Australian fisheries and aquaculture outlook to 2027–28

Robert Curtotti, Michael Dylewski, Angela Cao and Harrison Tuynman

Research by the Australian Bureau of Agricultural and Resource Economics and Sciences

March 2023
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Fisheries and aquaculture outlook 2023

The Australian fisheries and aquaculture outlook contains ABARES forecasts for the value of Australian fisheries and aquaculture production and exports, including for the key species rock lobster, salmonids, abalone, tuna and prawns. For detailed historic data of fisheries and aquaculture production, consumption and trade see Australian fisheries and aquaculture statistics.
1  Australian fisheries and aquaculture timeline

Declining trend for seafood value follows rise in 2022–23

The gross value of Australian fisheries and aquaculture production (GVP) is forecast to rise in 2022–23, by 8% to $3.63 billion. This follows an estimated 9% increase in fisheries and aquaculture GVP in 2021–22. The slight slowing of growth reflects smaller price rises and lower production volume increases for salmonids, prawns and abalone during the year. During 2022–23 tuna and rock lobster prices are forecast to decline.

Over the medium term (2023–24 to 2027–28), the real value of fisheries and aquaculture GVP is projected to decline by 0.7% a year, driven by a slowing of growth in export and domestic demand for seafood (Figure 1).

Figure 1 Australian fisheries and aquaculture timeline, 2012–13 to 2027–28
2 Outlook for Australian fisheries and aquaculture

Key points

- Following a strong post-pandemic recovery in 2021–22, the gross value of Australian fisheries and aquaculture production (GVP) is forecast to grow by 8.2% in 2022–23 to a peak of $3.63 billion.
- GVP is forecast to increase by 2% in 2023–24, mainly reflecting higher production volumes and prices for prawns, oysters and tuna.
- Over the medium term (2023–24 to 2027–28), the real value of fisheries and aquaculture GVP is projected to decline by 0.7% a year to $3.44 billion by 2027–28. The outlook for Australia’s fisheries and aquaculture sectors reflects projected lower real prices for seafood producers and an easing of growth in the volume of Australia’s aquaculture salmonids production.
- Aquaculture GVP is projected to stabilise over the medium term, easing to $2.21 billion in real terms by 2027–28 as production growth is expected to slow for salmonids and prices for key species produced are expected to moderate.

Seafood production value to rise in 2022–23
The gross value of Australian fisheries and aquaculture production (GVP) is forecast to grow by 8% in 2022–23, peaking at $3.63 billion. This follows the strong recovery in 2021–22, when GVP was driven by higher prices for salmonids, prawns, tuna and oysters. Price and volume growth for salmonids, prawns and abalone is expected to moderate in 2022–23. Rock lobster prices are expected to decline by 0.6%.

The relaxation of COVID-19-related restrictions on international and domestic travel, and people gatherings more broadly, is likely to support further growth of seafood consumption in 2022–23. For Australia, retail food sector data indicates that expenditure on restaurants, cafes, food catering and takeaway food services grew at a faster pace than food expenditure at supermarkets and grocery stores in the latter part of 2022 (ABS 2022). This indicates a rise in local consumption of seafood because seafood is a popular choice for out-of-home meals. Global international travel has also reset to pre-pandemic levels (Flightradar24 2023), resulting in higher seafood demand in the international food services sector, boosting export demand for Australian seafood.

Seafood prices to trend lower over the medium term
The value of fisheries and aquaculture production is projected to increase in 2023–24, driven mainly by higher production volumes and prices for prawns, oysters and tuna. Over the medium term the real value of fisheries and aquaculture production is projected to decline by 0.7% annually to $3.44 billion by 2027–28 (Figure 2). This fall is driven by declining prices for key species (Figure 3) offset by a small overall increase in volumes produced. Declining real prices are expected to result from lower than average growth in export demand for Australian seafood and constrained household budgets in Australia following the tightening of monetary policy over 2022 and early 2023 to reign in high inflation. A modest rise in production volume over this period is projected, rising by around 2%
over the medium term to 300,000 tonnes by 2027–28. Growth in production is driven by further growth in salmonids and prawn aquaculture – albeit at a slower pace than in the last decade – and increased tuna production volume, which is expected to rise by 3% over the medium term because of higher expected total allowable catch for southern bluefin tuna.

