Australian fisheries and aquaculture

Outlook to 2025–26

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

Annual fisheries outlook

March 2021
In memory of David Mobsby

Restaurants now closed

Families dine on lobster

Blue skies for fish farms

    Rupert Summerson
Australian fisheries and aquaculture timeline

Fisheries and aquaculture production to fall further

Fisheries and aquaculture production value is projected to fall in 2020–21, caused largely by disruptions to domestic and international market conditions, measures to address the spread of COVID-19 and changing consumer demands. Projections over the medium term (2021–22 to 2025–26) are highly uncertain, and due to these factors, it is expected that production values will remain below pre COVID-19 levels over this period.

Source: ABARES
Outlook for Australian fisheries and aquaculture

Australian fisheries and aquaculture GVP outlook

Lower value of Australian fisheries and aquaculture production in 2019–20 and 2020–21

COVID-19 has had a significant impact on Australia’s fisheries and aquaculture industry. The impact has been complex and resulted from both demand-side disruptions to domestic and international markets and supply-side disruptions from social distancing measures across fishing and aquaculture activities and issues in crewing vessels and sourcing inputs in some sectors.

Some impacts have been mitigated as select segments of the industry have adjusted to the pandemic, such as by pivoting from food service to retail sales. However, despite these mitigating actions, lower demand for much of the sector is estimated to have reduced the gross value of Australian fisheries and aquaculture production (GVP) to $3.11 billion in 2019–20. This represents a $258 million (or 8%) downward revision from the December 2019 outlook.

The value of fisheries and aquaculture production is not expected to return to pre-2019–20 levels over the projection period due to the ongoing effects of COVID-19. GVP in 2020–21 is expected to decline to $2.94 billion (down 6% from 2019–20) in real dollars, before commencing a slow recovery.

Australian fisheries and aquaculture production value, 2005–06 to 2025–26

Australian fisheries and aquaculture GVP is forecast to recover slowly but steadily at 1.6% average annual growth to $3.21 billion (real dollars) by 2025–26. Compared with ABARES forecast in early 2020, this estimate represents a cumulative reduction in GVP of $1.9 billion over the period 2020–21 to 2024–25. That is, approximately two-thirds of a year of GVP value will have been lost over the 5-year
projection period due to the range of external shocks impacting the sector from 2019–20.

The forward projection for the industry is uncertain in the medium term. Macroeconomic indicators provide guidance on the rate of economic recovery that may influence industries, such as fisheries and aquaculture. Currently, ABARES assumes global economic growth to average 3.4% over the medium term, but with significant spare capacity in the global economy. In particular, global unemployment is assumed to remain higher by the end of 2025–26 than previously forecast. Recognising this uncertainty, ABARES economic growth assumptions for the global economy present alternative upside and downside recovery scenarios based on the timing of distribution and efficacy of COVID–19 vaccines and a range of other factors. The extent to which these scenarios are realised will affect the recovery path of Australia’s fisheries and aquaculture sectors – particularly in the short term – and the resulting effect on GVP.

**COVID-19 will lower fisheries and aquaculture GVP growth in the medium term**

The effects of COVID-19 are not expected to significantly change the structure of Australia’s fisheries and aquaculture sectors in the medium term. Australia is likely to remain an exporter of higher-value products and an importer of lower-value seafood. Population growth and income growth will remain the key drivers of increased demand for seafood.

However, within a structurally stable setting, the industry is expected to undergo a range of adjustments – business-level adjustments to manage immediate risks and disruptions, longer-term changes driven by consumer preferences in response to the pandemic, and an enhancement and reinforcement of trends that were already being observed before 2019–20.

Longer term, business-level responses to COVID-19 are expected to include greater emphasis on risk mitigation, including a shift towards greater market diversification, and an increased ability to adjust the market segments being targeted. This will require flexible supply chains to allow efficient pivoting between domestic and international markets, within domestic markets and across different international markets. Such risk mitigation activities are not likely to be costless. Businesses will need to balance risk mitigation responses against concentration in high-value markets. The final impact on GVP may be fewer high-value years and more steady growth of the sector.

