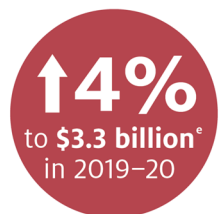


## Fisheries

### Outlook to 2023–24

David Mobsby and Robert Curtotti



e Value of production

### Fisheries and aquaculture

Salmonids and rock lobster are forecast to drive growth in fisheries and aquaculture production value.

### Value of fisheries production to be higher in 2023–24

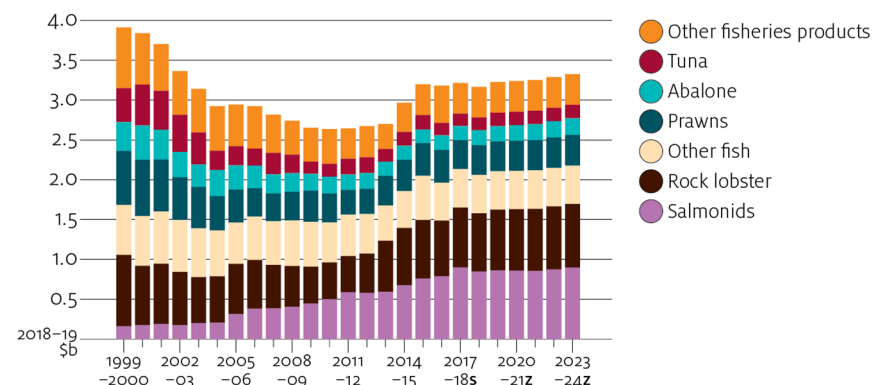
In 2019–20 the value of Australia's fisheries and aquaculture production is forecast to rise by 4% to \$3.3 billion. By 2023–24 this value is projected to increase by a further 3% in real terms (\$96 million) to \$3.3 billion (in 2018–19 dollars), largely as the result of expected growth in salmonid, rock lobster and abalone production value.

Volume increases in Tasmania's farmed salmonid sector will contribute most to lifting the production value of Australian farmed salmonids, which is projected to increase by \$36 million to nearly \$900 million by 2023–24.

For rock lobsters, expected higher prices and production volume are projected to drive a \$34 million increase in production value in real terms to \$797 million by 2023–24. Abalone production value is also projected to contribute significantly to growth, increasing by \$16 million to \$209 million over the outlook period. Abalone is predominantly wild-caught, but most growth in abalone production

value is likely to be driven by volume increases in the aquaculture sector.

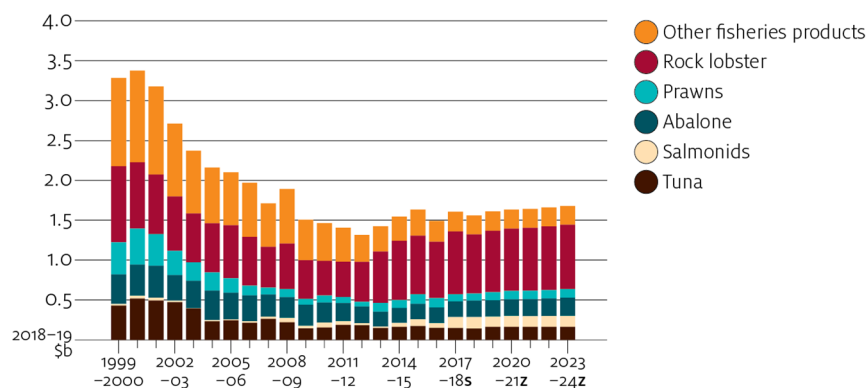
### Australian fisheries production value, 1999–2000 to 2023–24



s ABARES estimate. z ABARES projection.

Between 2019–20 and 2023–24 the value of Australia's fishery exports is forecast to rise by 4% in real terms to \$1.68 billion. Australia's fisheries and aquaculture industry is highly exposed to trade, so trends in world markets and Australia's exchange rate influence the price received for most of Australia's major produced species. Given the assumption of a stable exchange rate over the outlook period, movements in world prices will be a major determinant of export unit values.

