

Small fish, big pond

Tasmanian salmon industry job numbers & tax payments

Australian Bureau of Statistics data suggests that salmon farming in Tasmania provides between 1,100 and 1,700 jobs, less than 1% of the state's employment. Over 80% of these jobs are in Hobart and the South East. Australian Tax Office data shows that the three main salmon companies had income of \$7 billion over nine years, but paid just \$51 million in company tax. Zero tax was paid in the last three years for which data is available.

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November 2023

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ISSN: 1836-9014

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Summary

Tensions are rising over the impact of salmon farming in Tasmania, particularly Macquarie Harbour where Federal Government conservation advice is to significantly reduce fish biomass. In response to calls for restrictions on the industry, lobby group Salmon Tasmania has claimed that the economic aspects of the industry are so critical for the state that it will "not concede [to reduce numbers] one single fish".

This report examines the economic aspects of the Tasmanian salmon industry, specifically employment numbers and tax payments, using data from the Australian Bureau of Statistics (ABS) and Australian Taxation Office (ATO).

The 2021 ABS census shows that 2,177 people worked in aquaculture in Tasmania. This includes other aquaculture activities such as oyster, mussel and abalone farming. The ABS does not publish a salmon-farming specific estimate, but a range can be estimated from the descriptions of industry sub-categories. We estimate 2021 salmon industry employment in Tasmania as most likely 1,100 people, with a best-case estimate of 1,700. This represents between 0.4% and 0.7% of Tasmanian jobs — over 99% of Tasmanians do not work in salmon farming.

By contrast, Salmon Tasmania claims an employment number of over 5,100 full time equivalent jobs. Salmon Tasmania's estimates are based on modelling that has never been published, but appears to be based on methods criticized by the ABS and the Productivity Commission as being regularly "abused".

While Salmon Tasmania asserts that the industry is important for regional employment, over 80% of likely salmon jobs are in Hobart and the South East region of the state. Industry claims of supporting 17% of West Coast employment are not supported by ABS data which suggest around 2.5% of West Coast employment is in salmon farming.

According to ATO data, Tasmania's three main salmon farming companies recorded \$6 billion in total income between 2013-14 and 2020-21, but recorded just \$50 million in company tax payable. Tax payments have declined since 2015-16 and it appears that the Tasmanian salmon industry paid zero company tax in in the last three years for which data is available.

Based on data published by the ABS and ATO, it appears that the Tasmanian salmon industry could be restricted to a more sustainable size without significant impact on employment or government revenues.

Introduction

Tensions are rising over the impacts of salmon aquaculture in Tasmanian coastal waters. The Federal Government has written to the Tasmanian Government regarding the sustainability of large-scale fish farming in Tasmania's Macquarie Harbour, and requests have been made to regulators not to renew salmon farm licenses in Macquarie Harbour that expire on 30 November 2023.

Recent debate on the impacts of the salmon industry have focused on the Maugean skate, a unique stingray-like animal that lives only in Macquarie Harbour that is on the brink of extinction.² Federal Government Conservation Advice warns that for the skate to be afforded the best chance of survival, impacts from salmonid aquaculture on oxygen concentrations in the Harbour must be "eliminated or significantly reduced".³ The advice explicitly states that the fastest and simplest way to achieve this is by "significantly reducing fish biomass". This is marked "urgent" to be actioned "before summer 2023/24."

In response to this situation, the industry has made misleading claims about the scientific evidence and the social and economic importance of the salmon industry to Tasmania, with the implication that the industry is too important to be restricted or shut down in Macquarie Harbour. Salmon Tasmania has vowed to "not concede one single fish".⁴

Tasmania's Upper House recently spent close to a full sitting day debating the merits of the state's salmon industry in response to a motion brought by an independent

¹ McGuire (2023) *Tanya Plibersek writes to Jeremy Rockliff about Maugean skate*, https://www.theadvocate.com.au/story/8413980/urgent-action-pilbersek-urges-premier-to-do-more-to-save-skate/?cspt=1699356412|0a804ebe560ad60fd0049ab24236e156