Consumer-level changes are distributed across immediate-, short- and long-term changes. Stockpiling of canned tuna and frozen seafood is expected to have been an immediate but temporary change. Longer-term trends may include reduced discretionary expenditure at restaurants and other venues and higher purchases of food for at-home consumption. The scale of persistence of changed consumer behaviour will be influenced by the incidence and extent of COVID-19 outbreaks domestically and internationally and regulatory responses by governments. It is uncertain when (or if at all) expenditure in these areas will return to pre-pandemic levels.

Pre-existing consumer trends have also been observed to have been enhanced by COVID-19 – such as increased online sales during the pandemic, more widespread online and direct-to-consumer marketing, and higher consumer demand for sustainability and traceability throughout the supply chain. These trends are expected to persist – as
a result, producers are expected to adjust to serve changing market requirements.

Different sectors of Australia’s fisheries and aquaculture industry will be affected and influenced by these adjustments to varying degrees. The inherent characteristics of a sector, such as the export concentration, price points and supply chain dynamics, will determine the degree of impact and the potential for transformation. ABARES is conducting further research into this topic, including future possible scenarios for the industry as a whole and individual sectors, based on key categorisation of these characteristics.

**Australian exports**

Australia exports around half of its annual fisheries and aquaculture production by value, specialising in high unit value products for the growing Asian market. As a trade-exposed industry, the seafood sector is subject to trends in world markets and the effect of Australia’s exchange rate on the price received for export-oriented species and for competing imports.

Australia’s reputation as a reliable and high-quality supplier of high unit value fisheries products, and its proximity to Asia’s fast-growing seafood market, generally insulates Australia’s trade in fisheries products from longer-term shocks. The pandemic has caused some disruption to Australia’s usual trade, particularly for products that are highly export oriented, such as rock lobster and abalone. Sporadic commodity-focused trade issues with China have posed additional challenges for exporters. Despite the setbacks in 2020, growing incomes and populations in Australia’s export destinations will drive growth in Australia’s fishery export values over the medium term.

Following a sharp decline in 2019–20, the real value of exports is forecast to decline further in 2020–21 to $1.34 billion. Between 2021–22 and 2025–26, real export value is projected to rise by 1.8% to $1.35 billion, averaging an annual growth of 0.4% over this period. Over the outlook period, movements in world prices will be a major determinant of export unit values.

COVID-19 has highlighted some supply chain issues facing the sector. Much of Australia’s seafood exports target the food services sector in Asia, mainly via air freight. Social distancing measures and restrictions on air travel during the pandemic negatively impacted global food services and airline industries. As such, since early 2020 many exporters of seafood have used the Australian Government’s International Freight Assistance Mechanism to help lower the cost of exports.

Reliance by the fisheries and aquaculture sectors on Asian markets for exports is a risk that has been highlighted during the pandemic. The sector’s response to this risk and the extent to which it diversifies its export markets will help determine how the sector recovers and repositions itself following the pandemic.

Part of the decline in export values over 2019–20 was due to some parts of the sector showing a willingness to explore new markets, including pivoting to domestic markets using new or alternative selling platforms. Australian markets may not be perfect substitutes for many high-value and growing Asian markets, but some diversification away from export markets to domestic ones can be expected over the medium term as producers seek to balance risk. The shift towards online consumer sales, both domestically and
internationally, observed during the pandemic is expected to continue over the outlook period.

**Australian fisheries and aquaculture export value, 2005–06 to 2025–26**

![Graph showing export value by year and commodity]

Source: ABARES

The effects of COVID-19 are expected to result in the first recorded annual contraction of the global aquaculture sector in approximately 60 years in 2021 (FAO 2021a). Globally, and despite variation between aquaculture commodities, a variety of challenges including uncertainty, logistical supply chain issues, export cancellations and
labour challenges will all contribute to this decline (FAO 2021a; van Senten, Engle & Smith 2020). Australia is expected to follow this global trend.