### Australian fisheries export value, 1999–2000 to 2023–24

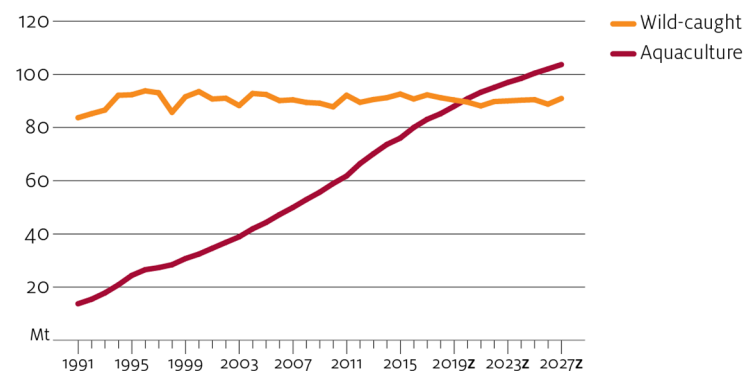


s ABARES estimate. z ABARES projection.

### Global fisheries and aquaculture production growth to slow

According to the OECD–FAO (2018), global fisheries production is projected to be 195 million tonnes in 2027 (14% higher than in 2016). Global wild-capture production is expected to remain static at around 90 million tonnes a year, a level that has been maintained since the early 1990s. In contrast, the volume of world aquaculture production is expected to continue to expand during the projection period and will exceed wild-caught production volumes by 2020. However, the aquaculture sector is likely to face constraints on growth (such as finding new suitable production sites). Expansion is therefore projected to be at a slower rate than in the 10 years to 2016.

### World fisheries production, 1991 to 2027



z OECD–FAO projection.  
Source: OECD–FAO (2018)

Global seafood consumption will be driven largely by population growth, rising incomes and increasing urbanisation. The largest growth in fisheries consumption is expected to be in developing economies. Between 2017 and 2027 direct consumption of seafood in these economies is expected to increase by 16% to 144 million tonnes and per person consumption to rise from 20.3 kilograms to 21.0 kilograms a year (OECD–FAO 2018). Improved supply chains will be central to this increase, enabling trade of seafood from supplying regions to better fulfil demand in key markets.

### Chinese fisheries reforms and world prices

In 2016 China was the world's largest producer of fisheries products by volume, the largest exporter and third-largest importer of fisheries products by value (FAO 2018).

China's 13<sup>th</sup> 5-year plan is expected to influence world fisheries production over the projection period. If implemented, these policies

are expected to result in a decrease in China's wild-capture fisheries production and a slowdown in aquaculture production (OECD–FAO 2018). This could result in lower Chinese fisheries exports and an increase in imports, reducing the exportable surplus and placing upwards pressure on global fish prices.

The effect of these reforms on Australia's seafood industry will depend on their timing and extent, on the species affected and the degree of trade exposure and substitutability of Australian fisheries products. Australian producers who compete in markets where China is globally dominant (such as abalone) may be more affected than those who sell products that China does not produce (such as rock lobster).

### Key species outlook

Salmonids, rock lobster, prawns, tuna and abalone are forecast to account for 73% of the gross value of Australian fisheries production in 2019–20 and will remain the key product groups produced over the remainder of the outlook period. Of these commodities, salmonid, rock lobster and abalone production will contribute most to the overall growth in gross value of production, together accounting for 89% of the increase over the outlook period.