Figure 2 Australian fisheries and aquaculture GVP, 2007–08 to 2027–28

Figure 3 Australian fisheries and aquaculture, average price by species, 2007–08 to 2027–28
ABARES assumes a baseline average annual growth of around 3% for the global economy over the medium term. **ABARES economic growth assumptions** also include a scenario that assumes lower global growth in 2023 of 2.2% and a similar trajectory of growth over the medium term. In both scenarios inflationary pressures are assumed to persist for the rest of 2022–23 and 2023–24 then ease over the medium term and the value of the Australian dollar is assumed to remain steady over this period.

ABARES outlook for the fisheries and aquaculture sector assumes the baseline average annual growth of around 3% for the global economy over the medium term, with a downside risk posed by the slower recovery scenario.

**Aquaculture to keep growing but at a slower pace**

Australia’s aquaculture sector has increased its real value and proportional share of fisheries and aquaculture production volume and GVP (Figure 4 and Figure 5). The growth of Australian aquaculture has been largely driven by an increase in salmonid production and a decline in wild-caught production. In recent years the aquaculture sector has been broadening the composition of species produced – with an increased emphasis on prawns, abalone, oysters and finfish varieties, including barramundi and kingfish.

**Figure 4 Aquaculture share of total Australian fisheries and aquaculture GVP, 2007–08, 2017–18 and 2027–28**

![Aquaculture share of total Australian fisheries and aquaculture GVP, 2007–08, 2017–18 and 2027–28](image)

Note: In 2022–23 Australian dollars. z ABARES projection.
Source: ABARES

The GVP of aquaculture is forecast to increase by 11% to $2.29 billion in 2022–23, driven by higher production values of salmonids, tuna, abalone and prawns (Figure 5). Aquaculture GVP is projected to stabilise over the medium term, easing to $2.21 billion in real terms by 2027–28. Prices for salmonids, prawns and abalone are expected to ease over the medium term, with lower growth in production volumes for these species. The significant expansion of the Tasmanian aquaculture
industry in the previous 2 decades is anticipated to slow as Australia’s broader aquaculture sector matures. Higher production volume of tuna aquaculture will support aquaculture GVP over this period.

**Figure 5 Australian aquaculture and wild-caught fisheries, GVP by sector, 2002–03 to 2027–28**

![Graph showing Australian aquaculture and wild-caught fisheries GVP by sector, 2002–03 to 2027–28](image)

f ABARES forecast. z ABARES projection.

Source: ABARES

**Challenging conditions ahead for Australian seafood exports**

The value of fisheries and aquaculture product exports is expected to increase in 2022–23 by 7% to $1.37 billion. This growth reflects continued high seafood demand in major export regions, despite trade and pandemic related issues affecting exports of specific commodities. Australia’s usual trade for highly export-oriented seafood products such as rock lobster and prawns continue to be disrupted from the effects of the pandemic and ongoing commodity-specific trade issues. These factors have affected aggregate export value in 2022 and early 2023.

Over the medium term the export value of fisheries and aquaculture products is forecast to rise in 2023–24, by 7% to $1.47 billion, and then projected to fall in real terms at an annual rate of 0.7% to $1.37 billion (Figure 6). Economic growth in key markets together with a high inflationary environment are projected to dampen seafood demand over this period. Australia exports around half of its annual seafood production by value, specialising in high unit value products for Asian markets. The effects of the pandemic, including the closing or narrowing of export markets and higher air freight costs, highlighted the risk of becoming reliant on a small number of export markets. As producers continue balancing the risk of over-reliance on a narrow export market profile, the diversification and shift towards online consumer sales (domestically and internationally) observed during the pandemic is expected to continue. How the seafood sector more broadly repositions itself, including the extent to which it continues to diversify export markets and trade channels, will help determine the longer-term recovery in export value.
Figure 6 Australian fisheries and aquaculture export value, 2007–08 to 2027–28

Source: ABARES
3 Outlook for key species

Rock lobster

Key points

- The GVP of rock lobster is forecast to remain subdued in 2022–23 at $360 million. Real GVP is projected to decline to $338 million by 2024–25 and remain stable for the remainder of the medium term.
- Export diversification has occurred, away from China, and to other destinations in the north Asia and ASEAN regions and to the United States.
- Recovery of price will be helped by the resumption of direct trade of rock lobster to China and the recent relaxation of travel restrictions in China as well as increased consumption of rock lobster within Australia.

Figure 7 Rock lobster GVP, 2020–21 to 2027–28

In 2022–23 the GVP of Australian rock lobster production is forecast to remain subdued, at around $360 million (Figure 7). Rock lobster export unit values declined significantly following the onset of the COVID-19 pandemic, from $83 per kilogram in 2018–19 to a forecast $43 per kilogram in 2022–23, resulting in rock lobster beach prices falling to the lowest point since 2004–05. This decline was driven by a market shift away from direct live lobster exports to China. This resulted in rock lobster GVP falling to around half of its pre-pandemic level from 2020–21, despite relatively stable production volumes over this period.

