n.a.	121	1,450	59	678	n.a.	n.a.	19	162	426	4,364
2015/16	n.a.	n.a.	n.a.	n.a.	397	211	79	1,628	452	362	n.a.	n.a.	135	1,684	73	786	n.a.	n.a.	21	185	489	4,947
2016/17	n.a.	n.a.	n.a.	n.a.	427	220	81	1,632	540	426	n.a.	n.a.	183	2,158	62	639	n.a.	n.a.	26	293	528	5,767
2017/18	n.a.	n.a.	n.a.	n.a.	363	439	106	1,901	451	718	n.a.	n.a.	154	1,515	121	1,174	n.a.	n.a.	32	261	646	6,665
2018/19	n.a.	n.a.	n.a.	n.a.	303	378	61	1,226	410	648	n.a.	n.a.	284	2,370	109	1,101	43	270	4	60	647	8,315
2019/20	n.a.	n.a.	n.a.	n.a.	275	366	51	1,105	607	1,128	n.a.	n.a.	458	3,561	121	1,308	32	231	4	49	430	6,198
2020/21	n.a.	n.a.	n.a.	n.a.	319	453	55	1,282	612	988	n.a.	n.a.	369	3,407	92	1,153	23	196	12	191	444	6,912
2021/22	n.a.	n.a.	n.a.	n.a.	365	516	35	919	434	814	n.a.	n.a.	206	1,863	56	830	26	230	24	411	416	6,833

^a Values are based on the BDO EconSearch revaluation of SARDI GVP data (See section 3.2 for details of the revaluation process) and have been converted to 2021/22 dollars using the Adelaide CPI (ABS 2022a).

Source: SARDI Aquatic Sciences and BDO EconSearch Analysis

Appendix Table 7-2 Catch (tonnes) and Real GVP (\$'000), by species group, 2002/03 to 2021/22 ^a

Year	Pipi (Goolwa Cockle)		Finfish ^b		Total	
	Catch (t)	GVP (\$'000)	Catch (t)	GVP (\$'000)	Catch (t)	GVP (\$'000)
2002/03	1,086	5,117	893	2,002	1,979	7,119
2003/04	1,070	5,530	1,110	2,805	2,180	8,335
2004/05	1,085	4,802	1,192	3,523	2,277	8,326
2005/06	1,052	5,879	1,388	2,772	2,440	8,651
2006/07	989	5,485	1,454	4,767	2,443	10,252
2007/08	605	5,287	1,541	5,066	2,146	10,353
2008/09	437	7,595	1,586	3,776	2,023	11,370
2009/10	292	4,994	1,624	3,108	1,916	8,102
2010/11	296	4,504	1,385	3,801	1,681	8,304
2011/12	364	4,788	1,277	5,262	1,641	10,050
2012/13	435	5,618	1,376	5,894	1,811	11,512
2013/14	441	5,074	1,411	6,169	1,852	11,243
2014/15	426	5,120	1,172	4,001	1,598	9,121
2015/16	489	5,766	1,157	4,037	1,646	9,803
2016/17	528	6,617	1,319	4,518	1,847	11,135
2017/18	646	7,450	1,227	5,224	1,873	12,674
2018/19	647	9,163	1,214	5,232	1,861	14,395
2019/20	430	6,777	1,548	7,191	1,978	13,968
2020/21	444	7,352	1,482	7,242	1,926	14,594
2021/22	416	6,833	1,146	5,582	1,562	12,415

^a Values are based on the BDO EconSearch revaluation of SARDI GVP data (See section 3.2 for details of the revaluation process) and have been converted to 2021/22 dollars using the Adelaide CPI (ABS 2022a).

^b Finfish is total fishery catch excluding Pipi.

Source: Appendix Table 7-1



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