### Salmonids

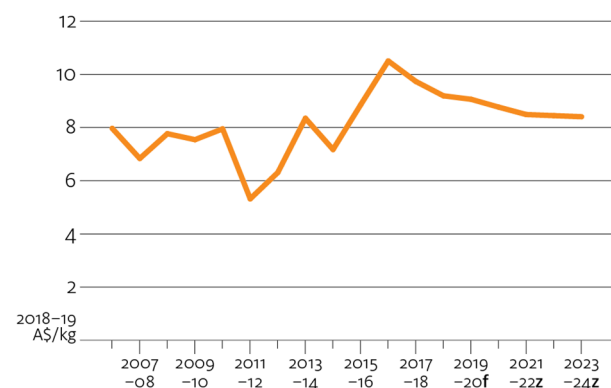
Global aquaculture production of salmonids (salmon, trout and smelt) declined by 2% to 3.3 million tonnes in 2016. Production issues for 2 of the world's largest producers, Norway (37% of global production) and Chile (22%), contributed to lower global supply (FAO 2019). Norwegian farmed salmon were affected by an outbreak of sea lice. In Chile, algae blooms caused mass fish deaths. As a result, international salmonid prices increased during 2015–16 and 2016–17.

Global production of salmonid product is now recovering. Norway has lifted overall seafood exports (mostly salmon) by 5% in 2018, and further production growth is expected for 2019 (*Undercurrent News* 2019). As the global industry recovers, global salmonid prices are projected to decline by 7% in real terms over the period to 2023–24, and this will have some affect on farmgate prices in Australia.

Australia is a relatively small producer of aquaculture salmonid products, accounting for around 2% of global production. In 2019–20 domestic production of salmon is forecast to be \$862 million (in 2018–19 dollars). Tasmania accounts for over 99% of total Australian salmonid production. Rapid growth of the Tasmanian industry since the early 1990s has been underpinned by successful marketing campaigns promoting domestic consumption of salmonid products. Per person consumption of salmonids increased from 0.8 kilograms per person in 1998–99 to around 2.1 kilograms per person by 2016–17.

Over the outlook period, the farmed salmon industry is expected to step up production further, expanding into new lease areas, particularly at sites such as Bruny Island, Storm Bay and Okehampton Bay. By 2023–24 Australian salmonid production is forecast to increase to 71,061 tonnes, with a projected gross production value of \$898 million (in 2018–19 dollars). This increase is expected to be achieved mainly through production growth. Domestic farmgate prices for salmonids are likely to trend lower over the projection period, in line with lower projected international prices.

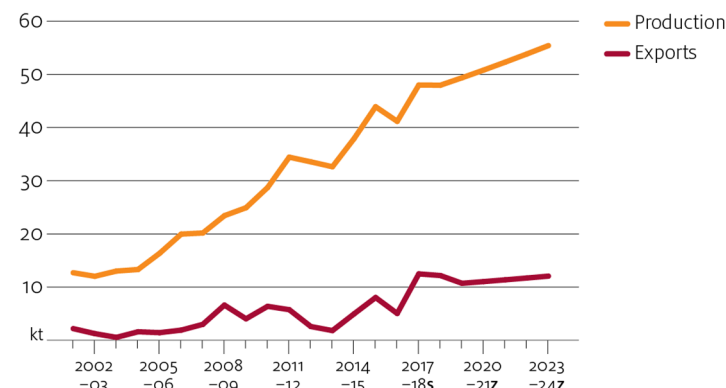
### International salmonid price, 2006–07 to 2023–24



f ABARES forecast. z ABARES projection.  
Sources: ABARES; IMF (2019); NASDAQ (2019)

Australia exports a relatively small proportion of its salmonid production. Between 2006–07 and 2016–17, we exported an average of 15% of production volume (on an edible weight basis). In 2019–20 the volume of salmonid exports is forecast to decline by 12% to around 10,700 tonnes as a result of increasing competition from Chile and Norway in international markets. The value of exports is forecast to fall from the high of \$146 million in 2018–19 to \$131 million in 2019–20. Between 2019–20 and 2023–24 expanding domestic production will support an increase in export volume of 13% to around 12,000 tonnes, valued at \$139 million (in 2018–19 dollars).