From 2023–24 to 2027–28, rock lobster GVP is projected to decrease by 0.2% annually in real terms (Figure 8) because of lower projected prices. Over this period production volume is expected to increase by around 2%, but not enough to offset the impact of lower prices.
China accounted for around 91% of Australian rock lobster exports in 2018–19, with this share falling to around 2% by 2022. Exports have been diverted to other markets, in particular to Chinese Taipei, Hong Kong, and ASEAN member countries, with the combined share of exports to these regions rising from 4% in 2018–19 to 88% by 2021–22. Some limited expansion of exports to the United States has also occurred, with the share of exports to this region expanding from 1% in 2018–19 to 5% in the same year. However, expansion of exports to the United States was assisted by pandemic aid that boosted household disposable income across the country (Subramanian 2021). There remains some uncertainty around the prospects for further growth of Australian rock lobster exports to the United States over the medium term as recent global tightening of monetary policy settings and a broad-based increase in goods and services inflation has placed pressure on household budgets.

The resumption of rock lobster exports to China is a key uncertainty for the projections in this outlook (Wright & Gu 2023). Adding to this uncertainty is the paucity of data on how rock lobster demand in China has been affected by the recent relaxation of constraints on domestic and international travel. If rock lobster demand in China does rebound over the medium term and Australia is able to resume exports at premium prices the value of production and exports will be higher than projected in this outlook.

In Australia, rock lobster is typically consumed at restaurants and other venues. An increase in Australian food service expenditure is expected to support growth in domestic rock lobster demand over the medium term, driven by continued industry efforts since the onset of the COVID-19 pandemic to increase domestic rock lobster consumption. Also supporting domestic consumption of rock lobster is the reopening of China to international travel in early 2023, that is expected to increase visitation and migration to Australia from China over the medium term.
Salmonids

**Key points**

- In 2022–23 the GVP of salmonids is forecast to increase by 13% to a record $1.46 billion.
- Global growth of production of salmonids is expected to slow in 2023, but prices are expected to remain at historically high levels.
- Over the period 2023–24 to 2027–28 salmonids real GVP is projected to stabilise. A fall in average annual real farm gate prices is expected to be offset by a moderate rise in production volume.

**Figure 9 Salmonids GVP, 2020–21 to 2027–28**

In 2022–23 the GVP of salmonids is forecast to increase by 13% to a record $1.46 billion (Figure 9) and account for 40% of total fisheries and aquaculture GVP. This increase is driven by higher farmgate prices which are expected to rise by 12% to an average of $16.85 per kilogram in 2022–23 and a 1% increase in production to 87,000 tonnes.

Higher farm gate prices are due to increased export demand. Global aquaculture salmonid production is expected to grow by 1% in 2023 to 2.9 million tonnes (Chase 2023). This follows rapid production growth in 2022. Norway and Chile, which together accounted for 47% of global salmonid exports by value in 2021, increased production levels to pre–pandemic levels in 2022 but have limited potential for further expansion with existing licencing arrangements (Rabobank 2022).

Over the period 2023–24 to 2027–28 salmonids real GVP is projected to decline by 0.7% annually. Average annual real farm gate prices are expected to fall by 1%, while production is expected to increase, from 86,800 tonnes in 2022–23 to 89,000 tonnes in 2027–28 (Figure 10).
From 2000–01 to 2020–21 Australia’s salmonid production growth was driven by increased domestic demand. Per person consumption of salmonids increased from 1.1 kg in 2000–01 to 2.1 kilograms in 2020–21. However, per person consumption has remained steady at around 2 kg per person since 2014–15, suggesting that the Australian market for salmonids has reached a mature stage of development, with growth in future to be more in line with population trends.

As production has expanded and the domestic market for salmon has matured, the export share of production has increased, from 11% in 2014–15 to 35% in 2022–23. Export growth in recent years has been mostly in China, which accounted for over half of Australian salmonid exports in 2021–22. Exports to China in this period has been assisted by the China–Australia Free Trade Agreement (ChAFTA) under which salmonids are tariff-free and Australia’s proximity to China relative to other producers (Global Times 2021).

Salmonid export volume is projected to rise modestly over the medium term, at an average annual rate of 2% to about 30,000 tonnes in 2027–28, resulting in the value of exports of salmonids increasing at an average annual rate of 4%, reaching $560 million by 2027–28. The recent relaxation of people movement restrictions in China has boosted national and international travel, which is likely to increase demand for salmonids, as most salmonid in China is consumed through restaurants (Godfrey 2022).

