



## PREFERENTIAL TRADE

### Update on EU Free Trade Agreement negotiations

European Union negotiations for free trade agreements (FTAs) with third countries is relevant to PICs currently accessing the EU market duty free for fish products because they potentially provide competitor countries with similar preferential tariff access. In this context, the following provides brief snapshots of the status of EU FTAs with Indonesia, the Mercosur region, and Mexico.

The EU and Indonesia launched FTA negotiations in 2016 and in late 2017 had moved to text-based negotiations.<sup>2</sup> The EU has already concluded bilateral FTAs with other ASEAN countries – Singapore and Vietnam – which are set to enter into force in 2018;<sup>3</sup> and less advanced negotiations are ongoing with the Philippines, Thailand, and Malaysia. Indonesia has historically been a major exporter of canned tuna to the EU, despite generally being hit with a high import tariff of 21.5% and occasionally using tariff quotas. Indonesia benefits from a vast tuna-rich EEZ and a large domestically owned fleet, which makes it easier for exports to comply with EU rules of origin (RoO) for fisheries products.

Indonesian canned tuna already plays a major role in multiple third country markets (e.g. the Middle East and Australia, in addition to the EU), which means that its industry already benefits from economic scale and market know-how.<sup>4</sup> However, if the EU's FTA with Vietnam is a precedent, then the defensive interests of EU industry will play a major role in the negotiation. For example, Vietnam only gained an annual quota of 11,500mt at 0% import duty for canned tuna in vegetable oil and four other more minor HS codes under 1604 – 24% duty is charged on all imports exceeding this quota. Nonetheless, Indonesia's negotiation is one to watch.

The four full member countries of Latin American Mercosur regional bloc – Argentina, Brazil, Paraguay and Uruguay – have been negotiating an FTA with the EU for almost 20 years. It is planned as the trade component of a broader Association Agreement between the two regions.<sup>5</sup> The parties had hoped to complete negotiations at the end of 2017; instead, Parties announced that they are pushing to complete this year.<sup>6</sup> Among the stumbling points relevant to fisheries trade are slow progress on the Goods agreement (although the focus is on Mercosur's market access for beef and ethanol); ongoing discussion on Sanitary and Phytosanitary Measures (SPS) including Mercosur's push for simplification of EU SPS rules; and, debate around EU fisheries Rules of Origin (RoO).

Canned tuna consumption in the Mercosur countries is low (<350 grams/capita per year) and the region has very limited canned tuna production capacity, as well as limited tuna supplies from the Atlantic Ocean.<sup>7</sup> As such, the fledgling canned tuna processing industry is unlikely to meet current EU RoO. It seems unlikely that the EU will offer concessions on fisheries RoO given its long-standing defence of strict rules. Only the Pacific Interim Economic Partnership Agreement (iEPA) has substantially changed these and the EU made clear that this was strictly an exception – rather than a precedent – to reflect the specific conditions of the Pacific Islands region. Additionally, Mercosur has refused to extend rules on subsidies beyond existing disciplines at the WTO, which would include the non-inclusion of specific rules on fisheries subsidies because they continue to be debated at the WTO.

The EU and Mexico are seeking to update an existing trade arrangement under their 'Global Agreement' that was ratified in 2000. As with Mercosur, Mexico's main commercial interests in a new trade deal with the EU are dominated by non-fisheries sectors (e.g. defence of its domestic dairy industry).<sup>8</sup> Nonetheless, Mexico

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**Indonesia will push for canned tuna tariff liberalization in an FTA with the EU; European industry will oppose**



is likely to be pushing for improved market access for canned tuna as it has a very large and politically powerful domestic purse seining and canning industry. The tuna industry employs around 70,000 people (including 12,000 fishing crew) and produces annually over 100,000mt of finished product; making it Mexico's second largest fisheries industry in volume and value.<sup>9</sup>

Currently Mexican canned tuna exports to the EU are capped by a tariff quota of around 10,500mt at 6.8 %.<sup>10</sup> After decades of failed access to the US market because of the tuna-dolphin controversy,<sup>11</sup> the Mexican industry must inevitably be focusing on improving access to the high-value EU canned tuna market (as well as the growing Latin American market). Crucially, Mexico's purse seine fleet is likely to comply with EU RoO because boats are domestically owned.