### Salmonid production and export volume, 2001–02 to 2023–24

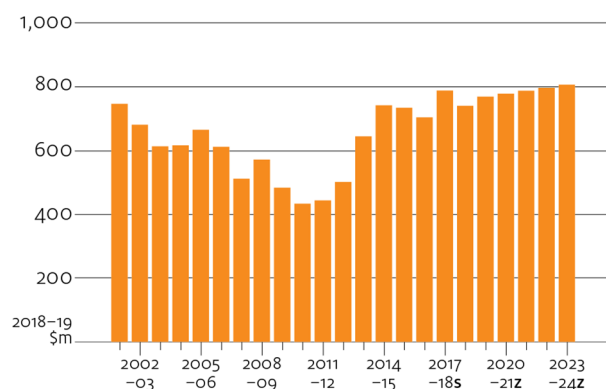


s ABARES estimate. z ABARES projection.  
Note: Production volume has been converted to an edible weight basis.

### Rock lobster

Between 2019–20 and 2023–24 Australian rock lobster production value is projected to rise by 4% in real terms to \$797 million (in 2018–19 dollars), and the real value of exports is projected to reach \$806 million. Australia's major rock lobster fisheries are output controlled through total allowable catches. Production volumes are assumed to increase only moderately over the projection period. Growth in the value of Australian rock lobster production is projected to be driven by increased production as well as higher export unit values in real terms.

### Rock lobster export value, 2001–2002 to 2023–24



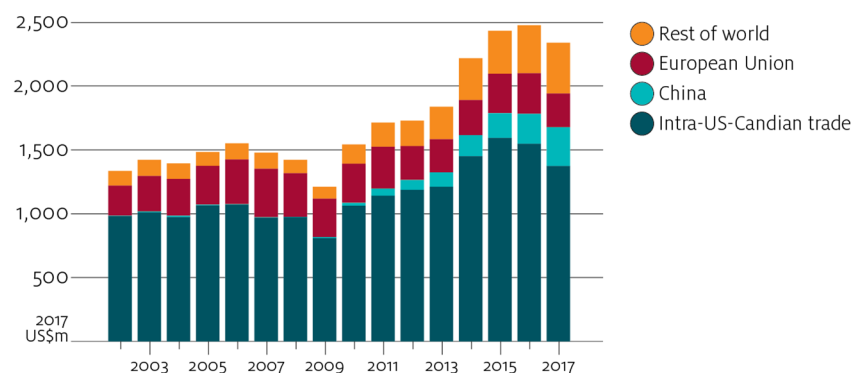
f ABARES forecast. z ABARES projection.

Over the projection period, both supply and demand factors will contribute to an increase in Australia's export earnings from rock lobster. Global lobster supply is expected to be constrained because of limitations on the increase in the volume of wild-caught product and limited aquaculture production. However, import demand from Asia, particularly from a growing middle class in China, is anticipated to increase. These factors are projected to lead to higher export unit returns being attained by Australian rock lobster exporters.

Under the China–Australia Free Trade Agreement (ChAFTA), Australian exports of live rock lobster to China will be admitted duty-free from 2019 onwards, increasing Australia's competitiveness into this market. This would put Australian rock lobster exporters on a more equal footing with New Zealand, a significant exporter of rock lobster. New Zealand has been exporting rock lobster to China duty-free since 2012 under the New Zealand–China Free Trade Agreement.

The United States and Canada are the world's largest lobster exporters, but generally trade lobsters with one another, reflecting each country's pattern of annual landings. However, exports from North America to China have grown in recent years, increasing competition for Australian exporters. The species of lobster produced in the United States and Canada, the American lobster, provides consumers in the Chinese market with some degree of substitution and a cheaper-priced alternative to Australian rock lobster. Over the projection period, the value of lobster exports from Canada is projected to remain high and this export will continue to compete with Australian rock lobster exports to China (Fisheries and Oceans Canada 2018). In contrast, in 2018 lobster exports from the United States to China became subject to a 25% ad valorem tariff, which will reduce US export competitiveness to the Chinese market until the tariff is reduced.

