



## FISHERIES TRADE

### Pacific Forum launches videos introducing WTO fisheries subsidies debates

The WTO continues to negotiate rules to discipline fisheries subsidies. To provide a general background on the negotiations for Pacific Island countries (PICs), the Pacific Islands Forum Secretariat's Geneva office made a series of videos introducing the negotiations. The videos are available here: <https://vimeo.com/taf2pluspacific>

The three videos provide an overview of the negotiations, focussing on PIC WTO members' interests and are intended to provide a big picture overview to contextualise the often fast-moving and detailed textual debates. They may be useful for PIC officials seeking to familiarise themselves with the negotiations.

The first video introduces the reasons that the global community want to restrict fisheries subsidies, why the negotiation is happening in the WTO and what this could mean for the Pacific islands. The second video looks at PIC interests and objectives in negotiation in more detail: How could the Pacific benefit from a deal? How could an agreement cause problems for Pacific islands? The final video explores some of the differences between different Pacific islands in the negotiation. It also looks at the major negotiating groups across the world and what each one is hoping to get from the negotiation.

## FISHERIES REGULATION

### Workshop aims to spread awareness and update FFA COVID-19 Operating Protocols

In late January 2021, FFA member countries participated in a Pacific Awareness Workshop focused on the FFA COVID-19 Operating Protocols for the Fishing Sector. The goal of the workshop was to create awareness of the COVID-19 Operating Protocols, hear from stakeholders about how the Protocols are working on the ground and make recommendations to maintain the utility and efficacy of the Protocols. The workshop was hosted by the Australian Government, FFA, Pacific Community, PNA Office, MRAG Asia, with representatives from member countries, the WCPFC and the fishing industry also in attendance. The Operating Protocols were developed by the Fisheries COVID-19 Protocol Steering Committee to prevent COVID-19 from getting into the Pacific region and to minimize the virus' and Protocol's impact on fisheries, observers and other stakeholders.<sup>2</sup> The Protocol has been in place since August 2020 and is reviewed and updated quarterly.

Several updates were presented at the workshop:<sup>3</sup>

**Vaccines:** COVID-19 vaccine introduction and roll-out has started in eight PICs. A recommendation of the workshop was that the COVID-19 vaccine be included as a key mitigation principle in the Operating Protocols. The Operating Protocols were developed before the vaccine was available and decisions on how the vaccine will be integrated into the protocols will be subject to member countries' assessments. COVAX Facility, a global risk-sharing mechanism for pooled procurement and equitable distribution of COVID-19 vaccines, is assisting countries with vaccines. In early March, Fiji became the first Pacific Island country to receive vaccines through the COVAX Facility.<sup>4</sup> Workshop participants expressed interest in vaccination for vessel crew and observers.

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*Industry:* Workshop participants reported that the purse seine fishery and supply chain largely avoided COVID-related disruptions and had a positive 2020.<sup>5</sup> Catch and effort remained high in 2020 and vessels have continued to operate adjacent to ports. The PNAO reports that while observer requirements have been cut back, electronic monitoring and vessel monitoring systems (VMS) are enabling oversight (see below). Fish prices have stabilized since the heady surge at the start of the pandemic and fuel prices have recovered slightly, but stayed reasonable. As a result of these dynamics, annual purse seine vessel profits are projected to have been higher than the two preceding years. By contrast, the longline sector has faced slowdowns associated with soft market demand. Cannery production in Pacific island countries was not impacted by COVID and plants were largely successful in minimizing outbreaks. Container shortages – a problem plaguing supply chains around the world – are contributing to driving up freight costs (see story below).<sup>6</sup>

The pandemic continues to pose challenges across the fishing sector around crew exchange, vessel and facility repair and maintenance. Top priorities are safe resumption of observer coverage, local crew placements and domestic commerce and services. Suspension of observers has yielded lost salaries in Pacific economies. Concerns are also being raised that extended time at sea raises potential for human trafficking because of the inability for workers to come to port.

*Operating Protocol Updates:* General risk mitigation protocols around hygiene, physical distancing onboard vessels, maintaining cleaning and disinfecting surfaces on the vessel, health checks and monitoring vessel contact are in place, though challenging onboard vessels. Detailed activity-specific risk mitigation measures have also been developed related to: vessels entering port; inspections in port and at sea; transshipping catch in port, territorial waters or high seas; bunkering; unloading containerization of catch in port; joining and boarding a vessel; disembarking a vessel; onshore repair/maintenance and reprovisioning; and, management of COVID-19 outbreaks onboard fishing vessels.

A survey of FFA Members suggested that more than 60 per cent are using the Operating Protocols, 30 percent are using some of the Operating Protocols to develop State of Emergency (SOE) procedures for fishing vessels and 10 per cent are not using it at all. Members also offered recommendations for the Operating Protocols including: updating vaccine and COVID-19 test kit procedures; enhancing information sharing between Members and vessel operators; review of WCPFC observer requirements and data rules; enhancement of VMS tools to allow automatic detection of proximity vessels (see below); and safety/personal protective equipment (PPE) to support protection of fisheries inspectors.