## FISHERIES REGULATION

### US SIMP to be enforced in April; new Commerce Trusted Trader Programme proposed

The US Seafood Import Monitoring Program (SIMP) is a traceability program that has established permitting, data reporting and record keeping requirements for target species, including albacore, bigeye, skipjack, yellowfin and bluefin tuna imported into the US. Initially slated to begin on 1 January 2018, the US government ushered SIMP in with an 'informed compliance' approach at the start of the new year.<sup>12</sup> In the informed compliance phase, NOAA Fisheries worked with US Customs and Border Protection and filers to facilitate their full and timely compliance with SIMP without impeding the release and clearance of shipments for which the filer had incomplete information or was unable to successfully submit those data. In the first months of 2018, NOAA Fisheries developed additional technical support services to assist entry filers with questions regarding their SIMP data filings. NOAA Fisheries now reports a steady increase in compliance rates with SIMP filings, and as such, has announced that the SIMP rule and enforcement will come in to full effect on 7 April 2018. On and after this date, filings for products covered under SIMP that have no SIMP data, are incomplete, or contain erroneous data, must be corrected before they are accepted.<sup>13</sup>

As explained in previous FFA TIN issues, under SIMP, the importer of record holds central responsibility for collecting, submitting and retaining all required data, and thus is the central actor responsible for ensuring that product is eligible for entering the US market. Importers, processors and fishing firms supplying tuna to the US market are already subject to data reporting requirements under the Tuna Tracking and Verification Program (TTVP) associated with the 'dolphin safe' label. There is significant overlap between the TTVP requirements and those of the SIMP. SIMP requires approximately 25 percent more data, including enhanced reporting on all entities involved at the point of harvest, on the fish itself, and on the vessel and product at the time of harvest.<sup>14</sup> As such, those in the tuna sector will already be familiar with the kinds of information required for SIMP compliance, though compliance will require work and coordination associated with collecting and providing the full set of requirements. The SIMP is not a labelling program and it does not require any form of government attestation associated with the data reporting process.

The US Action Plan for combatting IUU fishing and seafood fraud that led to the development of SIMP also called for the development of a voluntary 'Commerce Trusted Trader Programme' (CTTP) for importers of species that are subject to the

*An EU-Mercosur trade deal is unlikely to threaten existing canned tuna exporters to the EU*

*Mexico's vertically-integrated, domestic canned tuna industry could benefit from liberalized access to the EU market*

*Full enforcement of the US SIMP programme will begin on 7 April 2018*

SIMP. The CTTTP is intended to reduce reporting and record-keeping requirements and to streamline entry of applicable species into the US for importers who are approved as 'Commerce Trusted Traders' (CTT). NOAA Fisheries has posted a proposed rule to establish a CTTTP for US importers and announced the opening of a 60-day public comment period on the rule.<sup>15</sup> Specifically, NOAA Fisheries is seeking public and seafood industry input and guidance regarding the extent to which the proposed programme is likely to achieve four objectives: 1) preventing illegally caught and/or misrepresented seafood from entering the US market; 2) establish secure seafood supply chains; 3) reduce costs to both the government and industry; and, 4) streamline processing of import entries. Comments on the proposed rule must be submitted by 19 March 2018.

The proposed rule, if adopted, would establish the qualifying criteria and application procedures for CTT approval and would establish requirements for a Trusted Trader Compliance Plan, recordkeeping, and third-party audits for CTTTP participants. A CTT would be required to establish a secure supply chain (free of IUU fish or fish product and falsely labelled seafood product) and maintain, either directly or through a third party, the records necessary to verify the legality of all seafood products subject to SIMP that the trader enters into US commerce. Compliance with these requirements would replace the SIMP requirement to enter harvest event data into the International Trade Data System at the time of filing an entry and would provide flexibility for complying with SIMP record-keeping requirements. With the exception of any records or documents required by other state or federal programmes, such as the Tuna Tracking and Verification Programme, the CCT would only be required to enter their International Fisheries Trade Permit number and species codes into the ITDS at the time of entry filing.

## FISHERIES MANAGEMENT

### [PNA and Fiji MSC fisheries re-certified; MSC fisheries standard changes for mixed fisheries](#)

In September 2017, PNA's MSC certification assessment body (CAB), Acoura Marine, determined that PNA's purse seine free-school fishery for skipjack and yellowfin be re-certified for five years. However, the International Pole and Line Foundation (IPNLF) lodged 24 scoring objections to the fishery's re-certification, resulting in the final decision being deferred to independent adjudication. On 28 February 2018, almost five months after Acoura's determination and an intensive objections process, the Independent Adjudicator, in a 47-page document, presented his final decision, dismissing all 24 objections raised by IPNLF and supporting the CAB's determination that the PNA fishery be re-certified.<sup>16</sup> Tuna products sourced from PNA's MSC certified fishery will continue to be eligible to bear MSC's eco-label, indicating that it is a well-managed and sustainable fishery, in accordance with MSC's principles and criteria for sustainable fishing. Six conditions will need to be met during the five-year re-certification period (no later than the fourth surveillance audit) for skipjack and yellowfin:

- Harvest strategies are responsive to the state of stock and harvest strategy elements work together towards achieving stock management objectives.
- Well-defined harvest control rules (HCRs) are in place that reduce the exploitation rate as the point of recruitment impairment is approached to keep the stock around or above maximum sustainable yield; HCRs are robust to main uncertainties and tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.