² Institute for Marine and Antarctic Studies (2023) *Under pressure: scientists call for urgent conservation action to save Maugean skate*, https://www.imas.utas.edu.au/news/news-items/under-pressure-scientists-call-for-urgent-conservation-action-to-save-maugean-skate

³ DCCEEW (2023) Conservation Advice for Zearaja maugeana (Maugean skate), https://www.environment.gov.au/biodiversity/threatened/species/pubs/83504-conservation-advice-06092023 ndf

⁴ Salmon Tasmania (2023) 400 Macquarie Harbour Salmon Jobs Under Threat, https://www.linkedin.com/posts/salmontasmania_media-release-12-october-2023-400-macquarie-activity-7118331940780318720-n4v6/

Member of the Legislative Council.⁵ Tasmania's Lower House also recently debated a similar motion. Both motions were based on economic claims by industry lobby group Salmon Tasmania that the industry is "critical" to the state's economy, that it provides over 5,000 jobs state-wide and that 400 jobs in Macquarie Harbour would be threatened by any change to the industry's regulation. ⁶

This paper presents data from the Australian Bureau of Statistics and Australian Taxation Office that put the Tasmanian salmon industry in context. The data shows that employment in salmon farming is substantially lower than suggested by Salmon Tasmania and that for a supposedly critical industry minimal company tax payments have been made over the last nine years.

⁵ The Mercury (2023) *'Glossy brochure': Salmon industry report scrutinised*, https://www.themercury.com.au/news/tasmania/the-legislative-council-spent-most-of-tuesday-debating-tania-rattrays-motion-on-aquaculture/news-story/7f7c2c34af4fdcf55855d053f242cd77

⁶ Salmon Tasmania (2023) *400 Macquarie Harbour Salmon Jobs Under Threat*, https://www.linkedin.com/posts/salmontasmania_media-release-12-october-2023-400-macquarie-activity-7118331940780318720-n4v6/

Employment

Salmon Tasmania's claims on industry employment numbers are based economic modelling commissioned by the lobby group. This modelling has never been published publicly and was not provided to The Australia Institute when requested. While the full modelling is not available, Salmon Tasmania's publicity material includes some further detail. In 2021-22, the modelling claimed:

- Direct employment of 2,115 full time equivalent (FTE) jobs,
- Indirect employment of 2,988 FTE, giving
- Total supported employment of 5,103 FTEs.

Taking these figures at face value, 2,115 workers represents 0.8% of Tasmania's almost 250,000+ jobs. Or to put it another way, 99.3% of workers in Tasmania do not work in the salmon industry.⁸ Including 'indirect' jobs in other industries as part of the salmon industry's wider impact is problematic, as discussed further below.

AUSTRALIAN BUREAU OF STATISTICS DATA

Australia's most detailed and accurate data source for employment at a sub-industry and lower geographic level is the Australian Bureau of Statistics (ABS)'s five-yearly national census. The most recent census data is from August 2021.

The census does not collect data on specifically on salmon aquaculture. In this section, we make estimates of most likely salmon-specific employment and best-case salmon employment, based on ABS census data on the Tasmanian aquaculture industry and some related industries.

The ABS census counts workers in the salmon industry as part of the *Agriculture*, *Forestry and Fishing* industry division and included in the *Aquaculture* industry group,⁹ which is further broken down into four industry classes: *Offshore Caged Aquaculture*,

⁷ Salmon Tasmania (2023) *The Tasmanian Salmon Industry: A vital social and Economic Contributor*, https://salmontasmania.au/wp-content/uploads/2023/06/Economic-and-Social-Contribution-Report-Final_lo_res.pdf

⁸ It should be noted that this is comparing total employment with the industries FTE figures. This will have the effect of slightly reducing the proportion of salmon industry workers when compared to all Tasmanian workers.