*Real-time vessel reporting on COVID-19-related data:* Updates on a range of vessel reporting tools were also shared. PNA reported on the Industry Fisheries Information and Management System (iFIMS), a data management tool that industry uses to manage fishing operations and electronic reporting to fishing authorities. iFIMS offers vessel proximity alerts that document the 14-day quarantine requirement, as well as the extent of meetings at sea for crew provisioning and allows for fishing vessels to provide real-time reporting on crew, crew changes and monitoring. The app can be used for a single vessel (both purse seine and longline) registered for electronic reporting; it is still in development for fish carriers and tankers. iFIMS' vessel proximity module can be used to sort or search for interactions between two or more vessels reporting to the PNAO and its Asset Tracking System provides a visual record of specific vessel tracks. FFA is also offering a weekly COVID-19 vessel movement report to Members with an aim of identifying vessels that have high COVID-19 risks. FFA's Regional Fisheries Surveillance Centre (RFSC) is accepting requests to conduct

**COVID-19  
vaccination has  
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island countries**

**COVID-19  
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and observer  
coverage**



vessel proximity contact tracing of specific vessels to assist with risk assessments of vessel intending to enter Member Ports and prior to at sea compliance inspections.

Several tasks and issues for consideration in the ongoing development of the Operating Protocols include:

- Incorporating COVID-19 vaccination as a key migration principle in the Operating Protocols;
- Ongoing review of onshore quarantine procedures and on-ship quarantine procedures;
- Incorporating new developments on PPE (including for observers and inspectors), translation of health PPE posters into foreign languages (priority: Vietnamese, Chinese and Filipino/Tagalog) and requirements for displaying on vessels; and,
- Ongoing work by FFA and the Fisheries COVID-19 Steering Committee in collaboration with member states to develop a plan for observer re-deployment to be proposed to the Monitoring, Control, Surveillance Working Group.

### **A new standard for crew joins a growing number of labour-related regulatory tools**

Labour issues on board vessels continue to remain in the spotlight, with new tools developed to enable and incentivize firms to demonstrate commitment to labour standards which continue to proliferate. Recently, a new accredited third-party certification program called the FISH Standard for Crew has joined the ranks. The FISH Standard (standing for fairness, integrity, safety and health) is a certification scheme that aims to ensure that fish sold from certified vessels are harvested by crews who are ethically hired, treated with respect, paid properly and have access to processes to address grievances. The standard is open to wild-capture vessels of all sizes. It has been drafted by experts in fish harvesting including labour non-profit organizations and is overseen by an eleven-person board of directors. FISH Standard for Crew has a standards oversight committee of nine people who develop and update audit protocols. The standard has been developed to support Goal 8 of the United Nations Sustainable Development Goals that aims to promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.<sup>7</sup> The Standard, which is still under development has been backed by seafood companies including Trident Seafoods. It has recently released its draft standard and opened a public comment period which closed on 8 March 2021.<sup>8</sup>

As FISH joins a growing suite of state and non-state tools aimed to curb unacceptable work at sea, it is likely that the coming years will determine which standards become the industry norm, which are effective at improving labour conditions at sea and/or documenting, monitoring and enforcing labour practices at sea, and how industry will cope with the costs and bureaucracy of compliance with an ever-growing set of reporting commitments.

***iFIMS and  
FFA's RFSC  
are providing  
tools for real-  
time electronic  
reporting  
on vessel  
quarantine  
compliance***

***FISH Standard  
for Crew has  
posted draft  
standards for a  
public comment  
period***



## TUNA INDUSTRY

### Thai Union gains from pandemic, commits to supply chain controls and invests in diversification

Thai Union, the world's largest ambient tuna company, recorded net profits of USD 208 million in 2020. High profits in the last half of 2020 in particular were driven by sales growth of 8.8% compared to 2019 in ambient seafood, including canned and pouched tuna, sardines, salmon and mackerel.<sup>9</sup> Consumers bought more ambient food in the context of pandemic restrictions.

At the same time, reflecting trends in the hospitality industry worldwide, TU experienced declining sales in its foodservice sector businesses, including fresh and frozen shrimp products, recording a drop in annual sales in 2020 of 5.4% compared to 2019. It also suffered losses on its recently fully acquired Red Lobster restaurant chain. As the lead partner in a consortium of investors, TU contributed to buying the remaining 75% share in Red Lobster from Golden Gate Capital in September 2020, having already bought a 25% share in 2016.<sup>10</sup>

TU's bet on sustainability as a corporate strategy some years ago and is well ahead of the pack in the global canned tuna industry. In March 2021 it took its sustainability commitments one step further with a commitment to 100% transparency in its global tuna supply chain by 2025.<sup>11</sup> Partnering with The Nature Conservancy – a US environmental NGO with strong ties to big business – TU intends to ensure complete 'on-the-water' monitoring of its supply chain within the next four years. This means that all purse seiners and other vessels supplying TU will need to install and maintain electronic monitoring, including onboard video cameras, sensors to automatically track activities onboard if they do not have 100% human observer coverage. TU's commitment is likely to pass on costs to boat owners and this will be felt disproportionately by smaller businesses in the purse seine and longline albacore fisheries.

