

# Fishing for compliments

## Fishing in the Tasmanian economy

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*Tasmania's shellfish aquaculture and wild-catch commercial fisheries employ 1,091 or more people to harvest 8,364 tonnes of food each year. In addition, 92,000 Tasmanians and 42,000 tourists go fishing in Tasmanian waters each year.*

Discussion paper

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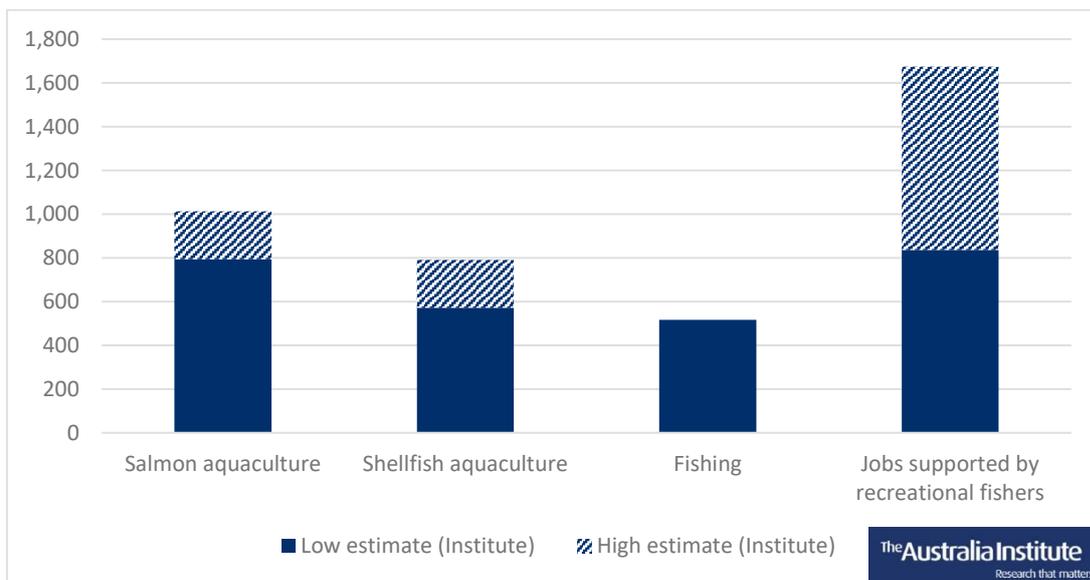
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# Summary

Tasmania’s shellfish aquaculture and commercial wild-catch fisheries are responsible for 8,400 tonnes of production each year, with a gross value of \$209 million. Between them, these sectors employ between 1,091 and 1,310 people across all four of Tasmania’s regions.

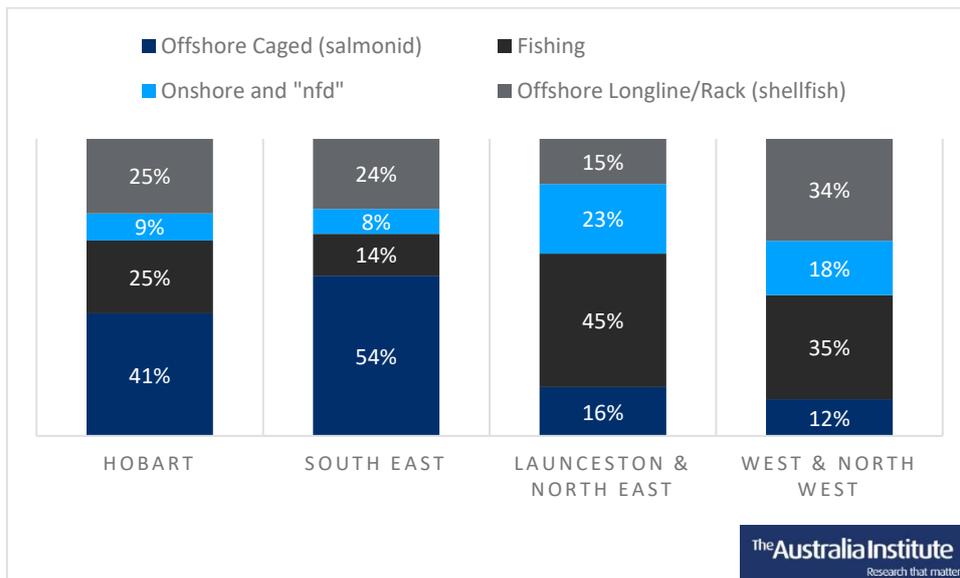
**Figure 1: Employment by type**



Source: ABS (2016) *2016 Census – Employment, Income and Education – SA4 (UR) by INDP - 4 Digit Level – Counting: Persons Place of Usual Residence*

The distribution of fishing and aquaculture jobs varies across Tasmania’s four regions. Offshore caged aquaculture (the main method of farming salmon) provides the majority of fishing and aquaculture employment in the South East, but in the Launceston & North East and West & North West regions it is fishing and offshore longline/rack aquaculture that provide the majority of jobs.

**Figure 2: Jobs by sector and region (percentage of total fishing and aquaculture jobs)**



Tasmania’s 92,000 recreational fishers spend about \$93 million per year on bait, gear, fuel, accommodation and the other goods and services (employing 837–1,674 people, at a rough estimate), and catch about 500 tonnes of fish.

Each year, 6,000 tourists come to Tasmania specifically for fishing, but many more – about 42,000 – fish as part of their trip. In addition, 376,000 tourists last year ate at a local food producer, which could include Tasmania’s well-regarded seafood.

Between shellfish aquaculture, commercial wild-catch fisheries and local recreational fishers, Tasmania’s non-salmon fishing industries employ over 1,926 people and produce 9,000 tonnes of seafood annually.

# Introduction

Tasmania has a large and varied fishing and aquaculture industry including the farming of fin fish (salmon and trout, known collectively as salmonids)<sup>1</sup> and shellfish (mostly oysters, but also abalone and blue mussel) and the commercial harvest of a variety of wild catch fish, with rock lobster and abalone the two largest categories by value and volume.<sup>2</sup> Recreational fishers and tourists catch many species of fin fish and shellfish, including sharks, squid and lobsters.

Tasmania's salmon sector has grown quickly, with production almost tripling in the ten years between 2005–06 and 2015–16.<sup>3</sup> That dramatic growth has coincided with parliamentary inquiries into the industry,<sup>4</sup> concerns raised by residents, recreational fishers and tourism operators<sup>5</sup> and environmental protests.<sup>6</sup> The industry is also divided, with one salmon farmer bringing litigation against the regulator and a competitor last year.<sup>7</sup>

The controversial growth of salmon aquaculture is reflected in the media attention that it receives. A search of the ParlInfo media clippings database since 2007 shows

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<sup>1</sup> Throughout this paper, we use “salmon aquaculture” for “salmon and trout aquaculture” since salmon make up the vast majority of farmed salmonids in Tasmania.

<sup>2</sup> In fishing and aquaculture, “fish” is used for any aquatic animal that is harvested. “Fin fish” describes vertebrates with gills (what most people think of as a fish) and “shellfish” describes aquatic invertebrates.