⁹ ABS (2006) *Australian and New Zealand Industrial Classification*, https://www.abs.gov.au/statistics/classifications/australian-and-new-zealand-standard-industrial-classification-anzsic/2006-revision-2-0/detailed-classification/a/02/020

Offshore Longline and Rack Aquaculture, Onshore Aquaculture, Aquaculture Not Further Defined (NFD). The census results for these industry classes are summarised in Table 1 below:

Table 1: Employment in Tasmania by aquaculture industry class

	Tasmanian Employees
Offshore caged aquaculture	951
Offshore longline and rack aquaculture	905
Onshore aquaculture	88
Aquaculture NFD	233
Total	2,177

Source: ABS (2022) 2021 Census of Population and Housing

The census data shows us there were 2,177 employees in aquaculture in Tasmania in 2021. This includes workers at aquaculture operations that produce oysters, blue mussels, and abalone, of which Tasmania is a significant producer.¹⁰ The number in salmon farming must be lower than this, making Salmon Tasmania's claim to directly employ 2,115 FTEs most unlikely, as the census data is all employees, including part time, rather than just full-time equivalents.

Employment in the salmon industry can be estimated from the industry classes in Table 1. To make estimates of likely and best-case salmon industry-specific employment, we assume:

- All offshore caged aquaculture is salmon farming. As far as we are aware there
 are no other offshore caged aquaculture industries, such as tuna, operating in
 Tasmania.
- Offshore longline and caged aquaculture is focused on shellfish and none of these jobs are likely to be in salmon farming.
- Onshore aquaculture:
 - This includes activities related to both salmon and shellfish aquaculture.
 Based on the ABS description of included activities we estimate 1/3 of this class is likely to be salmon industry employment.¹¹

¹⁰ ABARES (2022) Australian fisheries and aquaculture statistics 2021 – Statistical tables, Table 10, https://www.agriculture.gov.au/abares/research-topics/fisheries/fisheries-data#daff-page-main

¹¹ ABS (2006) *Australian and New Zealand Industrial Classification*, https://www.abs.gov.au/statistics/classifications/australian-and-new-zealand-standard-industrial-classification-anzsic/2006-revision-2-0/detailed-classification/a/02/020/0203

o For best-case, we assume all of this employment is in salmon.

Aquaculture NFD

- The salmon industry makes up 50% of Tasmanian aquaculture employment in the other divisions, so we assume 50% of Aquaculture NFD workers are working in the salmon industry.
- o For best-case, we assume all of this employment is in salmon.

Further, for the best-case estimate, we include two downstream manufacturing and wholesaling industries, seafood processing, and fish and seafood wholesaling. For the best-case estimate, all employment in these industries has been included as salmon industry employment. This is certainly an overestimate because these divisions include significant non-salmon related processing and wholesaling activities.

Table 2 below summarises our estimates of likely salmon industry employment and best-case salmon industry employment in Tasmania:

Table 2: Likely and best-case employment in the salmon industry

	Likely employment	Best case employment
Offshore caged aquaculture	951	951
Offshore longline and rack aquaculture	0	0
Onshore aquaculture	29	88
Aquaculture NFD	117	233
Seafood processing	0	341
Fish and seafood wholesaling	0	109
Total	1,097	1,722

Source: Source: ABS (2022) 2021 Census of Population and Housing

Table 2 shows that the salmon industry in Tasmania employs between 1,097 and 1,722 people, with the higher estimate being certainly optimistic. Using the census employment figures it is difficult to reconcile how the salmon industry have arrived at a direct employment figure of 2,115 FTEs.

INDIRECT EMPLOYMENT

Salmon Tasmania claims that its industry is responsible for 'supporting' 2,988 indirect jobs, more than the implausibly high 2,115 direct jobs claimed. While the modelling has not been released, given the higher number of indirect jobs it is likely that an 'input-output' model has been used to generate this number.

Input-output models are quantitative economic models that, as the name suggests, highlight the linkages between the inputs from a range of sources (such as goods, labour and capital) and the outputs of a specific industry. Because of the limitations of these models, caution is required for their use. They are more likely to produce useful estimates of the impacts of relatively small and simple projects, such as a shopping centre extension, where the project has no significant impact on the wider economy, environment or community. However, for a state-wide industry, with extensive interdependencies and environmental impacts, an input-output model is almost certain to overestimate the employment impacts of salmon in other industries.