TU's sustainability strategy is not based on altruism. It also opens up sustainability-linked loans which provide more favourable interest-rates. A consortium of Japan's Mizuho Bank and MUFG Bank, and Thailand's Bank of Ayudhya are providing TU with a loan facility of USD 400 million over five years, at a discounted rate if TU complies with sustainability criteria, including supply chain transparency.<sup>12</sup>

TU is also continuing to invest in by-product development, alongside existing items such as marine oil. In January 2021 it launched its UniQ™BONE bone powder, made from processed tuna waste. The product is Halal and Kosher compliant and is pitched as an alternative source of calcium and phosphorus with a neutral taste and smell, allowing it to be used as a food additive, nutritional supplement and in pet food.<sup>13</sup> This particular innovation builds on TU's strategy of focusing on enhancing profitability from its existing operations and raw material use, and thus also fits with its sustainability commitments.

### Labour abuse and shortages on longline vessels

The problems facing crew working on WCPO longliners are once again in the headlines, with four news stories each highlighting different dimensions. In the most devastating story of them all, ten crew members are missing after a Taiwanese longliner disappeared northeast of Midway Atoll in rough seas and high winds. Missing since 1 January 2021, the Yong Yu Sing No. 18 has since been found, but without its crew and with a life raft deployed. The US Coastguard has now suspended the search.<sup>14</sup>

*Thai Union hit record profits in 2020, driven by ambient business*

*TU's requirement that all tuna boats implement full electronic monitoring by 2025 has been used to leverage an interest discount in a USD 400 million loan*

*TU expands by-product range with bone powder*

Again in January 2021, Fiji has launched an investigation following the abandonment of a Fiji-flagged longliner in the Port of Suva. Two Indonesian crew on board the *He Shun 38* had not been paid their wages for 12 months.<sup>15</sup> The excuse given for this delay is that vessel ownership was changing hands between entities in China.<sup>16</sup> The vessel was operating under the Marine Stewardship Council (MSC) Fiji Albacore and Yellowfin Tuna Longline fishery. That fact the fishery was MSC certified means that the incident risks tarnishing the eco-label's reputation in terms of its social dimension. The Fiji Fishing Industry Association acted quickly to delist the *He Shun 38* from the MSC certification and the two crew have been repatriated and their salaries part-paid.<sup>17</sup> However, the incident highlights the longstanding problem of abandonment of fishing crew – as well as seafarers – as a desperate boatowner strategy to avoid paying wages and other costs.

In parallel, Vanuatu authorities arrested two fishing vessels which are charged with illegal fishing in Vanuatu's EEZ and possessing a driftnet, which is illegal under Vanuatu's Fisheries Act. All 14 of the crew have been charged but only the two captains face fines and imprisonment of up to five years.<sup>18</sup> The owner, Mega East Ocean Fishing, denies the charges.

Finally, in this context, it is perhaps unsurprising that China's fishing companies are starting to find it difficult to recruit Chinese nationals to work on their boats, despite rising fisher incomes.<sup>19</sup> This is because China's rapid industrialisation and economic diversification means that a range of alternative jobs are available, especially in the coastal provinces and factory work is invariably better paid, safer and less onerous than working on a distant water fishing vessel.

### Container shortage causing exorbitant shipping costs

Asia-based tuna exporters are facing high transport costs and shipping delays due to a severe shortage of shipping containers. COVID-19 has sparked an increase in the demand in North America and Europe for general goods (e.g. office furniture, home-exercise equipment, cookware), as well as foodstuffs such as tuna sourced from Asia. Hence, the demand for container shipping services in Asia has outstripped supply. This shortage has been compounded by the reduced availability of airfreight services provided by commercial airline carriers due to COVID-19 international travel restrictions resulting in the grounding of many aircraft. Delays in vessel port clearance and container unloading due to strict COVID-19 protocols have resulted in heavy port congestion and slow turnaround in containers. For example, in mid-January, 45 vessels were reportedly anchored outside the Ports of Los Angeles and Long Beach waiting for an unloading slot. An estimated 1,800 dock workers and truck drivers were off work, either infected from the virus or quarantining.<sup>20</sup> Meanwhile, in South American and African ports, shipping containers remain empty and uncollected after delivering millions of masks, as shipping lines have diverted their vessels to service the high demand between Asia and North America and Europe.<sup>21</sup>