The value of salmonid imports in Australia is forecast to increase by 43% to peak in 2022–23 at $284 million. However, with local production increasing, the share of imports of total consumption has fallen over time from 50% in 2001–02 to 23% in 2021–22. Over the medium term, real import value is forecast to decline by 2% per year to reach $262 million by 2027–28, reflecting a fall in real unit prices and limited import growth opportunities as domestic consumption is projected to remain steady over this period.
Abalone

Key points

- In 2022–23 the GVP of abalone is forecast to increase by 13%, to $150 million, and then fall by 0.7% annually between 2023–24 and 2027–28.
- Australia accounts for 35% of wild-caught abalone production and is the world’s largest exporter of wild-caught abalone product, which attracts a premium in the export market.
- Over the period to 2027–28 aquaculture’s share of the volume of abalone production is projected to steadily rise to 38% by 2027–28.

Figure 11: Abalone GVP, 2020–21 to 2027–28

In 2022–23 the GVP of abalone, predominantly wild-caught, is forecast to rise by 13% and peak at $150 million (Figure 11), driven by higher prices. Real GVP is then forecast to fall over the next 2 years to $139 million and remaining stable for the remainder of the medium term (Figure 12). Over this period higher aquaculture production volume is expected to support GVP, whereas wild caught abalone production is projected to remain stable at around 3,300 tonnes. Aquaculture abalone production volume has steadily increased over time, with the share of total production increasing from negligible levels in 2002 to 37% in 2020–21 with this share projected to rise to 38% by 2027–28.

Growth of aquaculture abalone is expected to be lower over the period to 2027–28 compared to the last 2 decades. Uncertainty surrounds the timing of further expansion, with at least one significant on-land based expansion being put on hold in early 2022 following the more challenging business operating environment (The Fish Site 2022). Prospects for further growth of the aquaculture sector however remain positive with projects being assessed for commercialisation in several regions (Delaney 2021, Spence 2022 & DTP 2022).
Australia is a leading producer and exporter of wild-caught abalone, accounting for 35% of the 2,309 tonnes of global wild-caught abalone harvested in 2020 (FAO 2022). Wild-caught abalone supplies a minor part of the overall global abalone market that is dominated by aquaculture abalone (FAO 2022) and accounted for around 3% of global abalone consumption in 2020.

The value of abalone exports is forecast to increase by 5% in 2022–23 to $163 million and projected to decline over the medium term to $154 million in 2027–28. The beginning of the COVID-19 pandemic affected Australia’s abalone exports to China, the largest consumer of abalone, as wild-caught abalone destined for the live market was canned and held in Australian storage facilities (Oglier et al. 2021), highlighting the dependence by Australian abalone producers on China’s export markets. Though abalone exports continued, there was increased emphasis placed on exports of processed (including canned) abalone products. Producers have since been exploring diversifying into new markets such as Vietnam, Canada, and the Middle East (Austrade 2023).

**Figure 12 Abalone production value, 2007–08 to 2027–28**
Tuna

Key points

- In 2022–23 the GVP of tuna is forecast to increase by 10% to $169 million. Real GVP is forecast to peak at $185 million in 2024–25 then ease to $173 million by 2027–28.

- Tuna export value is forecast to peak at $189 million in 2023–24 then ease to $163 million by 2027–28 in real terms.

- Japan is a key tuna export market and key risks to the tuna outlook include Japanese consumer behaviour, and the extent to which premium tuna is diverted to alternative export markets and the domestic market.

Figure 13 Tuna GVP, 2020–21 to 2027–28

In 2022–23 the GVP of tuna is forecast to increase by 10% to $169 million, driven by higher production volume (Figure 13). Over the period 2023–24 to 2027–28 real tuna production value is projected to peak at $185 million in 2024–25 before easing to $173 million by 2027–28 (Figure 14). An expected increase in Australia’s total allowable catch (TAC) of SBT for the 2024 to 2026 fishing seasons is anticipated to drive growth in volume produced over the projection period. This increase is assumed to remain in place from 2026 to 2028. The planned increase in Australia’s TAC of SBT is in line with the internationally agreed management arrangement implemented by the Commission for the Conservation of Southern Bluefin Tuna to rebuild SBT stocks (CCSBT 2022).