Both the ABS and the Productivity Commission (PC) are critical of the use of inputoutput models for economic impact estimates such as the Salmon Tasmania claims. 12,13 The criticisms centre on a range of modelling assumptions that are unlikely to hold in the real world, with the two most important model assumptions being:

- 1. *Unlimited resources:* The model assume that any and all industries in the economy can expand without limit, and without taking resources or labour away from other industries.
- 2. *Fixed prices:* The model assumes the effects of relative price changes play no role in the allocation of scare resources between activities. Actual impacts are typically influenced by changes in relative prices due to constrains on labour, capital and other resources.

These assumptions are not realistic, particularly in relatively small economies like Tasmania, or particularly for smaller regions. The result of relying on these unrealistic assumptions is that they exaggerate the flow-on effects of the industry, while they completely ignore environmental and social factors. When more sophisticated models are used, the net impact on the state economy of changes such as a reduction of salmon farming in Macquarie Harbour are usually estimated to be minimal.

As shown in Table 2 above, even including all employment in some related industries does not increase the size of the salmon industry to that claimed by the industry lobby group. Industries that provide inputs to the salmon industry such as transport, agricultural inputs and services are all likely to use resources that would be directed to other industries in the absence of, or reduction in the size of, the salmon industry.

¹² ABS (2019) Australian National Accounts: Input-Output Tables, 2016-17, https://www.abs.gov.au/statistics/economy/national-accounts/australian-national-accounts-input-output-tables/2016-17

¹³ PC (2013) On input-output tables: uses and abuses, https://www.pc.gov.au/research/supporting/input-output-tables

It is useful to remember that all industries use inputs from, and provide outputs to, other industries. If all industries included indirect employment in their total figures, jobs would be double, or triple counted. This would generate a total employment number that was two or three times more than all the employment in Tasmania. In general, it is industries with a relatively low number of employees that use input-output models and indirect jobs claims to lobby for approvals, subsidies and other special treatment.

SALMON EMPLOYMENT IN CONTEXT

As discussed above, based on census data, our most likely estimate for the salmon industry employment in Tasmania is 1,097 people, or 0.4% of Tasmania's 250,000+ jobs. Comparing this to other parts of the Tasmanian economy shows that salmon is not a major employer in the state, as shown in Figure 1 below:

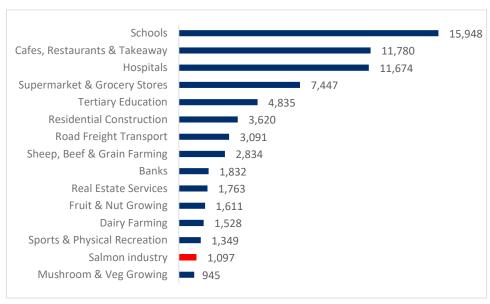


Figure 1: Employment in Tasmania, selected industries

Source: Source: ABS (2022) 2021 Census of Population and Housing

Figure 1 shows that schools, food outlets, and hospitals are large employers in Tasmania. By comparison the salmon industry is not a large employer, it is similar in size to sport and recreation and mushroom & vegetable growing.

WHERE ARE TASMANIA'S SALMON JOBS?

Salmon Tasmania claims that 89% of direct salmon jobs are in regional areas.¹⁴ The census data also allows us to look at the geographic distribution of the employment numbers. At the four-digit (SA4) level, Tasmania is broken down into four separate regions. These four regions are shown in Figure 2 below.

West & North Launceston & North East

South East

Hobart

Figure 2: Map of SA4 regions in Tasmania

Source: https://www.researchgate.net/figure/Map-of-Tasmania-showing-ABS-Statistical-Areas-colour-coded-used-for-sample_fig1_269634777

Using the likely and best-case salmon employment assumptions above and applying them to census data for these four SA4 regions gives the employment estimates shown in Table 3 below:

Table 3: Likely and best-case salmon employment by SA4 region in Tasmania

	Likely Salmon employment	Proportion of likely salmon employment	Best case Salmon employment
South East	582	53%	638
Hobart	341	31%	397
West and North West	119	11%	167
Launceston and North East	55	5%	78
Total	1,097	100%	1,272

Source: Source: ABS (2022) 2021 Census of Population and Housing

¹⁴ Salmon Tasmania (2023) *The Tasmanian Salmon Industry: A vital social and Economic Contributor*, https://salmontasmania.au/wp-content/uploads/2023/06/Economic-and-Social-Contribution-Report-Final_lo_res.pdf

Table 3 shows that most salmon employment is the South East, with just over half of total industry employment. This is because the largest salmon farms are located in the Storm Bay area and there are salmon hatcheries to the south of Hobart.