As a result, shipping rates have increased markedly. According to an industry source, a 40-foot reefer container shipping frozen tuna loins from China to Italy cost USD 8,450 in January 2021 vs. USD 2,800 in January 2020 (i.e. an increase from USD 86/mt to USD 348/mt of tuna loins). Dry 40-foot containers shipping goods from China to California have increased in cost from around USD 2,500 six months ago to USD 6,000-7,000 per container currently. Some shipping lines have stopped all together accepting new bookings for containers to the US due to cargo vessels being full.<sup>22</sup>

*10 crew missing from Taiwanese longliner*

*MSC-certified, Fiji-flagged longliner sees crew unpaid and abandoned*

*Freight rates have at least tripled between Asia and North America and Europe due to a shipping container shortage*



Industry sources anticipate the shortage will continue until at least mid-year, as shipping companies work to re-distribute containers back to Asia, companies manufacture additional new containers and labour shortages are reduced as dock, transport and warehouse workers become vaccinated against COVID-19.

### Pre-competitive industry collaboration on IUU fishing

Five major industry groups representing over 150 companies globally – the Global Tuna Alliance (GTA), International Seafood Sustainability Foundation (ISSF), the Global Sustainable Seafood Initiative (GSSI), the Global Dialogue on Seafood Traceability (GDST) and the Seafood Business for Ocean Stewardship (SeaBOS) – have released a joint statement entitled '*Statement on Traceability and Port State Measures*', which advocates for industry and governments to combat IUU fishing.<sup>23</sup>

The group is calling on companies worldwide to endorse GDST's '*Standards and Guidelines for Interoperable Seafood Traceability Systems (Version 1.0)*' as industry-wide standards. They are also calling on governments to ratify and implement port state controls which are aligned with the requirements of the Agreement on Port State Measures (PSMA) and will give sourcing preference to catches landed or transhipped in ports that are doing so. The nine actions outlined in this statement are ultimately intended to better prevent IUU vessels from entering foreign fishing ports, and in turn, prevent IUU catch from being landed or transhipped and reaching seafood markets.<sup>24</sup>

This statement is an example of the seafood industry's emerging leadership on major global issues which centres on pre-competitive collaboration. In the tuna sector, industry organisations including GTA and ISSF are widely and actively advocating for sustainable management of tuna fisheries with industry, governments, RFMOs, brand owners and retailers. For example, recently GTA and the Tuna Protection Alliance (TUPA) collaborated with WWF in two roundtables held with retailers and processors sourcing Indian ocean yellowfin tuna. The roundtables were intended to facilitate the identification of opportunities for these businesses to engage in advocacy and sourcing initiatives ahead of the IOTC Special Session on yellowfin to be held in March, which would support the rebuilding of the overfished stock to long-term sustainable levels.<sup>25</sup> Further pre-competitive collaboration can be anticipated from key players in the tuna industry on issues such as IUU fishing, traceability, adoption of harvest strategies and labour standards.

### COVID-19 - The final nail in the coffin for Guam longline base

The final day's operation by the last longline agent at Apra Harbour, Guam took place on 28 December 2020. Lotus Pacifica Trading Inc. was part of what was once a thriving business handling longliners from Japan and Taiwan that unloaded their catch and re-supplied Guam over the last three-plus decades. Although fishing by foreign vessels in the US EEZ including Guam and the Northern Mariana Islands has been prohibited for many years, Guam-based fishing took place in high seas areas, the Federated States of Micronesia and occasionally, Palau. The catch was unloaded in Guam and typically air freighted to Japan in jumbo jets that were serving the Guam tourist market. Reject tuna and bycatch species were purchased by several local agents for sale to restaurants, hotels, supermarkets, and other retail outlets in Guam.

Guam went from having fewer than a dozen longline vessels utilizing the port in the mid-1980s to more than 1,000 port calls by up to 300 vessels in the mid-1990s.<sup>26</sup> Japanese longliners predominated, with many vessels being under 20 gross tons

Over 150 companies have called for improved traceability and implementation of port state measures to prevent IUU fish entering supply chains

In its heyday in the mid 1990's, Guam port serviced over 300 longline vessels



and taking trips of 12 to 20 days. A few Taiwanese vessels also utilized Guam for unloading, but most preferred to unload in the Philippines or Palau. The Guam 'home porting' industry resulted in economic activity including fleet expenditures estimated by the Guam Department of Commerce in 1999 at US \$68 million and the creation of primary jobs, as well as enhanced investment opportunities for local entrepreneurs.<sup>27</sup>

Guam companies such as Polar International, Koyoo Pacific Fisheries, Pacific Network, Inc., Fung Li, Maruwa Shokai Guam, and Koueki Suisan Guam, vied for business from the boats. Some agents handled the catch and arranged export for a fee, while others such as United Fisheries Corporation purchased fish for export and sale on their own account. In addition to the usual agency services of assistance with vessel clearance, crew transfers, arranging repairs, and provisioning, activities often included purchase of dried shark fins from the crews.<sup>28</sup> This practice ceased in 2002 when the U.S. Government prohibited the landing of shark fins into US ports without the corresponding carcass. Lacking a market for shark carcasses and with limited fish hold space, the practice of vessels legally retaining fins for sale on Guam ceased.