<sup>3</sup> By both tonnage and GVP; see the data pack accompanying ABARES (2017) *Australian fisheries and aquaculture statistics 2016*, [http://data.daff.gov.au/data/warehouse/9aam/afstad9aamd003/2016/AustFishAquacStats\\_2016\\_v1.0.0.pdf](http://data.daff.gov.au/data/warehouse/9aam/afstad9aamd003/2016/AustFishAquacStats_2016_v1.0.0.pdf)

<sup>4</sup> Senate Standing Committees on Environment and Communications (2015) *The Fin-Fish aquaculture industry in Tasmania*, [https://www.aph.gov.au/Parliamentary\\_Business/Committees/Senate/Environment\\_and\\_Communications/Fin-Fish](https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Fin-Fish)

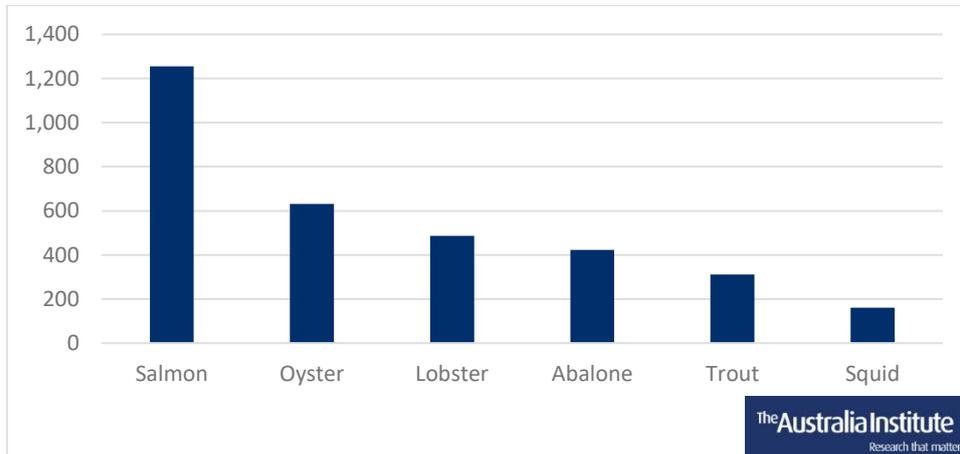
<sup>5</sup> The Mercury (2016) *Social licence necessary to farm success*, <https://www.themercury.com.au/news/opinion/editorial-social-licence-necessary-to-farm-success/news-story/055709c8ee00caf42649fdc20de2c925>

<sup>6</sup> Morton (2018) *The battle over big salmon: industry at a crossroads as Tasmania votes*, <http://www.theguardian.com/australia-news/2018/feb/26/the-battle-over-big-salmon-industry-at-a-crossroads-as-tasmania-votes>

<sup>7</sup> Carlyon (2018) *Huon says salmon farming warnings were ignored, now EPA has questions to answer*, <http://www.abc.net.au/news/2018-03-27/salmon-farmer-demands-epa-answers-biosecurity-macquarie-harbour/9591898>

that salmon is mentioned in the press twice as often as the next most mentioned fish variety (oysters), and three times as often as abalone.

**Figure 3: Media mentions since 1 January 2007 with "Tasmania" and ...**



Source: Parliament of Australia (2018) *ParlInfo Advanced Search/Browse*, <http://parlinfo.aph.gov.au/>

Given the media attention on salmon, observers on the mainland could be mistaken for thinking that salmon is the only fish that the state produces.

This report presents the wider context of fish and the Tasmanian economy, which includes shellfish aquaculture, wild-catch commercial fisheries, recreational fishing and tourism.

# Employment

Calculating employment from fishing and aquaculture is difficult. Industry and government figures differ substantially, a reflection of differing criteria and measurement approaches. Due to the seasonal and variable nature of some fishing and aquaculture work, there are also a number of people who work in multiple sectors (fishing or otherwise).

A demonstration of the difficulty involved in these calculations is the difference between job figures as calculated by the Tasmanian Salmonid Growers Association, the peak body for the salmon sector, and as they appear in the ABS Census figures.

The Tasmanian Salmonid Growers Association reports that the salmon sector supports 2,786 full-time equivalent jobs (those “employed in, or supported by the industry”).<sup>8</sup> However, that exceeds the total number of people employed (not necessarily full time) in fishing and aquaculture – which was 2,102 people as of the 2016 Census.

Including the 458 people in the related sectors of fish & seafood wholesaling and seafood processing still only brings us to a total of 2,560 people (full-time, part-time and casual) employed in fishing, aquaculture and seafood (not necessarily salmon).

Table 1 breaks down this Census data by sector, which gives 517 employed in fishing, 794 employed in offshore caged aquaculture and 791 employed in other categories of aquaculture.<sup>9</sup> At other stages of the production chain, there are also 109 employed in fish and seafood wholesaling and 349 in seafood processing.

**Table 1: Aquaculture and fishing employment**

Sector	Jobs	Sector	Jobs	Sector	Jobs
Onshore	120	Fishing, Hunting, Trapping, nfd	34	Fish & Seafood Wholesaling	109
Offshore Caged	794	Fishing, nfd	219	Seafood Processing	349
Offshore Longline/Rack	532	Rock Lobster/ Crab Potting	164		
Aquaculture, nfd	139	Other Fishing	97		
<b>Total aquaculture</b>	<b>1,585</b>	<b>Total fishing</b>	<b>517</b>		

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<sup>8</sup> Tasmanian Salmonid Growers Association (n.d.) *Home page*, <https://www.tsga.com.au/>

<sup>9</sup> ABS (2016) *2016 Census – Employment, Income and Education – SA4 (UR) by INDP - 4 Digit Level – Counting: Persons Place of Usual Residence*

Source: ABS (2016) *2016 Census – Employment, Income and Education – SA4 (UR) by INDP - 4 Digit Level – Counting: Persons Place of Usual Residence*

Note: The ABS randomly adjusts cells to avoid the release of confidential data, so totals will not necessarily match the sum of all cells.

We cannot calculate precise figures for salmon aquaculture and shellfish aquaculture employment as the ABS does not explicitly break down employment by these categories. However, we have estimated likely employment figures using what we know of the methods of aquaculture used for different species.

Since salmon and trout are the only fish farmed in offshore cages (“sea cages”) in Tasmania,<sup>10</sup> all 794 people employed in offshore caged aquaculture would be employed by the salmon sector. The 532 people in offshore longline and rack aquaculture are likely employed in shellfish aquaculture.

The remaining 259 jobs are in onshore aquaculture (120 jobs) and “aquaculture, nfd” (139 jobs). We have designated the 139 “aquaculture, nfd” jobs as potentially belonging to salmon or shellfish aquaculture since there are no further details that would allow them to be split.

Onshore aquaculture occurs in tanks or ponds onshore.<sup>11</sup> In Tasmania, the only type of fish that is farmed in land-based tanks is abalone.<sup>12</sup> On the face of it, the 120 jobs in onshore aquaculture should therefore be attributed to shellfish aquaculture. However, that would contradict figures from the Australian Abalone Growers Association that farmed abalone employs about 40 people in Tasmania.<sup>13</sup>

The remaining onshore aquaculture jobs are likely to be in the land-based facilities that provide juvenile salmon (“smolt”) and oysters (“spat”) to the offshore farms. To reflect this, we have attributed 40 of the 120 jobs to shellfish aquaculture, and designated the remainder as potential jobs for either salmon or shellfish aquaculture.