In line with the global rise in aquaculture production in the past 2 decades, Australia’s aquaculture sector has been steadily increasing its real value and proportional share of fisheries and aquaculture production volume and GVP. The growth of Australian aquaculture has been driven largely by increased production of salmonids and a declining trend in wild-caught production. More recently, the aquaculture sector has been broadening the composition of species produced – with increased emphasis on prawns, abalone, oysters and finfish varieties, including barramundi and kingfish.

Preliminary data indicate that real GVP of the aquaculture sector and the wild-caught sector were approximately equal in 2019–20. In 2021–22 aquaculture GVP is expected to exceed wild-caught GVP. However, like the wild-caught sector, the aquaculture sector will be challenged by reduced demand for high-value commodities in export markets and lower domestic prices resulting from the ongoing impacts of COVID-19.

Over the medium term, two factors will likely contribute to continued growth of aquaculture’s importance in industry GVP. Firstly, favourable supply-side conditions are expected to result in growth in salmonid aquaculture GVPs and expected higher production of aquaculture abalone, prawns and oysters. Secondly, resumption of favourable demand-side conditions is expected as the economic and public health shocks of COVID-19 begin to dissipate and consumer confidence returns.
The timing of the COVID-19 outbreak in China coincided with the peak export period for Australian rock lobster—the Chinese Lunar New Year celebration period. In January 2020 the COVID-19 outbreak in China resulted in export orders falling significantly (Mobsby, Steven & Curtotti 2020). The resultant collapse in export demand and limited opportunities for alternative markets is estimated to have resulted in production value for rock lobster falling by 25% in 2019–20 to $544 million (in real terms).

Rock lobster exports partially recovered in the first quarter of 2020–21 and China remained the key export destination. However, in October 2020 the Department of Agriculture, Water and the Environment announced that consignments of rock lobsters had been subjected to significant delays at several Chinese ports and that the usual rate of inspection for import testing had increased. This disruption is reflected in trade data showing that rock lobster exports to China in November 2020 fell by 80% compared with November 2019.

China accounted for around 91% of Australian rock lobster exports in 2019 and 2020 and the resumption of rock lobster exports to China is the key uncertainty for the forward projections. Over the coming five years, rock lobster exports to China will depend on Chinese demand—especially during the lunar New Year period in 2021—and the resumption of trade with China. However, recent COVID-19 outbreaks in northern China, recommendations for limiting travel during the lunar New Year period and the potential for voluntary social distancing are likely to limit prospects for recovery in export performance during 2020–21.

In Australia, rock lobster is typically consumed at restaurants and other venues. An increase in Australian food service expenditure towards the end of 2020 supported a potential but likely limited recovery in demand for rock lobster domestically. Domestically focused marketing campaigns also assisted with home-based demand over the Australian Christmas period. Over the outlook period some effort is projected to be made to diversify some production towards the domestic market.

The majority of Australian rock lobster production is output controlled and managed across both state governments and the Australian Government. Over the five years to 2025–26, wild-caught production volume is expected to increase moderately.

For production values, changes in price largely determined by changes in export demand and exchange rate movements will be the key driver. Rising incomes in export markets other than China—especially
elsewhere in Asia—could provide diversification opportunities. However, these markets are smaller than the Chinese market and focus on lower-priced product forms (such as frozen tails rather than live exports).

Ultimately, over the projection period, the production value of rock lobster is not expected to recover to 2018–19 values. Instead, it is expected to remain at pre-2013–14 values for the coming years.

**Rock lobster production value and export value, 2005–06 to 2025–26**

![](chart.png)

Global salmonid production (including salmons, trouts and smelts) is mostly produced through aquaculture, having exceeded wild-catch production in the 1990s. In 2018 aquaculture represented 69% of global supply (FAO 2020).

In line with other seafood commodities, the global average price of salmonids declined in 2019–20. Ongoing lower prices are expected through 2020–21 as the effects of COVID-19 continue. The decline in global salmonid prices is mostly due to lower demand from the food services sector as a result of countries experiencing lockdown and other regulatory constraints. The volume and value of salmonid consumption declined overall, but consumption shifted towards retail channels as consumers purchased lockdown-friendly alternatives, such as frozen salmonids.