The business of supporting the longline industry on Guam went into slow decline in the early 2000s for a variety of reasons, including changes in fleet composition, marketing and fishing patterns of the Taiwanese and Japanese vessels that had been unloading in Guam. Events of 11 September 2001 resulted in restrictions in the use of Apra harbour, which also hosts a major U.S. naval base and other military installations. Immigration restrictions instituted after 9-11 made it difficult to replace crews, many of whom were from Indonesia. United Fisheries stopped exporting at the end of 2018 to focus on processing high-grade fish for the local market, but that activity had ceased by the end of 2019.<sup>29</sup>

The continuing decline of Japan's longline fleet due to adverse financial conditions resulted in nearly all of its mid-size offshore longliners from 20 to 100 GRT ceasing operations in the last two decades, while those in the small offshore category <20 GRT were reduced by half to 222 vessels between 2006 and in 2019.<sup>30</sup> Many of the smaller Japanese longliners that formed the backbone of deliveries to Guam transitioned into fishing predominantly in Japan and adjacent high seas areas, shifting some of their focus to albacore which became a popular and less expensive sashimi and sushi option in Japan. The number of Taiwanese vessels fishing in the Micronesian area also shrank as successful owners opted to invest in larger freezer vessels with expanded range and multiple target markets. Evidence of this decline can be found in the FSM's licensing of Taiwanese longliners, which shows the number of vessels licensed fell from 57 in 2003-2005 to just five in 2017-2019.<sup>31</sup>

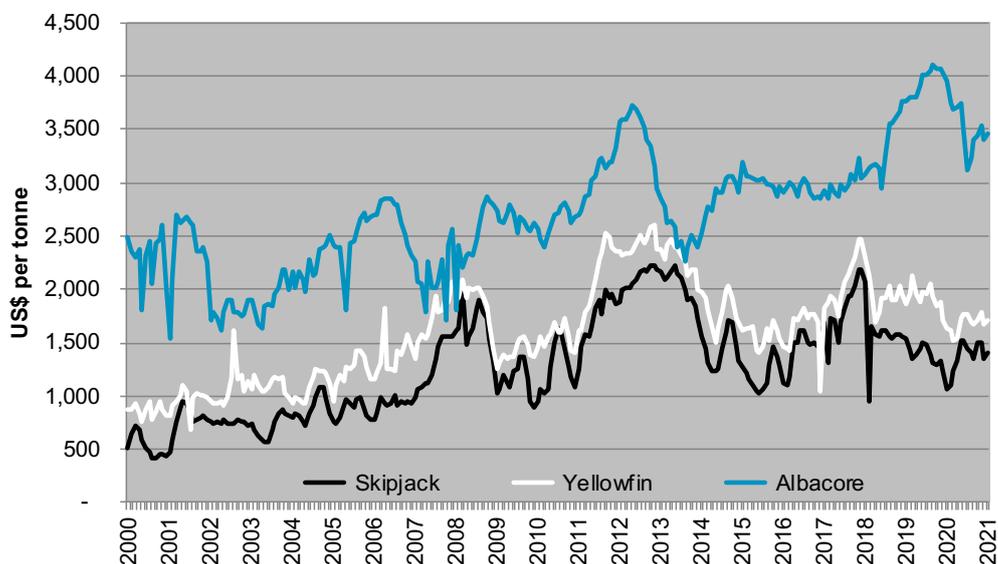
The use of the port rebounded for a short time around 2005 when the Guam Department of Commerce recorded 446 unloadings by Japanese longliners resulting in tuna exports of 4,395 mt.<sup>32</sup> The changes in fleet composition and shifting markets continued to accelerate however, so that by the time COVID-19 hit Guam there were just ten Japanese vessels utilizing Guam's port. The final blow was the shutdown of Guam's tourist industry and curtailment of air travel due to COVID-19. Spaces at the port once leased for fishing operations now contain the Port Authority's safety office and an area for stevedore rigging operations. The tenant occupying the largest space formerly used by the longline industry is reported to be involved in fibreoptic cables.<sup>33</sup>

*Guam's longline industry declined from the early 2000s due to changes in fleet composition, marketing and fishing patterns, as well as 9-11-related restrictions on port access*