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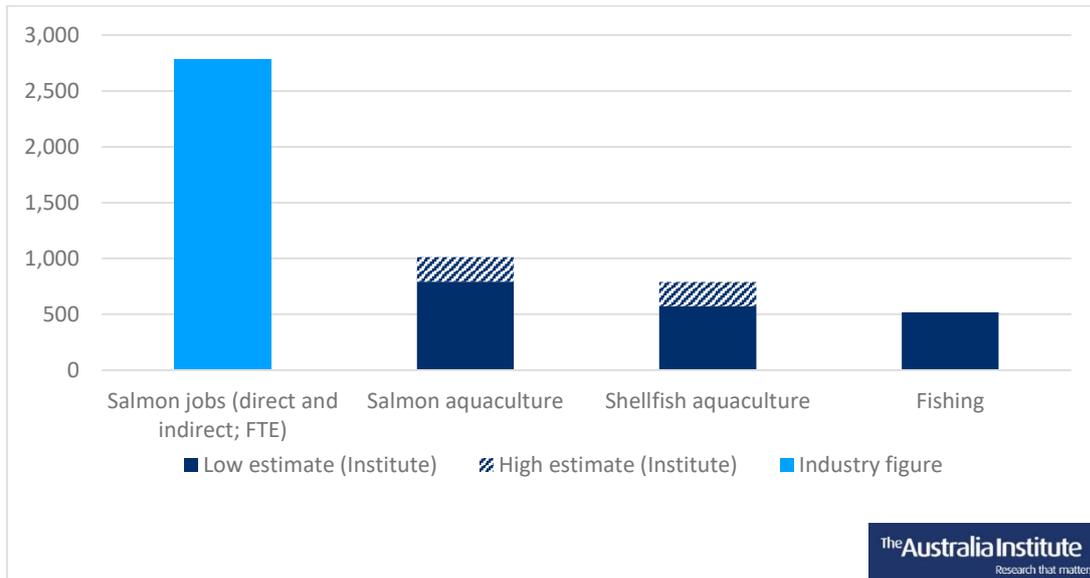
<sup>10</sup> For a breakdown of aquaculture method by species in Tasmania, see ABARES (2017) *Australian fisheries and aquaculture statistics 2016*, p 84

<sup>11</sup> ABS (2008) *Class 0203 Onshore Aquaculture*, <http://www.abs.gov.au/ausstats/abs@.nsf/0/154E1B956CD8D97ACA25711F00146DB0?opendocument>

<sup>12</sup> For a breakdown of aquaculture method by species in Tasmania, see ABARES (2017) *Australian fisheries and aquaculture statistics 2016*, p 84

<sup>13</sup> Tasmanian Seafood Industry Council (2017) *Seafood industry workforce profile*, p 26, [http://www.tsic.org.au/uploads/9/6/8/7/96879568/1\\_final\\_seafood\\_industry\\_workforce\\_profile.pdf](http://www.tsic.org.au/uploads/9/6/8/7/96879568/1_final_seafood_industry_workforce_profile.pdf)

**Figure 4: Employment by type**



Source: ABS (2016) *2016 Census – Employment, Income and Education – SA4 (UR) by INDP - 4 Digit Level – Counting: Persons Place of Usual Residence*; Tasmanian Salmonid Growers Association (n.d.) *Home page*, <https://www.tsga.com.au/>

As shown in Figure 4, our interpretation of the ABS Census data gives a range of 794–1,013 employed by salmon aquaculture, 572–791 employed by shellfish aquaculture and 517 employed in the wild-catch fishing sector.

## RECREATIONAL FISHING EMPLOYMENT

The ABS *Year Book Australia, 2003* identified the employment effects of recreational fishing:

It is estimated that over five million Australians take part in recreational fishing in Australia as a leisure activity. Some 120,000 people were identified as members of fishing clubs in 1996-97. Recreational fishing also supports about 90,000 Australian jobs. Two main industries are involved, the Australian fishing tackle and bait industry (with an annual turnover in excess of \$170m), and the recreational boating industry, (with an annual turnover of around \$500m of which 60% is related to fishing in one way or another). It is estimated that international tourists spend over \$200m on fishing in Australia each year.<sup>14</sup>

<sup>14</sup> ABS (2003) *Chapter - Recreational fishing*, <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Previousproducts/BAFB91C589D0706FCA256CAE0015CAA9>

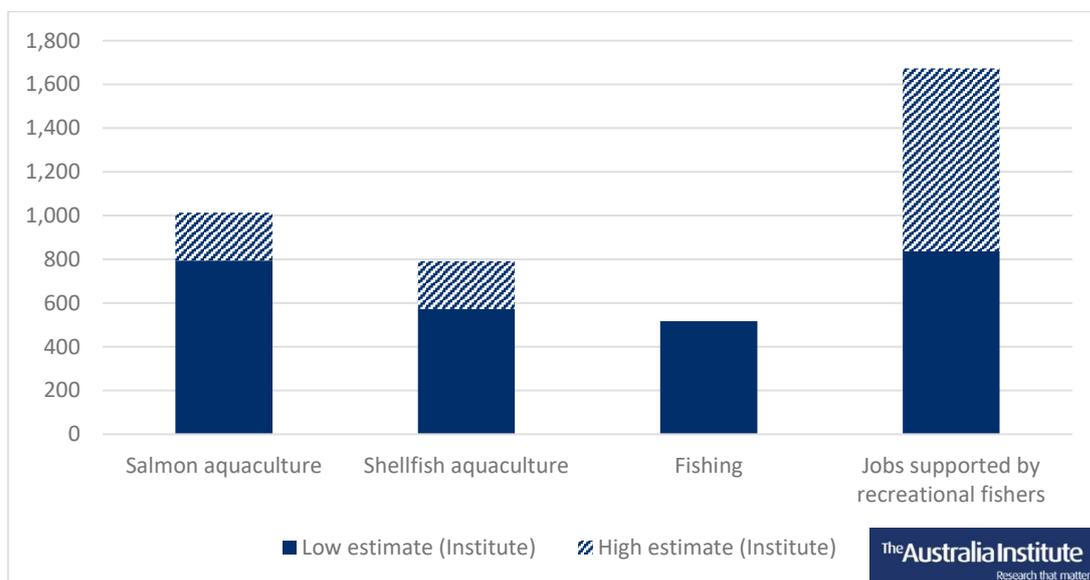
The ratio of 90,000 jobs to about five million fishers corresponds to one job (not necessarily full-time) per 54 fishers – mostly in fishing tackle and bait and recreational boating.