The Australian tuna industry is highly export oriented, particularly for premium tuna species (including southern bluefin tuna, yellowfin tuna and bigeye tuna) and focused on the Japanese market. Southern bluefin tuna (SBT) is the major tuna species produced in Australia, with most of the catch ranched in South Australia and exported to Japan.
The value of Australian tuna exports during the peak export season of July to October increased by 11% in 2022 compared to the same period in 2021. This increased value reflects higher export unit prices from key export markets, mainly Japan, and expected to underpin 10% increase (to $161 million) of tuna export value in 2022–23.

Tuna export value is forecast to peak at $181 million in 2023–24 before easing to $163 million by 2027–28 in real terms, driven by relatively subdued economic growth expected in key markets, particularly Japan, together with lower export returns for tuna more broadly over the outlook period. Planned price rises in 2023 by thousands of Japanese food processors, including of tuna products (Loew 2023), represent an upside risk to the competitiveness of Australian tuna exports. Japanese consumer behaviour remains a key risk to the tuna outlook and is influenced by a declining population, changing consumer demand towards lower-cost frozen fillets of sashimi tuna and younger consumers’ preferences shifting away from seafood to non-seafood protein sources (Campling, Antony & McCoy 2017).

An anticipated increase in international travel and tourism – together with the easing of global supply-chain disruptions – over the medium term is expected to increase demand for non-canned tuna and improve sales opportunities in the hotel, restaurant and catering sector, particularly in western markets, and offset partly the projected easing in tuna export value. Potential exists for export market diversification of Australian high-grade tuna, which will depend partly on how alternative export markets themselves recover from the COVID-19 pandemic. The extent to which the Australian domestic market can continue to absorb premium tuna at a price comparable to export prices is uncertain.

**Figure 14 Tuna production value and export value, 2007–08 to 2027–28**

[f] ABARES forecast. [z] ABARES projection.

Source: ABARES
Prawns

**Key points**

- In 2022–23 the GVP of prawns is forecast to increase by 8% to $546 million and then remain stable between 2023–24 and 2027–28 at around $560 million in real terms.
- Australia’s prawn production is expected to be mostly directed to meeting domestic needs over the medium term with almost all growth coming from aquaculture.
- Australian exports of prawns decreased by 62% in 2021–22 to 1,534 tonnes, reaching the lowest level since 1998–99. Exports are projected to remain at subdued levels over the period to 2027–28.

**Figure 15 Prawn GVP, 2020–21 to 2027–28**

In 2022–23 the GVP of prawns is forecast to increase, by 8% to $546 million. Further growth is forecast for 2023–24, before GVP stabilises to around $560 million over the medium term (Figure 15). Over this period the contribution from prawn aquaculture in the production mix is expected to rise (Figure 16) and most prawn production expected to be directed to supplying the growing domestic market.
Australian exports of prawns decreased by 62% in 2021–22 to 1,534 tonnes, reaching the lowest level since 1998–99. This was due to the higher costs associated with exporting prawns since the onset of the COVID-19 pandemic and the higher average volatility in global prices (AFMA 2020, Claughton, Hollingworth & Sullivan 2021). An increased share of production sold to the domestic market combined with higher costs in exporting prawns have contributed to lower export volumes.

Export levels are projected to further decrease in 2022–23 and then remain steady at relatively low levels over the medium term. Recovery in exports will be dependent on the relative prices between the domestic and export market and the resolution of the supply chain issues that have affected prawn exports in 2021–22 (Evans 2021 & Chiat 2021).
References

ABS 2022, Retail Trade Australia, Monthly and quarterly estimates of turnover and volumes for retail businesses, including store and online sales, Australian Bureau of Statistics, December 2022, Canberra, accessed 7 February 2023.

AFMA 2020, New air freight network to boost agricultural and fisheries exports, Australian Fisheries Management Authority, Canberra, accessed 15 February 2023.


Chase, C 2023, Farmed salmon supply will remain flat in 2023, even as demand continues to increase, Seafood Source, accessed 9 February 2023.

Chiat, J 2021, 'UNPRECEDENTED': The global shipping crisis could take years to unwind...and here's why Australia could be hardest hit, Stockhead, accessed 15 February 2023.

Claughton, D, Hollingworth, K, Sullivan, K 2021, Sea freight costs may have peaked, but more ships are needed to bring them down, Australian Broadcasting Corporation, accessed 15 February 2023.

Delaney, J 2021, Dinko Seafoods to start Elliston abalone farm in 2022, Port Lincoln Times, accessed 15 February 2023.


Global Times 2021, Australian salmon supplies to China gaining market share, but trend to be temporary, accessed 9 February 2023.