Global aquaculture salmon production is projected to increase in 2021 by approximately 3% because of rapid growth in emerging producer countries such as Australia (FAO 2021b). As a result of salmon...
producers increasing production capacity and continuing to invest in disease mitigation, global aquaculture-based salmonid production is likely to continue to grow over the forecast period.

Domestic salmonid production volume is forecast to have increased in 2019–20 by 19%, despite the challenges presented by COVID-19. favourable environmental conditions and reported production growth in Tasmania are the drivers for this growth forecast. Tasmania is Australia’s primary salmonid producer, contributing over 90% to Australia’s salmonid production in recent years. Over the forecast period, domestic salmonid production is expected to continue increasing, driven by higher aquaculture production capacity in Tasmania (Briscoe 2020).

In 2019–20, in line with global trends, Australian salmonid prices decreased due mainly to domestic lockdowns and the resulting lower demand from the food services sector. The decline in domestically received prices was likely offset by significantly increased exports, allowing producers to divert to global non-food service markets.

Domestic prices are expected to follow trends in consumer confidence and demand across the food service sector. Prices are projected to remain low in 2020–21 and to begin a slow growth trend in 2021–22 and 2022–23, consistent with an assumed slow economic recovery. Prices in 2023–24 to 2025–26 are expected to plateau but remain favourable. A plateauing price effect is expected as domestic and global supply continues to increase. Domestic salmonid GVP is projected to reach $1 billion in 2022–23, reflecting this increased production.
Australia produces mainly wild-caught abalone, but aquaculture is projected to underpin most of the projected growth over the medium term. Wild-caught volumes are expected to remain constrained by total allowable catch (TAC) limits. The uncertainty in market conditions created by the pandemic has led to the TAC undercatch to be rolled over to the next season in some jurisdictions.

The value of Australian abalone production has been on a declining trend since 2003–04. This downward trend is projected to stabilise between 2021–22 and 2025–26, to remain just under $150 million. Within this stabilisation, aquaculture abalone’s share of total Australian abalone production volume is forecast to increase. This increase continues a long-term trend from a negligible contribution in 2000–01 to a forecast 38% of total production volume by the end of 2025–26.

COVID-19 led to the cancellation of abalone orders in early 2020 and it is unclear when export markets will recover. Demand for live abalone has been subdued due to COVID-19 related social distancing in China affecting restaurant trade (Hayes, Prendergast & Breen 2021). The industry has responded by diversifying product offerings to other options, such as frozen and preserved abalone.

In China, the main export market for Australian abalone exports, demand for abalone in restaurants has also been lower because Chinese consumer expenditure remains weak. The effect of COVID-19 in China is expected to negatively impact abalone prices for the remainder of 2019–20 but prices are assumed to recover over the remainder of the outlook period. Increased export competition is expected as trade is diverted from China to alternative markets. Abalone businesses that are export focused will continue to be exposed to negative impacts on abalone prices due to appreciation in the Australian dollar, such as was observed recently.

Before COVID-19 Australian abalone unit export prices grew steadily. In 2018–19 they reached the highest average level in real terms since 2006–07. Increased export unit prices reflected growing demand for abalone in China and an annual reduction in tariffs on Australian abalone exports entering China since the China–Australia Free Trade Agreement entered into force in December 2015. Since 2019 the tariffs on Australian abalone exports to China have been zero. Australia produces abalone species not native to China and these wild-caught species attract a premium in China, especially if delivered as live product.
The value of Australian tuna production is estimated to have increased by 10% to $182 million in 2019–20, influenced heavily by pre-COVID-19 preparation for the Tokyo 2020 Olympics. In Japan stockpiling of high-value tuna ahead of the then-planned 2020 Olympics drove increased exports and increased export prices. Because the peak season for tuna exports typically occurs between July and September, this stockpiling occurred before the outbreak of COVID-19 in the 2019–20 financial year. The impacts of COVID-19 will be seen in 2020–21 data.