CSIRO, ABARES and parliamentary committees have observed that quantifiable data on recreational fishing is scarce relative to the sector’s significance, for a number of reasons including the division of regulatory responsibility, the millions of participants involved and the policy focus on industries instead of individuals.<sup>15</sup> As such, the 2003 indirect jobs ratio is the most recent credible one available – and it was cited with approval by ABARES earlier this year.<sup>16</sup>

Applying the one job per 54 recreational fishers figure to Tasmania indicates that Tasmania’s 93,000 fishers are responsible for about 1,674 indirect jobs. However, it is worth emphasising that this is based on an old, Australia-wide figure. Furthermore, direct and indirect employment is not necessarily comparable.

We have halved the indirect jobs figure for our low estimate to represent the uncertainty involved in calculations of this nature. Figure 5 shows these jobs compared to direct employment in other sectors.

**Figure 5: Employment by type (including recreational fishing estimate)**



<sup>15</sup> See for example House of Representatives Committees (2012) *Netting the benefits : Inquiry into the Role of Science for the Future of Fisheries and Aquaculture*, [https://www.aph.gov.au/Parliamentary\\_Business/Committees/House\\_of\\_Representatives\\_Committees?url=arff/fisheries/report/index.htm](https://www.aph.gov.au/Parliamentary_Business/Committees/House_of_Representatives_Committees?url=arff/fisheries/report/index.htm)

<sup>16</sup> ABARES (2018) *Recreational and charter fishing*, <http://www.agriculture.gov.au:80/abares/research-topics/fisheries/fisheries-and-aquaculture-statistics/recreational-and-charter-fishing>

Source: ABS (2016) *2016 Census – Employment, Income and Education – SA4 (UR) by INDP - 4 Digit Level – Counting: Persons Place of Usual Residence*; ABS (2003) *Chapter - Recreational fishing*,  
<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Previousproducts/BAFB91C589D0706FCA256CAE0015CAA9>; Tasmanian Salmonid Growers Association (n.d.) *Home page*,  
<https://www.tsga.com.au/>

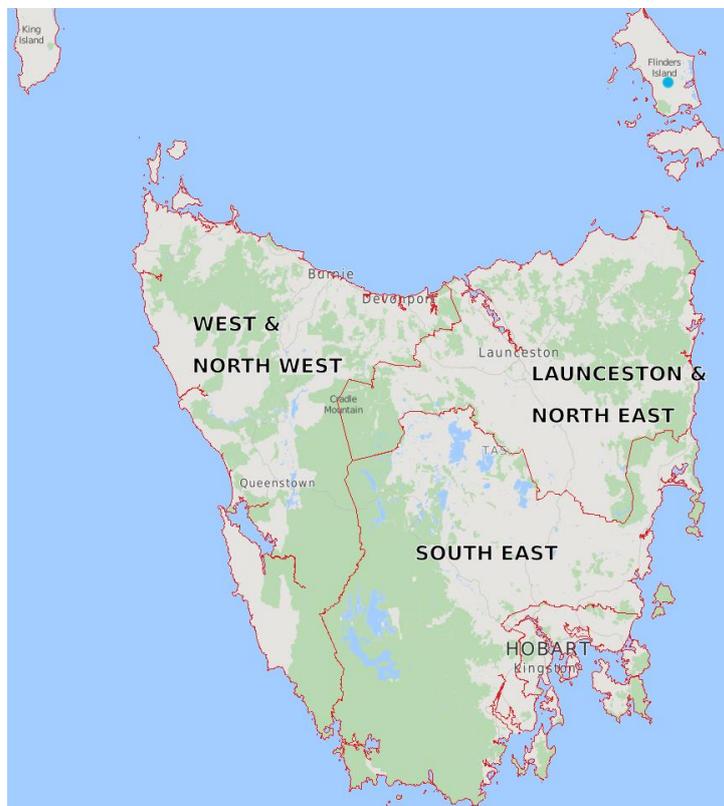
## REGIONAL DISTRIBUTION OF AQUACULTURE AND FISHING EMPLOYMENT

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Most of those employed by salmon aquaculture live in the Hobart and South East regions, while those employed by shellfish aquaculture are more evenly spread between Hobart, South East and West & North West regions. Fishing has the most even employment distribution across all four of Tasmania's regions.

The Australian Bureau of Statistics divides Tasmania into four regions (called SA4s, for "Statistical Area Level 4"): Hobart, South East, Launceston & North East and West & North West. Census data is available at the regional level, allowing us to compare employment effects in each of these regions.

**Figure 6: ABS map of Tasmanian regions**

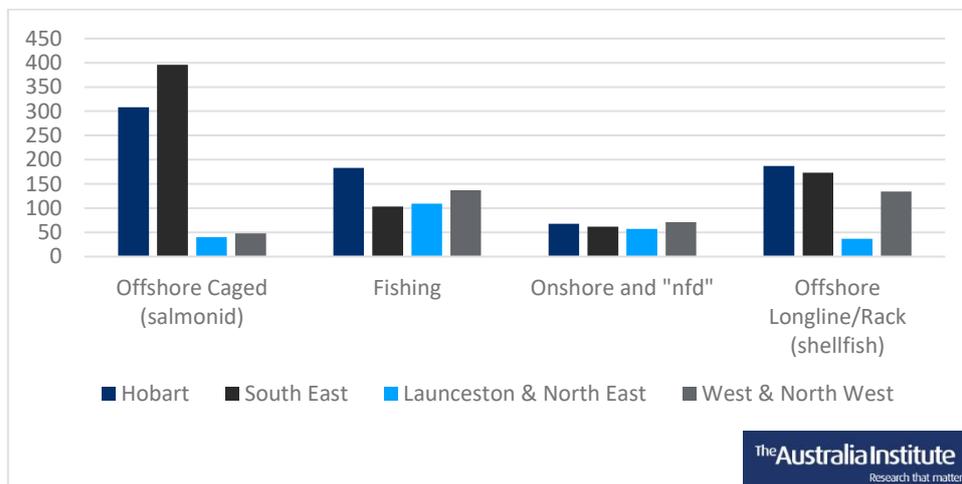


Source: ABS (2018) *The Australian Statistical Geography Maps*,  
<http://stat.abs.gov.au/itt/r.jsp?ABSMaps>

Note: Labels added by The Australia Institute

Figure 7 displays employment by region for fishing and for aquaculture by ABS sector: salmon (offshore caged), shellfish (offshore longline/rack) and mixed (onshore and “nfd”). Fishing employs more than salmon aquaculture in the Launceston & North East and West & North West Regions, and fishing and shellfish aquaculture together employ more than salmon aquaculture in the Hobart region. Interestingly, salmon aquaculture employment is relatively low in the West & North West region even though this is where Macquarie Harbour is located – the site of significant salmon farms.