### US and Canadian lobster exports, 2002 to 2017



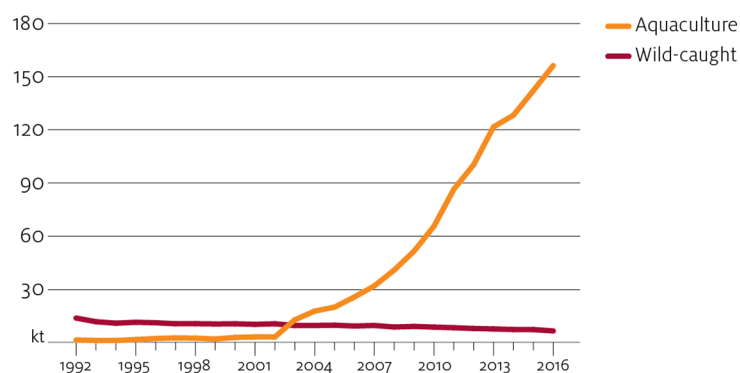
Source: UN Statistics Division (2019)

## Abalone

World abalone production more than tripled between 2006 and 2016, increasing from 34,867 tonnes in 2006 to 162,771 tonnes in 2016 (FAO 2019). This was driven by an increase in aquaculture abalone, mainly from China. Global aquaculture abalone has grown substantially, but the volume of wild-caught abalone has continued to fall.

Australia produces predominantly wild-caught abalone, but aquaculture will provide most of the projected growth in production over the outlook period. Australia produces around 55% of global wild-caught abalone. Between 2006 and 2016 global wild-caught abalone production fell from 9,229 tonnes to 6,446 tonnes, driven partly by declining global wild-catch stocks and restrictive quotas (Cook 2016; FAO 2019). Despite the reduction in global wild-caught production, global prices of abalone have gradually fallen, reflecting increased global supply of aquaculture-produced abalone, which through substitution can affect the price of wild-caught product.

### World abalone production, 1992 to 2016



Source: FAO (2019)

Abalone unit export prices for have increased over recent financial years and in 2017–18 was the highest on average in real terms since 2006–07. This reflects growing demand in China and a reduction in tariffs to that market. Tariffs on Australian abalone exports entering China have decreased annually since ChAFTA came into force in late 2015 and will enter China duty-free from 1 January 2019 onwards.

On the supply side, Australian wild-caught volumes are expected to remain constrained by conservatively set total allowable catch. As a result, future production growth is projected to be from aquaculture production. The value of Australian abalone production is projected to rise by 11% in real terms to \$226 million (in 2018–19 dollars).

## Tuna

The global tuna market largely consists of canned tuna (from species such as skipjack) and premium fresh, chilled or frozen tuna from species such as northern and southern bluefin tuna. Australian exporters compete in the premium tuna market, which largely consists of exports of chilled and frozen whole southern bluefin tuna to Japan. Japan remains the main market for global whole bluefin tuna and consequently has a major influence on world prices.

Premium tuna consumption (for products such as sushi and sashimi) in Japan has declined, reflecting several factors such as changes in consumer preferences. Japan's share of global bluefin tuna import value has also fallen as the trade has diversified to other markets (FAO 2016, 2019). Since 2012 global import prices have generally declined as the supply of bluefin tuna has increased (FAO 2019).

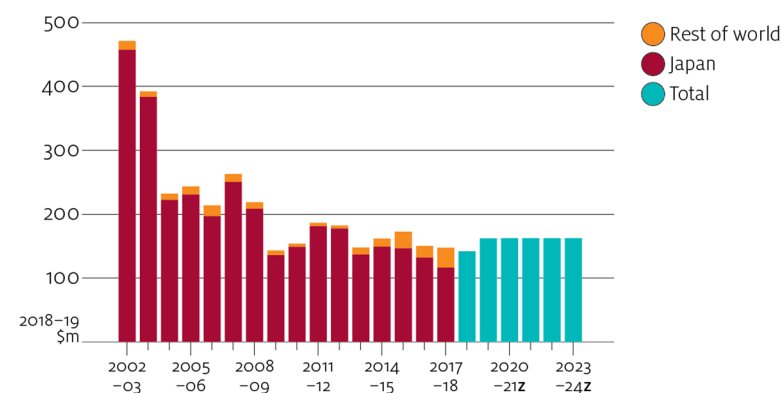
Southern bluefin tuna is the most valuable tuna species and is produced in Australia through a combination of wild-catch and ranching. Wild-caught southern bluefin tuna is largely ranched and