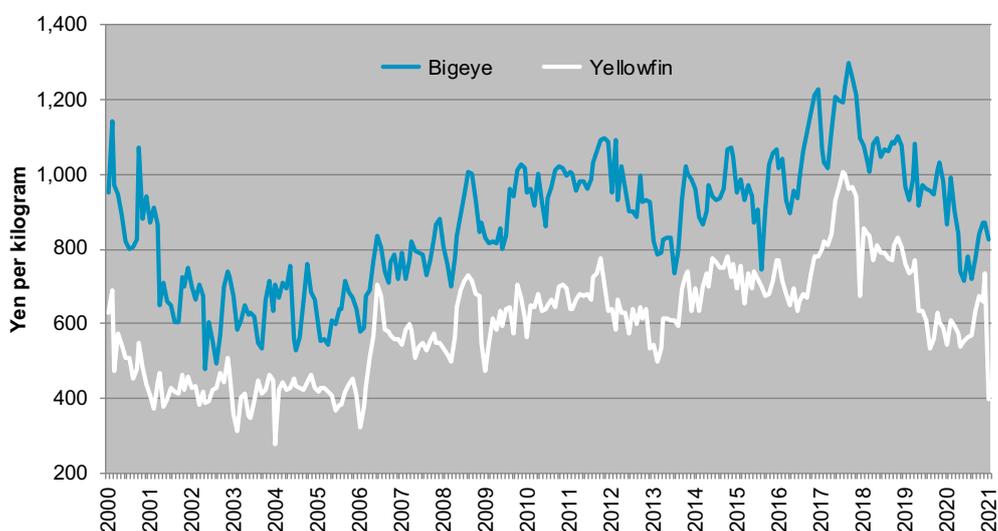
*COVID-19's interruption to tourism and air freight services to Guam resulted in complete cessation of longline*

## TUNA PRICE TRENDS<sup>34</sup>

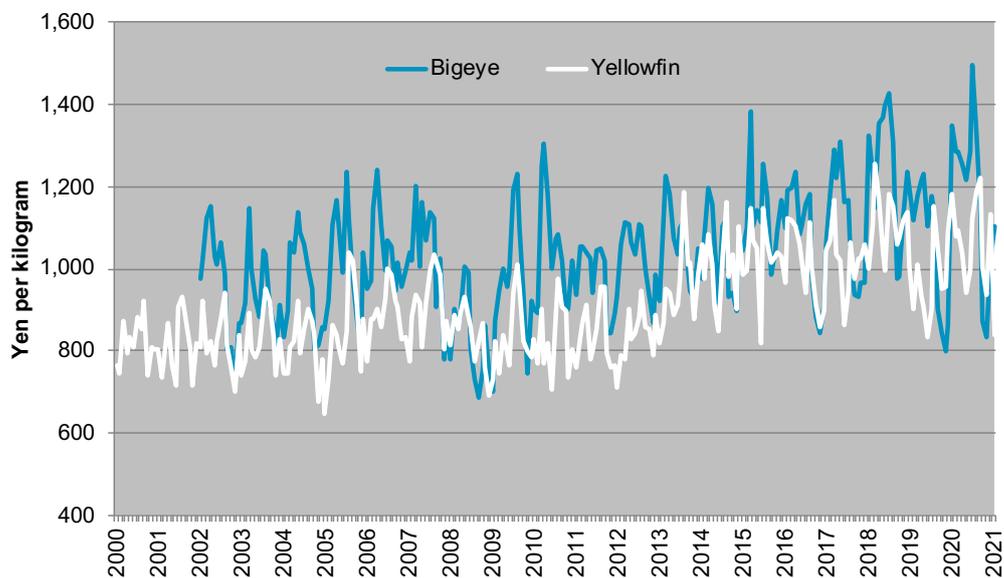
### Bangkok canning-grade prices to January 2021<sup>35</sup>



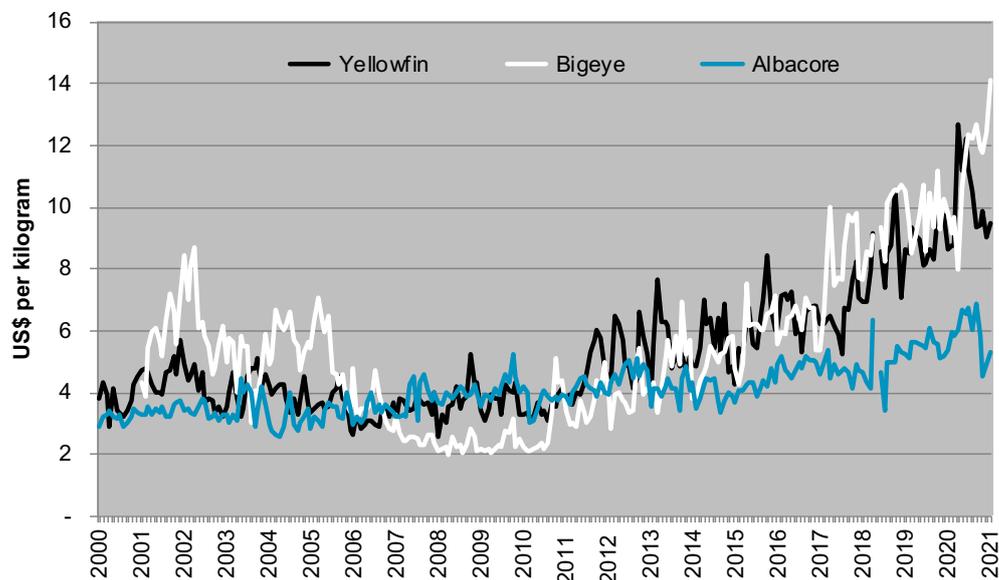
### Japan frozen sashimi prices (ex-vessel, Japanese ports) to January 2021<sup>36</sup>