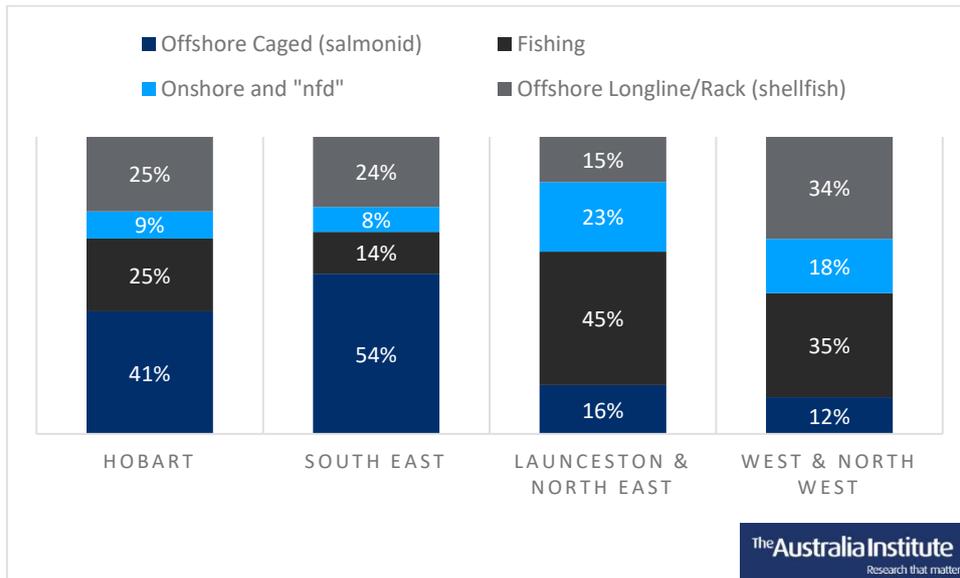
**Figure 7: Fishing and aquaculture employment by region**



Source: ABS (2016) *2016 Census – Employment, Income and Education – SA4 (UR) by INDP - 4 Digit Level – Counting: Persons Place of Usual Residence*

Figure 8 represents these figures in a different way, as a portion of total fishing and aquaculture employment. While offshore caged aquaculture (the navy coloured bar) represents an absolute majority of fishing and aquaculture employment in the South East (54%) and 41% of fishing and aquaculture employment in Hobart, it is just 16% of fishing and aquaculture employment in Launceston & North East and 12% in the West & North West. Fishing and offshore longline/rack aquaculture together make up 60% of fishing and aquaculture employment in Launceston & North East and 69% in the West & North West.

**Figure 8: Jobs by sector and region (percentage of total fishing and aquaculture jobs)**



Source: ABS (2016) *2016 Census – Employment, Income and Education – SA4 (UR) by INDP - 4 Digit Level – Counting: Persons Place of Usual Residence*

With the increased automation of salmon aquaculture since the 2016 Census,<sup>17</sup> it is possible that these jobs will be further centralised in Hobart (and/or reduced in number altogether) at the expense of Tasmania’s other regions.

Table 2 and Table 3 show the complete Census data by sector and region for fishing and aquaculture respectively. Table 4 shows the employment by sector and region for related sectors outside the fishing and aquaculture industry. These jobs could involve farmed salmon, wild-caught fin fish, farmed or wild-caught shellfish, or some combination of the above.

<sup>17</sup> See for example Whish-Wilson (2017) *Tasmania: Aquaculture Industry*, <http://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22chamber%2Fhansard%2F38a7c160-c946-4e90-b0c4-7c50493e1073%2F0221%22>

**Table 2: People employed in fishing**

	Fishing, Hunting, Trapping, nfd	Fishing, nfd	Rock Lobster/ Crab Potting	Other Fishing	Total
<b>Hobart</b>	15	68	44	53	<b>183</b>
<b>South East</b>	0	49	33	21	<b>103</b>
<b>Launceston &amp; North East</b>	14	58	24	13	<b>109</b>
<b>West &amp; North West</b>	8	40	64	21	<b>137</b>
<b>Total</b>	<b>34</b>	<b>219</b>	<b>164</b>	<b>97</b>	<b>517</b>

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Source: ABS (2016) *2016 Census – Employment, Income and Education – SA4 (UR) by INDP - 4 Digit Level – Counting: Persons Place of Usual Residence*

Note: The ABS randomly adjusts cells to avoid the release of confidential data, so totals will not necessarily match the sum of all cells. Three sectors – prawn fishing, line fishing and fish trawling, seining & netting – are excluded as they employ no or few people.

**Table 3: People employed in aquaculture sectors**

	Onshore	Offshore Caged	Offshore Longline/Rack	Aquaculture, nfd	Total
<b>Hobart</b>	27	308	187	41	<b>563</b>
<b>South East</b>	27	396	173	35	<b>631</b>
<b>Launceston &amp; North East</b>	31	40	37	26	<b>134</b>
<b>West &amp; North West</b>	29	48	134	42	<b>253</b>
<b>Total</b>	<b>120</b>	<b>794</b>	<b>532</b>	<b>139</b>	<b>1,585</b>

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Source: ABS (2016) *2016 Census – Employment, Income and Education – SA4 (UR) by INDP - 4 Digit Level – Counting: Persons Place of Usual Residence*

Note: The ABS randomly adjusts cells to avoid the release of confidential data, so totals will not necessarily match the sum of all cells.

**Table 4: Other related sectors**

	<b>Fish and Seafood Wholesaling</b>	<b>Seafood Processing</b>	<b>Total</b>
<b>Hobart</b>	41	87	<b>129</b>
<b>South East</b>	10	49	<b>64</b>
<b>Launceston &amp; North East</b>	20	55	<b>69</b>
<b>West &amp; North West</b>	30	160	<b>187</b>
<b>Total</b>	<b>109</b>	<b>349</b>	<b>453</b>



Source: ABS (2016) *2016 Census – Employment, Income and Education – SA4 (UR) by INDP - 4 Digit Level – Counting: Persons Place of Usual Residence*

Note: The ABS randomly adjusts cells to avoid the release of confidential data, so totals will not necessarily match the sum of all cells.

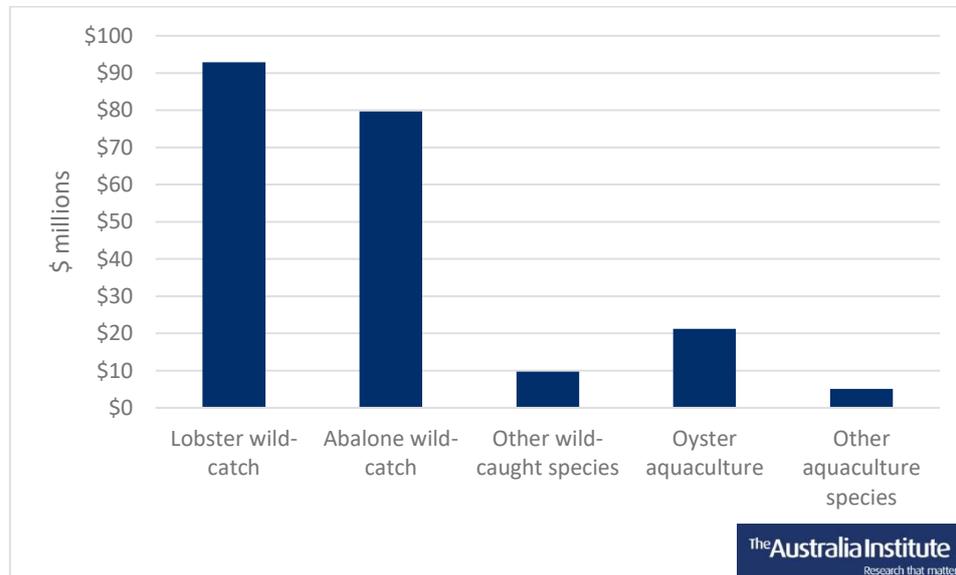
# Value of commercial fisheries

Tasmania has both wild-catch commercial fisheries and aquaculture operations. While salmon farming is the largest of Tasmania’s aquaculture operations (representing about 96% by value of production), a variety of seafood is farmed – with oysters being the second-largest harvest by both value and volume.