The value of Australian tuna exports during the peak export season of July to September 2020 declined by 21% compared with the same period in 2019. The full financial year impact is expected to show production value falling by 13% in 2020–21. This decline was due to weakening export prices to Japan following the accumulation of tuna intended for consumption during the 2020 Olympics.

Beyond stockpiling for the delayed Olympics, COVID-19 has significantly affected high-value tuna consumption in Japan. Sashimi tuna sales remained subdued during the July–August summer holiday season in 2020 as a result of consumers reducing their travel and food service consumption (FAO 2021c). Restaurant sales recovered in 2020 but remained well below 2019 levels (E-stat 2020).

High-value tuna consumption is a key driver of the short-term outlook for tuna. As such, Japanese consumer behaviour remains a key risk to the tuna outlook. The Japanese economy is assumed to recover post 2022–23. However, rising COVID-19 cases and falling consumer confidence may result in continued weak demand and low prices in the immediate term. The extent to which the Australian domestic market can absorb premium tuna at a price comparable to export prices is uncertain.

On the supply side, global production of bluefin tuna is anticipated to increase through to 2025–26 as biological stocks continue to recover,
and the aquaculture industry expands (Campling, Antony & McCoy 2017). Price effects are expected to follow this increase in global supply. Declining demand from Japan and shifts away from the traditional wholesale model (due to consumer demand shifting towards lower-cost frozen fillets of sashimi tuna) are expected to place downward pressure on high-grade tuna prices.

**Australian tuna production value and export value, 2005–06 to 2025–26**

![Chart showing tuna production and export values](chart.png)

Australia’s exports of tuna are currently highly concentrated on the Japanese market, but potential exists for market diversification of Australian high-grade tuna. The Republic of Korea and the United States recorded increased import values of bluefin tuna before the COVID-19 outbreak. How these markets can absorb Australia’s diverted Japanese trade and take up the additional production volumes will depend partly on their own recovery from the COVID-19 shock.

**Prawns**

**Prawns GVP outlook**

![Graph showing prawn GVP outlook](graph.png)

Global demand for prawns declined significantly during 2020–21, driven by COVID-19 based disruptions on the global travel, food service and accommodation sectors. Australia produces a relatively low volume of prawns, but our exports comprise several high unit value species focused on markets that have been significantly impacted by COVID-19. The resulting subdued global prawn prices during the year led to lower unit export returns for Australian exporters.

Australia imports a significant quantity of prawns to meet domestic demand, but these imports are generally of a lower unit value than prawns produced domestically. As such, to what extent price-sensitive domestic demand can absorb high-priced diverted exports is unclear.

Major global producers of aquaculture prawns faced multiple challenges during 2020, including disruptions to supply chains for essential inputs and subdued demand conditions. These challenges refocused producers’ efforts to diversify their markets toward...
domestic retail sales and to slowing production to meet new demand conditions. These factors are expected to support prices over the medium term, bolstering the recovery in prices observed in late 2020.

Most Australian prawn production is wild-caught, but the share of aquaculture prawns is increasing. A planned large-scale prawn farm in northern Queensland is expected to add between 2,000 tonnes and 2,500 tonnes to aquaculture output over the outlook period. Another project in the Northern Territory could significantly increase aquaculture prawn production beyond projections if the farm becomes operational over the outlook period.

Despite some signs of recovery in global demand in early 2021, further improvements in market conditions—including in the international catering sector—are not expected until later in the outlook period.

Through to 2025–26 the value of Australian prawn production is projected to fall. Given the subdued demand conditions internationally, most local production is expected to supply local markets, at lower price points. Export conditions are expected to improve over the medium term.

**Australian prawn production value, by sector, 2005–06 to 2025–26**

<table>
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<th>Year</th>
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<th>Wild-caught</th>
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</tr>
<tr>
<td>2025-26</td>
<td>25</td>
<td>50</td>
</tr>
</tbody>
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f ABARES forecast s ABARES estimate z ABARES projection

Source: ABARES

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