Hobart itself is home to over 30% of salmon industry workers. In other words, 80% of salmon employment is in the southeast of the state, close to the capital.

Salmon Tasmania claims that the industry is a significant employer on the west coast of Tasmania, specifically that the salmon industry supports 17% of employment on the West Coast.¹⁵

Salmon Tasmania's summary of the unreleased modelling indicates that this refers to the Australian Bureau of Statistics SA2 region called 'West Coast', 16 shown in Figure 3.



Figure 3: Map of SA2 region 'West Coast'

Source: ABS, Data by region, https://dbr.abs.gov.au/

The census data for employment in that region shows that likely employment in the salmon industry is 54 workers and the best-case employment is 76 workers. Total employment for the West Coast from all industries is 2,137 workers. This means that the proportion of employment on the West Coast in the salmon industry under the likely scenario is 2.5% and for the best case it is 3.6%. This shown in Table 4.

¹⁵ Ibid see page 4

¹⁶ Ibid

Table 4: Likely and best case employment in SA2 West Coast, numbers and proportion of total employment

	Likely Salmon employment	Best case Salmon employment	All industries
West Coast SA2	54	76	2,137
% of all industries	2.5%	3.6%	100%

Source: Source: ABS (2022) 2021 Census of Population and Housing

The industry's 17% claim says "17% of employment is supported by the industry". This could include indirect jobs, discussed above. But even doubling actual employment to account for employment "supported" by the industry still has the proportion of employment well below 17%.

Tasmanian salmon industry jobs and tax

¹⁷ Ibid

Australian Taxation Office data

Since 2012-14, the Australian Taxation Office (ATO) has published annual data on total income, taxable income, and tax payable for public companies in Australia with over \$100 million in total income and Australian-owned private companies with over \$200 million in total income. The ATO covers the three companies that dominate the Tasmanian salmon in years that they meet these requirements:

- Tassal is the largest Australian aquaculture company. It is highly focussed on Tasmanian salmon, with only minor diversification into prawns and seafood processing.²⁰ It is listed on the Australian stock exchange and appears in all years of the ATO data.
- Huon aquaculture is the second largest Australian aquaculture company, also specialised in Tasmanian salmon with little diversification. It appeared in the ATO data from when it listed on the stock exchange in 2015 until 2021-22 when it was acquired by controversial Brazil-based multinational JBS.
- Petuna Aquaculture is the third salmon farming company in Tasmania. Smaller than Tassal and Huon, Petuna was privately owned and does not appear in the ATO data in its own right. In 2020 it was acquired by Sealord Group, which does appear in the ATO data. Sealord is a diversified New Zealand-based fishing and seafood company owned by New Zealand and Japanese interests.

Because of these limitations, the ATO data is not a comprehensive picture of the Tasmanian salmon industry in each year. However, given the dominance of Tassal and the considerable coverage of Huon, and both of those companies' minimal diversification, it provides considerable insight into the growth of salmon industry income and the tax payments by the industry. The income of the three companies, as reported by the ATO, is summarised in Figure 4 below:

¹⁸ ATO (2023) *Corporate tax transparency report 2021-22: About this report,* https://www.ato.gov.au/Business/Large-business/In-detail/Tax-transparency/Corporate-tax-transparency-report-2021-22/?page=2#About this report

¹⁹ ATO (2023) *Corporate Tax Transparency data*, https://data.gov.au/dataset/ds-dga-c2524c87-cea4-4636-acac-599a82048a26/distribution/dist-dga-80a01133-4281-43ce-b5ef-5535d61e1c1f/details?q= ²⁰ IBISWorld (2020) Aquaculture in Australia, www.ibisworld.com