ABARES provides annual updates of Australia’s fisheries industry (both commercial harvest of wild-catch stocks and aquaculture production) in its *Australian fisheries and aquaculture statistics* report. While the fishing industry includes recreational and Indigenous fishing sectors, the report focuses on the commercial fishing and aquaculture sectors.

As shown in Figure 9, wild-catch fisheries – particularly lobster and abalone – are major contributors to the state’s overall value and volume of harvest. \$92.9 million worth of lobster and \$79.7 million worth of abalone were caught in 2016. Among shellfish aquaculture, oysters are the major contributor with \$21.2 million in value.

**Figure 9: Gross value by type of fishery**

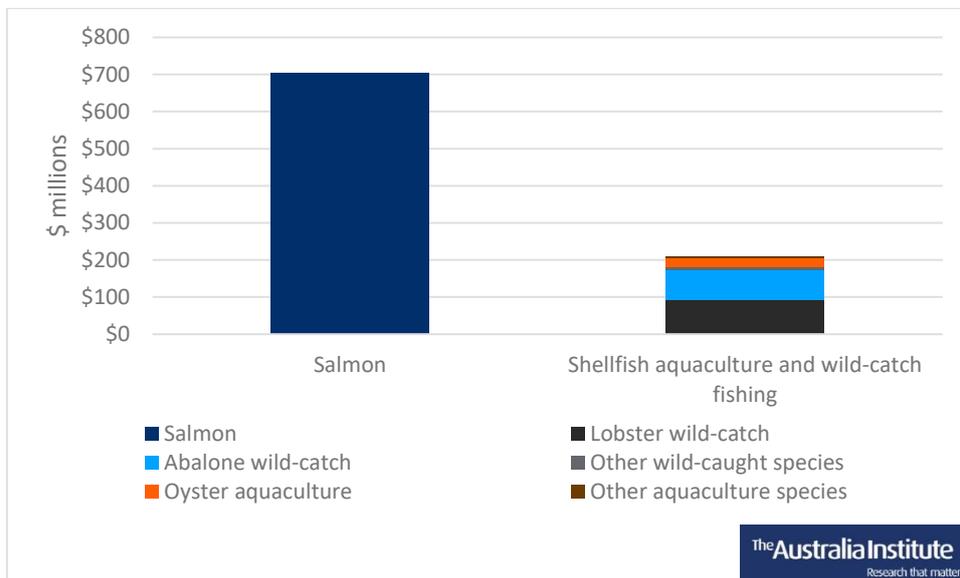


Source: ABARES (2017) *Australian fisheries and aquaculture statistics 2016*, p 37–38, [http://data.daff.gov.au/data/warehouse/9aam/afstad9aamd003/2016/AustFishAquacStats\\_2016\\_v1.0.0.pdf](http://data.daff.gov.au/data/warehouse/9aam/afstad9aamd003/2016/AustFishAquacStats_2016_v1.0.0.pdf)

Figure 10 gives a comparison with salmon aquaculture in Tasmania, which has a value of \$704 million and volume of 55,000 tonnes. While salmon is significantly larger,

shellfish aquaculture and wild-catch fisheries still produce 8,364 tonnes of seafood worth \$208.6 million.

**Figure 10: Gross value by sector**



Source: ABARES (2017) *Australian fisheries and aquaculture statistics 2016*, p 37–38

Shellfish and wild-catch fish were also a major contributor to Tasmania’s international seafood exports, making up \$112.0 million of the state’s \$186.9 million in seafood exports. Of this, \$77.6 million was abalone and \$27.4 million was rock lobster.<sup>18</sup>

**Table 5: Value and volume by fishery (2016)**

Species	Gross Value (\$m)	Volume (t)
Lobster wild-catch	\$92.9	1,138
Abalone wild-catch	\$79.7	1,744
Other wild-caught species	\$9.7	1,797
Oyster aquaculture	\$21.2	3,029
Abalone aquaculture	\$2.8	81
Blue mussel aquaculture	\$2.3	575
<b>Total</b>	<b>\$208.6</b>	<b>8,364</b>



Source: ABARES (2017) *Australian fisheries and aquaculture statistics 2016*, p 37–38, 112

<sup>18</sup> ABARES (2017) *Australian fisheries and aquaculture statistics 2016*, p 126

## GROSS VALUE OF PRODUCTION, PROFIT AND OWNERSHIP

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Fishery production is measured in “gross value of production”, or GVP. It is the weight of production multiplied by the “landed unit value” (the “beach price” or “farmgate price”). GVP includes input costs like labour and fuel and does *not* take into account freight, processing and onselling.<sup>19</sup> It is not directly comparable to Gross State Product or company revenues. Much of GVP will be expenditure by fishing and aquaculture companies and the residual will be profit.

For both fishing and aquaculture companies, expenditure is likely to be mostly local – on labour, boats, feed and so on. Where profits are distributed depends on the ownership structure of the company. It is likely that many shellfish aquaculture and wild-catch fishing companies are locally-owned, meaning that profits will be retained by Tasmanians. However, the small and scattered nature of these companies means that ownership information is not readily available.

By contrast, two of Tasmania’s large salmon aquaculture companies – Huon Aquaculture and Tassal – are publicly listed. From their annual reports, it appears that Tassal’s largest shareholders are institutional investors, while Huon is majority owned by its (Tasmania-based) founders.<sup>20</sup> Petuna is a private company, but is 50% owned by global seafood enterprise Sealord Group.<sup>21</sup>

## EMPLOYMENT AND VALUE COMPARISON

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With figures for value and tonnes of fish produced, and ranges for employment, we can calculate the relative production of each sector.

As shown in Table 6, salmon aquaculture is much less labour intensive – relative to gross value produced or relative to tonnes produced – than either fishing or shellfish aquaculture. For every million dollars of GVP, salmon aquaculture employs between 1.1 and 1.3 people while fishing employs 2.8 people and shellfish aquaculture employs between 24.8 and 30.1 people.

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<sup>19</sup> ABARES (2017) *Australian fisheries and aquaculture statistics 2016*, p 12

<sup>20</sup> Huon Aquaculture (2017) *Annual report 2017*, p 103; Tassal (2017) *Annual report 2017*, p 81

<sup>21</sup> Petuna Seafood (n.d.) *Our Story - Peter and Una Rockliff*, <http://www.petuna.com.au/our-story/>

**Table 6: Employment relative to GVP and tonnage produced**

Sector	Employment	GVP (\$m)	Tonnage	Employees per \$m GVP	Tonnes per employee
<b>Fishing</b>	517	\$182	4,679	2.8	9.1
<b>Shellfish aquaculture</b>	572–791	\$26	3,685	21.7–30.1	4.7–6.4
<b>Salmon aquaculture</b>	794–1,013	\$704	55,000	1.1–1.4	54.3–69.3



Source: ABARES (2017) *Australian fisheries and aquaculture statistics 2016*, p 37–38; ABS (2016) *2016 Census – Employment, Income and Education – SA4 (UR) by INDP - 4 Digit Level – Counting: Persons Place of Usual Residence*

# Value of recreational fishing

Recreational fishing has a very different character and economic profile to commercial fishing and aquaculture. It is done for entertainment and relaxation, largely the opposite of production.