grown out in purpose-built sea pens in the Port Lincoln region, a significant seafood centre in South Australia. When fattened, the wild-caught southern bluefin tuna gains significant value. Proportionately fewer caught tuna are being farmed. An increase in the direct export of wild-caught fish from eastern Australia has resulted in a decreasing share of bluefin tuna being ranched since around 2013–14. Typically well over 90 per cent of SBT has been ranched.

The total allowable commercial catch for Australian southern bluefin tuna is determined by an international governing body, the Commission for the Conservation of Southern Bluefin Tuna. This ensures the global southern bluefin tuna fishery is sustainable. The commission has set the total allowable commercial catch for Australia at 6,165 tonnes per annum from 2018 through to 2020 (up from 5,665 tonnes per annum between 2016 and 2017). A similar level of total allowable commercial catch is assumed for the remaining forecast period to 2023–24.

The sharp decline in the value of tuna exports between 2002–03 and 2017–18 was the result of a 71 per cent decline in the real average export unit price during that period. The value of Australian tuna exports is projected to remain largely unchanged in real terms between 2019–20 and 2023–24 at around \$162 million per year (in 2018–19 dollars). This largely reflects the projected stable level of southern bluefin tuna prices over the outlook period.

### Australian tuna exports, by destination, 2002–03 to 2023–24



s ABARES estimate. z ABARES projection.

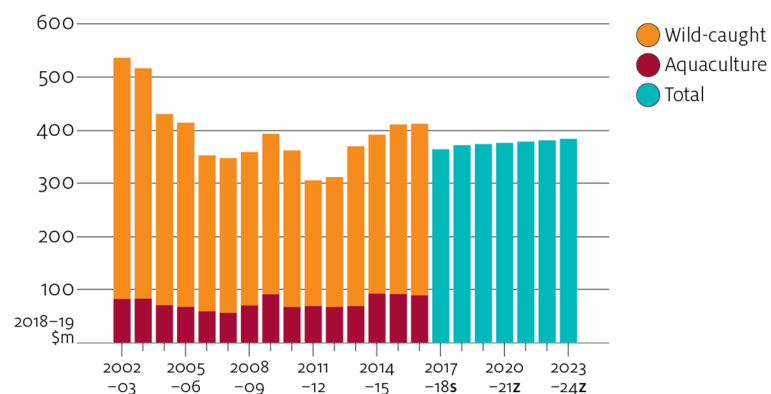
### Prawns

Australia is a relatively minor producer of prawns, but we supply and export a range of high-quality species. Australia also imports a significant quantity of prawns to meet domestic consumption. Australian prawn exports tend to be high unit value products, but imports are typically more processed and have lower unit values.

Most Australian prawn production is wild-caught, but the share of aquaculture-produced prawns is increasing. Most aquaculture prawn production is in Queensland. In 2016–17 prawn farms in the Logan River region of southern Queensland were destocked following an outbreak of white spot disease. Queensland aquaculture prawn production values is forecast to increase in 2018–19 as farms begin to recover from the effects of white spot disease.



### Australian prawn production, 2002–03 to 2023–24



s ABARES estimate. z ABARES projection.

Over the outlook period, the value of prawn production in Australia is projected to rise, largely reflecting an increase in aquaculture prawn production. However, a planned large-scale prawn farm in the Northern Territory could significantly increase aquaculture prawn production beyond projections if the farm becomes operational over the outlook period. Landed prices for prawns are expected to remain steady over the outlook period largely as a result of projected growth in global prawn production and stable exchange rates over the period.