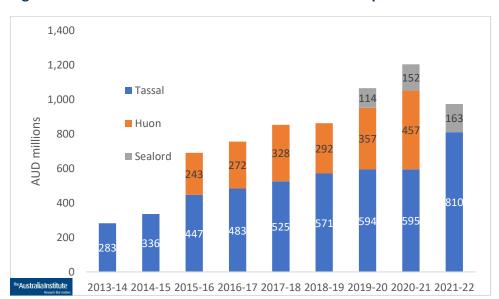


Figure 4: Total income of main Tasmanian salmon companies

Source: ATO (2022) Corporate tax transparency data

Figure 4 shows that the income of the salmon companies has grown significantly over this period, primarily driven by Tassal, that reported \$4.6 billion of the total \$7 billion reported by the three companies in the ATO data. The apparent decline in 2021-22 is only due to Huon no longer being covered in the data following the JBS takeover. Assuming Huon's income was similar to previous years, there would have been strong overall growth in income compared to the previous year, 2020-21.

While total income of the Tasmanian salmon industry has grown rapidly, the taxable income and tax payments have not, as shown in Figure 5 below:

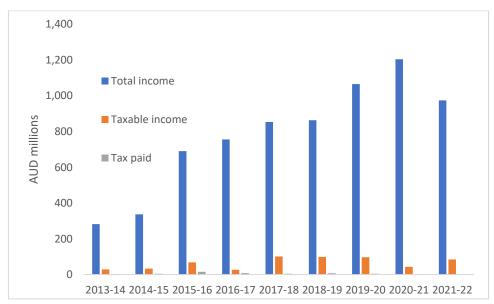


Figure 5: Total income, taxable income and tax payable – Tas salmon companies

Source: ATO (2022) Corporate tax transparency data

Figure 5 shows that while the industry reported selling over \$7 billion worth of fish during this period, taxable income totalled just \$581 million and tax paid totalled just \$51 million. Most tax paid was by Tassal between 2013-14 and 2018-19, paying a total of \$44 million in those years, as shown in Figure 6 below:

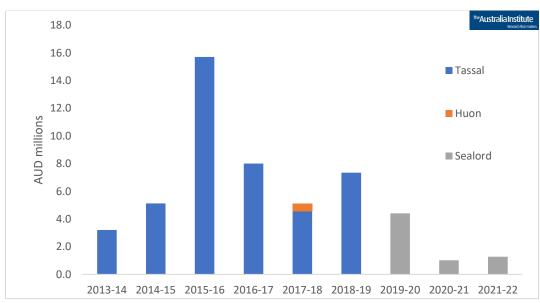


Figure 6: Tax payable of main Tasmanian salmon companies

Source: ATO (2022) Corporate tax transparency data

Figure 6 shows that Tassal has not had tax payable in the three years since 2018-19, while Huon only reported tax payable in 2017-18, just \$560,000. While Huon is not covered in the 2021-22 ATO data due to the JBS takeover, it is unlikely to have had a tax liability given significant losses reported in 2021.²¹

Only Sealord has reported tax payable in the last three years, with the company's diversified Australian business recording taxable income of \$4.6 million and \$1 million in tax payable in 2020-21. This was a significant decline from 2019-20, prior to the full Petuna acquisition, when it had \$4.4 million in tax payable. Given Sealord's diversified business, it is likely that its Tasmanian salmon operations did not contribute to the \$1 million tax it paid in the two years since the full acquisition.²²

Assuming that Sealord's tax payments were driven by other parts of its business, the ATO data suggests that the Tasmanian salmon industry has paid zero company tax for the last three years.

²¹ Hewett (2021) *Huon Aquaculture reveals \$128 million full-year loss amid COVID, fires and salmon thefts*, https://www.abc.net.au/news/2021-08-26/huon-aquaculture-releases-full-year-loss-to-asx/100408936

²² See also Sealord (2020) *Sealord announces successful year*, https://www.sealord.com/newsroom/posts/sealord-announces-successful-year/

Conclusion

The Tasmanian salmon industry is a small employer and, given its significant income, is paying very little tax. With debate over the future of the industry focusing on its economic and financial aspects, it is important that industry claims are scrutinised and placed in context.

Based on data published by the ABS and ATO, it appears that the industry could be restructured to create a sustainable industry without significant impact on employment or government revenues.