Recreational fishing depends on a robust natural environment. Minister Jeremy Rockliff gave the protection of Tasmania's recreational fishing industry as the main reason for banning super trawlers in the state's waters.<sup>22</sup>

The *2012–2013 Survey of Recreational Fishing in Tasmania* provides a relatively recent and comprehensive breakdown of the economic impact of recreational fishing by Tasmanians, including participation rates, annual expenditure, capital investment and the size of harvest, and is given as the primary Tasmanian survey of its kind in ABARES' latest *Australian fisheries and aquaculture statistics* report.<sup>23</sup>

There are also Australia-wide estimates of some of these measures available from other sources, although many of them are older (in some cases much older) than the *2012–2013 Survey*. In most cases, these estimates are similar to those in the *2012–2013 Survey*, confirming that it is a reasonable snapshot of the state.<sup>24</sup>

About 92,000 recreational fishers spent about \$93 million in the year 2012–13 on fishing-related goods and services in Tasmania, and maintained a fleet of about 28,000 boats worth a total of \$439 million.<sup>25</sup> This corresponds to about one in five Tasmanians (including children five years and older) fishing at least once a year.<sup>26</sup> While Indigenous

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<sup>22</sup> Rockliff (2017) *Super-trawlers to be banned*, [http://www.premier.tas.gov.au/releases/super-trawlers\\_to\\_be\\_banned](http://www.premier.tas.gov.au/releases/super-trawlers_to_be_banned); see also Gibson (2017) *Tasmania urges Commonwealth to follow moves to ban super trawlers*, <http://www.abc.net.au/news/2017-02-19/tasmania-urges-commonwealth-to-follow-ban-on-super-trawlers/8283846>

<sup>23</sup> ABARES (2017) *Australian fisheries and aquaculture statistics 2016*, p 70

<sup>24</sup> See for example expenditure per fisher figures for various states in the 2000–2001 National Recreational and Indigenous Fishing Survey, discussed in ABARES (2017) *Australian fisheries and aquaculture statistics 2016*, p 67 onwards

<sup>25</sup> Lyle, Tracey, & Stark (2014) *2012-13 survey of recreational fishing in Tasmania*, p iii, 16, [http://dpipwe.tas.gov.au/Documents/TasRecSurvey12\\_13\\_FinalOnline.pdf](http://dpipwe.tas.gov.au/Documents/TasRecSurvey12_13_FinalOnline.pdf); more recently, the figure of \$100m was reported: Gibson (2017) *Tasmania urges Commonwealth to follow moves to ban super trawlers*, <http://www.abc.net.au/news/2017-02-19/tasmania-urges-commonwealth-to-follow-ban-on-super-trawlers/8283846>

<sup>26</sup> Lyle et al. (2014) *2012-13 survey of recreational fishing in Tasmania*, p 81

(“customary”) fishing can also be an important use of Tasmania’s fisheries, little quantitative information about it is available.

Recreational fishers caught about 2.6 million fin fish and retained 1.5 million of them. They also caught and retained over 100,000 cephalopods (squid and octopuses), 55,000 crustaceans (mostly rock lobsters) and 75,000 molluscs (mostly abalone).<sup>27</sup>

The estimated recreational fin fish harvest was over 400 tonnes and the recreational cephalopod harvest was over 80 tonnes in 2012–12; the recreational catch exceeded the commercial catch for a number of species.<sup>28</sup>

There has been a growing preference for catch-and-release fishing, which means that the harvest is lower than might otherwise be expected.<sup>29</sup>

The largest areas of expenditure were related to boats and trailers (about \$50 million), fishing gear (\$11 million), travel costs (\$9 million) and camping gear (\$6 million).<sup>30</sup> Since the last survey in 2000–2001, total expenditure increased in real terms despite a drop in the number of fishers.<sup>31</sup>

To some extent, if fishing were unavailable or limited then this expenditure would likely be transferred to spending on other outdoors activities like camping, boating and motor sports.<sup>32</sup> However, all outdoor activities depend to one degree or another on the condition of the natural environment – so a loss in fishing opportunities from environmental degradation would affect substitutable outdoor activities as well.

In terms of tonnage of seafood caught, recreational fishers catch about 10% as much as the shellfish aquaculture and wild-catch fisheries. However, their economic impact is proportionally much higher. Although the two measures cannot be directly compared, recreational fishers spend about \$93 million a year while shellfish aquaculture and wild-catch fisheries produce about \$209 million worth of fish per year.

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<sup>27</sup> Lyle et al. (2014) *2012-13 survey of recreational fishing in Tasmania*, p 22–24

<sup>28</sup> Lyle et al. (2014) *2012-13 survey of recreational fishing in Tasmania*, p 28

<sup>29</sup> Lyle et al. (2014) *2012-13 survey of recreational fishing in Tasmania*, p 87

<sup>30</sup> Lyle et al. (2014) *2012-13 survey of recreational fishing in Tasmania*, p 58–59

<sup>31</sup> Note that the two surveys did use different collection methods. Lyle et al. (2014) *2012-13 survey of recreational fishing in Tasmania*, p 94

<sup>32</sup> See for example the discussion in Campbell & Denniss (2016) *Out for a duck*, p 4–5, <http://www.tai.org.au/content/out-duck>

# Tourism

Tasmania's fisheries are part of the state's attraction for two types of tourist: fishers, who plan to catch the fish themselves, and "foodies", for whom Tasmania's seafood is a key part of its appeal.

Fishing is popular among tourists to Tasmania. The Department of Primary Industries identifies about 6,000 tourists coming to Tasmania to fish each year.<sup>33</sup> This represents about 0.5% of total tourist numbers, or about \$11 million per year in visitor expenditure.<sup>34</sup>

However, these tourist numbers appear conservative, and may reflect only tourists for whom fishing is the primary or exclusive purpose of the trip.

The Tasmanian Visitors Survey asks tourists which activities they participated in during their trip, and allows them to select multiple activities. According to the survey, the number participating in fishing activities is much higher, with 18,000 tourists fishing for trout and 29,000 fishing for other fish in the last year (42,000 fished in total, because about 5,000 trout fishers fished for other fish as well).<sup>35</sup> Figures for the past four years are shown in Table 7. The survey did not speculate as to why fisher numbers were so high in 2016, but it may be related to record rains in that year.<sup>36</sup>

Over the past five years, the survey reveals 3–4% of tourists fished in Tasmania (40,000–50,000 per year). Tourists were more likely to fish than to participate in a number of other common tourist activities, including golf, scuba diving, scenic flights, sailing, mountain biking, cycling and quad biking/off-roading.