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## Outlook for fisheries

		2016–17	2017–18 s	2018–19 f	2019–20 f	2020–21 z	2021–22 z	2022–23 z	2023–24 z
<b>Gross value of fisheries products</b>									
<b>Fish</b>									
Tuna	\$m	148	150	160	171	176	180	185	189
real a	\$m	154	153	160	167	168	168	168	168
Salmonids b	\$m	756	881	849	881	899	919	965	1,013
real a	\$m	787	900	849	862	858	855	876	898
Other fish	\$m	508	472	483	494	506	519	533	547
real a	\$m	529	482	483	483	483	483	484	484
<b>Crustaceans</b>									
Prawns	\$m	396	357	372	382	394	407	420	433
real a	\$m	412	364	372	374	376	379	381	384
Rock lobster c	\$m	673	736	729	779	808	837	868	899
real a	\$m	700	751	729	762	771	779	788	797
Other crustaceans	\$m	70.6	73.2	74.6	75.9	77.3	78.8	80.2	81.7
real a	\$m	73.5	74.8	74.6	74.3	73.8	73.3	72.8	72.4
<b>Molluscs</b>									
Abalone	\$m	177	175	188	197	206	216	227	235
real a	\$m	184	179	188	193	197	201	206	209
Other molluscs	\$m	254	232	234	243	249	255	262	269
real a	\$m	264	237	234	237	237	238	238	238
<b>Other nei</b>	\$m	75.0	72.0	74.5	76.1	77.8	79.7	81.5	83.4
real a	\$m	78.1	73.5	74.5	74.4	74.3	74.2	74.0	73.9
<b>Total value</b>	\$m	3,058	3,148	3,163	3,299	3,394	3,492	3,620	3,751
real a	\$m	3,182	3,214	3,163	3,227	3,238	3,251	3,288	3,323
<b>Fisheries export value</b>									
<b>Fish</b>									
Tuna	\$m	144	145	142	166	170	174	179	183
real a	\$m	150	148	142	162	162	162	162	163
Salmonids	\$m	58.9	137	146	134	145	145	150	156
real a	\$m	61.3	140	146	131	139	135	137	139
Other fish	\$m	103	111	107	115	116	118	121	123
real a	\$m	107	113	107	112	111	110	110	109
<b>Crustaceans and molluscs</b>									
Abalone	\$m	187	189	205	209	218	229	241	255
real a	\$m	195	193	205	204	208	213	219	226
Prawns	\$m	114	90.3	90.4	103	111	115	119	124
real a	\$m	119	92.2	90.4	101	106	107	108	109
Rock lobster	\$m	676	771	740	786	815	846	877	910
real a	\$m	704	788	740	769	778	787	797	806
Pearls	\$m	75.4	56.8	54.7	57.9	57.9	57.9	57.9	57.9
real a	\$m	78.4	58.0	54.7	56.6	55.3	53.9	52.6	51.3
Other crustaceans and molluscs	\$m	48.5	50.5	50.8	50.8	52.3	53.8	55.4	57.1
real a	\$m	50.5	51.6	50.8	49.7	49.9	50.1	50.4	50.6
<b>Other fisheries products</b>	\$m	27.3	23.9	26.1	26.6	26.6	26.6	26.6	26.6
real a	\$m	28.4	24.4	26.1	26.0	25.3	24.7	24.1	23.5
<b>Total fisheries products</b>	\$m	1,435	1,575	1,562	1,648	1,713	1,765	1,827	1,893
real a	\$m	1,494	1,608	1,562	1,611	1,635	1,643	1,659	1,677

a In 2018–19 Australian dollars. b Predominantly salmon. Includes trout and salmon-like products. c Includes Queensland bugs. f ABARES forecast. s ABARES estimate. z ABARES projection.

Sources: ABARES; Australian Bureau of Statistics