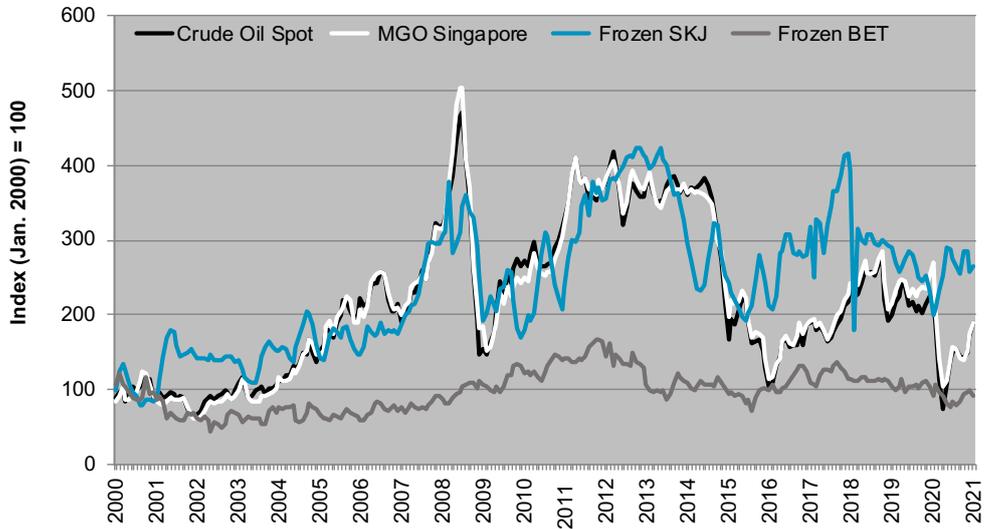
### Japan fresh sashimi prices (origin Oceania) to January 2021<sup>37</sup>



### US imported fresh sashimi prices to January 2021<sup>38</sup>



## Crude oil, canning-grade frozen skipjack (SKJ) and frozen bigeye (BET) price index to February 2021<sup>39</sup>



<sup>1</sup> Prepared for the FFA Fisheries Development Division by Professor Liam Campling, School of Business and Management, Queen Mary University of London, Dr Elizabeth Havice, University of North Carolina at Chapel Hill and Mike McCoy, independent consultant, all Consultant Fisheries Trade and Market Intelligence Analysts, Fisheries Development Division, FFA. Desktop publishing by Antony Price. The authors would like to thank FFA for their input on an earlier draft of this briefing. The contents of this briefing (including all analysis and opinions) are the responsibility of the authors and do not necessarily reflect the positions or thinking of the FFA Secretariat or its Members.

<sup>2</sup> Full text of the COVID-19 Operating Protocols are available at: <https://ffa.int/covid19>

<sup>3</sup> This summary is drawn from discussion with FFA personnel and from Regional COVID-19 Protocols Workshop records.

<sup>4</sup> 'Team Europe: Fiji becomes first Pacific country to receive COVID-19 vaccing through the COVAX Facility', *EEAS*, 6 March 2021. Available at: <http://www.eeas.europa.eu>

<sup>5</sup> Prior to the Operating Protocols workshop, the PNAO held an update meeting which included a more comprehensive industry update; the report here draws on summarized data from both the Operating Protocols workshop meeting minutes and reports of the PNAO meeting reported in Bernadette Carreon 2020, 'COVID-19 had little impact on PNA's tuna purse seine-fishery output', *Seafood Source*, 30 December. Available at: <https://www.seafoodsource.com>

<sup>6</sup> See e.g., Peter S. Goodman, Alexandra Stevenson, Niraj Chokshi and Michael Corkery, 2021. 'I've never seen anything like this': Chaos strikes global shipping', *The New York Times*, 6 March. Available at: <https://www.nytimes.com/>

<sup>7</sup> Madelyn Kearns 2021, 'New FISH Standard for Crew offers labor certification for global fishing vessels', *Seafood Source*, 6 January. Available at: <https://www.seafoodsource.com>

<sup>8</sup> The full draft standard is available here: <https://fishstandard.files.wordpress.com/2020/12/fish-standard-for-crew-v1.0-30-dec-2020-draft-for-public-consultation.pdf>

<sup>9</sup> 'Trust in Thai Union products underpins strong 2020 earnings as consumers continue embracing healthier lifestyles', Thai Union Press Release, 22 February 2021. Available at: <https://www.thaiunion.com>; Toan Dao, 'Thai Union scored record profits in 2020, despite Red Lobster losses', *Seafood Source*, 22 February 2021. Available at: <https://www.seafoodsource.com>