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<sup>33</sup> Grant & Fantin (n.d.) *Anglers take to the waters for Tasmania's brown trout season opening weekend*, <http://www.abc.net.au/news/2017-08-06/trout-season-opens-with-thousands-hitting-tasmanian-waters/8778990>

<sup>34</sup> Assuming that fishing tourists make the average contribution for all tourists. See Tourism Tasmania (n.d.) *Tasmanian Tourism Snapshot - Year ending December 2017*, [https://www.tourismtasmania.com.au/\\_\\_data/assets/pdf\\_file/0010/62992/2017-Q4-Tasmanian-Tourism-Snapshot-YE-December-2017.pdf](https://www.tourismtasmania.com.au/__data/assets/pdf_file/0010/62992/2017-Q4-Tasmanian-Tourism-Snapshot-YE-December-2017.pdf)

<sup>35</sup> Extracted from the Tasmanian Visitor Survey Analyser: Tourism Tasmania Corporate (2017) *Visitor Statistics*, <https://www.tourismtasmania.com.au/research/visitors>

<sup>36</sup> Although note that media at the time expected higher trout fishing participation as a result of the rains, when the survey shows higher other fishing participation, see for example: Howarth & O'Connor (2016) *Tasmania's trout fishing season gets underway after record rains*, <http://www.abc.net.au/news/2016-08-06/trout-season-begins-in-tasmania/7697356>

**Table 7: Fishing activities by tourists**

	2014	2015	2016	2017
<b>Tourists fishing for trout</b>	19,029	20,874	14,289	17,629
<b>Tourists fishing for other fish</b>	31,797	25,966	41,969	29,125
<b>Overlap</b>	6,398	5,805	6,082	4,752
<b>Total tourists fishing</b>	44,428	41,035	50,176	42,002
<b>Tourists visiting local food producers</b>	290,292	329,335	369,386	375,950
<b>Total tourists</b>	1,068,050	1,153,301	1,236,378	1,261,749
<b>Share of tourists who fish</b>	4%	4%	4%	3%
<b>Share of tourists who visit local food producers</b>	27%	29%	30%	30%

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Source: Tourism Tasmania Corporate (2017) *Visitor Statistics*,  
<https://www.tourismtasmania.com.au/research/visitors>

The survey also shows that over the last year 376,000 tourists visited local food producers during their time in Tasmania, representing 29% of all tourists<sup>37</sup> – with interest from domestic tourists being even higher.<sup>38</sup>

Unfortunately, the surveys do not distinguish between different types of food producer. However, seafood is consistently reported as a major component of Tasmanian food tourism – scallop pies, oysters steamed in wine and butter-fried abalone being just some examples. In 2015, Tourism Tasmania reported that seafood, cheese and wine were the top three mentioned topics when tourists were asked about Tasmania’s food and beverages.<sup>39</sup>

Of course, tourists participate in multiple activities during their trips,<sup>40</sup> and different types of tourist will spend more or less money over the course of their trip. However, it is clear that fishing is a significant part of what makes Tasmania attractive for a broader group of tourists – beyond the smaller number of dedicated fishers who come

<sup>37</sup> Tourism Tasmania Corporate (2017) *Visitor Statistics*,

<sup>38</sup> Note that the Visitors Survey asks tourists what they did on their trip, while the survey of domestic tourists asked how they assessed Tasmanian food: Vinales (2016) *More tourists head to Tasmania for food than adventures: survey finds*, <http://www.abc.net.au/news/2016-04-10/australian-tourists-looking-to-tasmanian-food-and-drink/7314044>

<sup>39</sup> Tourism Tasmania (2015) *Food and Beverage Tourism: Research Snapshot from Tourism Tasmania March 2015*, p 2, [https://www.tourismtasmania.com.au/\\_\\_data/assets/pdf\\_file/0019/56008/Food-and-Beverage-Tourism-Insights.pdf](https://www.tourismtasmania.com.au/__data/assets/pdf_file/0019/56008/Food-and-Beverage-Tourism-Insights.pdf)

<sup>40</sup> They participated in about six activities each, on average.

exclusively or especially for that purpose – and that the availability of fresh, local seafood is a major component of Tasmania’s food tourism.

# Environmental benefits

Fishing and aquaculture both depend on a healthy environment and affect how healthy it is. The tension was highlighted by the decision to ban super trawlers from Tasmanian waters at the behest of recreational fishers, but is also present in concerns over water quality in Macquarie Harbour in recent years and the escape of 260,000–600,000 salmon from aquaculture enclosures in May. Whether these escapees have a significant negative impact on the environment – including the prospects for commercial and recreational fishing – will depend on how long the salmon survive and how successfully they hunt.<sup>41</sup>

Fishing and aquaculture should be sustainable, which should take into account which fish species are caught and the methods used to catch them, where fish farms and fisheries are located and which fish species are farmed and how they are farmed.

Bivalve aquaculture of oysters and blue mussels makes up the vast majority of shellfish aquaculture in Tasmania. Bivalve aquaculture has been proposed as sustainable and even environmentally beneficial. Academics Jacquet, Sebo and Elder say:

Of all the aquatic animal species groups that we eat as food, bivalves appear to be the most promising in terms of minimizing ecological harm (in some cases they may even be beneficial), minimizing food security harm (as highly nutritious organisms that do not rely on outside food sources), and minimizing animal welfare concerns related to captive rearing.<sup>42</sup>

Bivalves improve water quality as they filter-feed – prompting their use in a number of environmental restoration programs around the world.<sup>43</sup> Further work would be needed to calculate their contribution to Tasmania’s environment and waterways.

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<sup>41</sup> Ogilvie & Dunlevie (2018) *Tasmanian fisherman in pursuit of “escapee” salmon*, <http://www.abc.net.au/news/2018-05-26/tasmanian-salmon-escape-fishing-frenzy/9801544>; A Ward (2018) *Caught a fugitive salmon lately? Scientists want to hear from you*, <http://www.abc.net.au/news/2018-06-21/science-call-out-for-fishers-who-caught-escaped-farmed-salmon/9895592>

<sup>42</sup> Jacquet, Sebo, & Elder (n.d.) *Seafood in the Future: Bivalves Are Better*, <https://www.thesolutionsjournal.com/article/seafood-future-bivalves-better/>

<sup>43</sup> Oyster Recovery Partnership (n.d.) *About us*, <https://oysterrecovery.org/about/>; T Ward (2016) *Is Oyster Aquaculture Good for the Bay? 5 Questions for Dr. Ashley Smyth*, [https://www.huffingtonpost.com/tim-ward/is-oyster-aquaculture-good\\_b\\_9139960.html](https://www.huffingtonpost.com/tim-ward/is-oyster-aquaculture-good_b_9139960.html)

# Conclusion

Tasmania's wild-catch fisheries and shellfish aquaculture employ between 1,091 and 1,310 people across all four of Tasmania's regions, including at least 146 people in the Launceston & North East region and at least 271 people in the West & North West, two regions where salmon aquaculture employs relatively few people.

Wild-catch fisheries and shellfish aquaculture produce 8,400 tonnes of food each year, with a gross value of production of \$209 million.

In addition, 92,000 Tasmanians fish recreationally, and each year 42,000 tourists fish during their time in Tasmania.