<sup>10</sup> 'TU, Seafood Alliance, Red Lobster management to acquire Red Lobster', *Bangkok Post*, 2 September 2020. Available at: <https://www.bangkokpost.com>

<sup>11</sup> 'Sea change The Nature Conservancy and Thai Union partner around game-changing transparency pledge', Thai Union press release, 3 March 2021. Available at: <https://www.thaiunion.com>

<sup>12</sup> Marimi Kishimoto, 'Seafood giant Thai Union secures \$400m in first sustainability loan', *Nikkei Asia*, 16 February 2021. Available at: <https://asia.nikkei.com>

<sup>13</sup> 'Thai Union Opens New Bone Powder Production Facility in Thailand; Launches UniQ™BONE Product Thai Union', Thai Union Press Release, 14 January 2021. Available at: <https://www.thaiunion.com>

<sup>14</sup> 'US Coast Guard suspends search for missing crew of Taiwanese tuna longliner', *Undercurrent News*, 15 January 2021. Available at: <https://www.undercurrentnews.com>

<sup>15</sup> 'Ongoing investigation of Indonesian fishers abandoned and exploited in Fiji', Human Rights At Sea Press Release, 16 January 2021. Available at: <https://www.humanrightsatsea.org>

<sup>16</sup> 'Fiji investigates after unpaid crew abandons MSC-certified longliner', *Undercurrent News*, 15 January 2021. Available at: <https://www.undercurrentnews.com>

<sup>17</sup> Quentin Bates 2021, 'Crewmen from Chinese vessel repatriated, MSC certification withdrawn', *FiskerForum*, 28 January 28. Available at: <https://fiskerforum.com>

<sup>18</sup> Dan McGarry, 'Chinese fishing captains face jail, big fines for alleged illegal fishing in Vanuatu', *The Guardian*, 16 February 2021. Available at: <https://www.theguardian.com>

<sup>19</sup> Mark Godfrey, 'Chinese fishing firms recruiting internationally as domestic labor sources dry up', *Seafood Source*, 17 February 2021. Available at: <https://www.seafoodsource.com>

<sup>20</sup> Margot Roosevelt, 'COVID-19 Surge Could Shut Down Major California Ports', *Los Angeles Times*,

20 January 2021. Available at: <https://www.latimes.com>

<sup>21</sup> Goodman et. al., 7 March 2021.

<sup>22</sup> Industry source, pers. comm, January 2021; Goodman et. al., 7 March 2021.

<sup>23</sup> Ned Daly, 'Over 150 companies endorse statement calling for increased seafood traceability', *Seafood Source*, 16 February 2021. Available at: <https://www.seafoodsource.com>

<sup>24</sup> GTA, ISSF, GDST, GSSI and SeaBOS, 'Statement on Traceability and Port State Measures', 16 February 2021. Available at: <https://traceability-dialogue.org/statement-on-traceability-and-port-state-measures/>

<sup>25</sup> Industry source, pers. comm., February 2021.

<sup>26</sup> 'Last longline fishing agent leaves', *The Guam Daily Post*, 18 January 2021. Available at: <https://www.postguam.com>

<sup>27</sup> Guam Department of Commerce 1999 (unpublished), Guam Large Scale Economic Profile; cited in WPFMC 1999, *The value of the fisheries in the Western Pacific Fishery Management Council's Area*, Honolulu.

<sup>28</sup> Mike McCoy 1999, *The socioeconomic importance of sharks in the U.S. flag areas of the western and central Pacific*, Administrative Report AR-SWR-99-01, National Marine Fisheries Service, Honolulu.

<sup>29</sup> Guam Daily Post, 18 January 2021.

<sup>30</sup> Annual Reports of Japan to the WCPFC Scientific Committee, 2003 and 2020.

<sup>31</sup> Annual Reports of FSM to the WCPFC Scientific Committee, 2006 and 2020.

<sup>32</sup> Guam Department of Commerce 2005, unpublished data.

<sup>33</sup> Guam Daily Post, 18 January 2021

<sup>34</sup> All databases are provided by the Fisheries Development Division at FFA.

<sup>35</sup> Customs Department, Thailand. [http://www.customs.go.th/statistic\\_report.php?lang=en&show\\_search=1](http://www.customs.go.th/statistic_report.php?lang=en&show_search=1)

<sup>36</sup> FFA database

<sup>37</sup> Japan Customs. [https://www.customs.go.jp/toukei/info/index\\_e.htm](https://www.customs.go.jp/toukei/info/index_e.htm)

<sup>38</sup> US National Marine Fisheries Service. <https://foss.nmfs.noaa.gov/apexfoss/f?p=215:2:10663896522198::NO>

<sup>39</sup> Y Charts: [https://ycharts.com/indicators/average\\_crude\\_oil\\_spot\\_price](https://ycharts.com/indicators/average_crude_oil_spot_price); Ship & Bunker: <https://shipandbunker.com/prices/apac/sea/sg-sin-singapore#MGO>