**MSC's  
Independent  
Adjudicator  
dismissed all  
24 scoring  
objections from  
IPNLF, enabling  
PNA's MSC  
fishery to be re-  
certified**

- There is a strategy in place to ensure that Units of Assessment do not hinder the recovery of manta and devil rays.<sup>17</sup>

Fiji's albacore tuna longline fishery was also re-certified by Acoura Marine in late January 2018 for another five years and its scope extended to include yellowfin, caught in both Fiji's EEZ and adjacent high seas. Unlike PNA's re-certification, no objections were lodged. Seven conditions are attached to Fiji's MSC re-certification relating to albacore and yellowfin:

- Same conditions as above for the PNA re-certification relating to harvest strategies and HCRs.
- Demonstrate that information for baitfish used in the fishery is adequate to support a partial strategy to manage main secondary species requirements.
- WCPFC decision-making processes have responded to the albacore catch rate issue (i.e. declining CPUE) by putting in place a harvest strategy or some other suitable means.<sup>18</sup>

In light of these conditions, PNA and Fiji have an ongoing challenge within WCPFC to progress harvest strategy-related developments in order to maintain their MSC certifications. In 2014, WCPFC11 adopted a conservation and management measure to develop and implement a harvest strategy approach for key fisheries and stocks in the WCPO (CMM 2014-06); in 2015 a harvest strategies workplan was adopted by WCPFC12. However, in both 2016 and 2017, WCPFC members have revised some timeframes in the workplan to account for slower progress than anticipated for some harvest strategy elements for several species.

As reported in the Sep-Oct 2017 edition of FFA Trade and Industry News, MSC has been under significant pressure from the 'On the Hook' campaign launched in the UK to revise its MSC fisheries certification standard with regards to Units of Assessment (UoA) for mixed fisheries, where MSC-certified ('sustainable') and non-MSC certified ('non-sustainable') catches are made in single fishing trips.<sup>19</sup> This issue directly affects several WCPO MSC-certified purse seine fisheries, including PNA's, where both MSC certified and non-MSC certified set types take place in single fishing trips. Following consultation with stakeholders and its Technical Advisory Board, the MSC Board made a decision on 18 January 2018 that only certified fishing activities must take place on a target stock on single fishing trips if product is to enter MSC-certified supply chains. This means, in the case of PNA's certification, that in order for skipjack and yellowfin free-school sets to be MSC-certified, no other non-certified set types (i.e. drifting FAD and logs) can be made during a single trip. Even one non-certified set will render free-school catches from the entire trip non-MSC eligible.

MSC's new UoA requirements will be released in August 2018. Fisheries that are already certified or under assessment will have three years from this time to transition to the new requirements, while fisheries entering MSC assessment for the first time after February 2019 will need to comply upfront with the new UoA requirements.<sup>20</sup> To continue to maximise the benefits of MSC certification, PNA and other WCPO MSC certified purse seine fisheries will have three years to improve drifting FAD and drifting log set types to a level where these could pass an MSC assessment and be deemed well managed and sustainable. Passing performance indicators relating to MSC's Principle 2 – Ecosystem Impacts presents the largest challenge. If this cannot be achieved, it is likely that much lower volumes of free-school catches will enter supply chains as MSC-certified, as WCPO purse seiners typically target both free-school and FAD-associated catches in single trips to maximise operational efficiency. Unless significant price premiums exist for MSC-certified free-school catches versus non-MSC associated catches which more than compensate for efficiency gains from

*Fiji's longline fishery has been re-certified and now covers albacore and yellowfin caught in Fiji EEZ and adjacent high seas*

*From 2021, MSC will no longer permit certified and non-certified catches on the same target stock in single purse seine fishing trips*



FAD fishing, it is unlikely that vessels will be incentivised by MSC's UoA changes to fish exclusively on free-schools, outside of the compulsory FAD closure period.

## Regulatory strife over Pacific Bluefin continues

While concerns over the Pacific Bluefin population (which is assessed now to be at roughly 2.6 per cent of its historical stock size) have continued to mount, regulatory action has been slow to emerge or, for those regulations in place, to be enforced. These dynamics have led to a proliferation of regulatory attention over the past year, with mixed results.

In the lead up to the 2017 Inter-American Tropical Tuna Commission (IATTC) annual meeting in July 2017, both Mexico and Japan – two countries with the highest catches of Pacific Bluefin – reported having exceeded their 2017 allocations. Despite this, ICCAT members did not agree to any additional regulatory measures to limit catch, and as a result, were heavily criticised by environmental organizations.<sup>21</sup> Mexico and Japan were required to deduct their overages from their 2017-2018 allocations.

Around the same time, NOAA Fisheries announced its final response to a petition to protect the species under the US Endangered Species Act. NOAA Fisheries announced that listing Pacific bluefin tuna under the Endangered Species Act (ESA) is not warranted based on the results of a formal scientific review. The NOAA Fisheries Status Review Team (SRT) found that the Pacific bluefin tuna is likely at a low risk of extinction now and in the foreseeable future. The SRT reviewed available science, including the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean's 2016 Pacific bluefin tuna stock assessment and future projections of rebuilding prospects. Based on this information, NOAA Fisheries found the Pacific Bluefin stock is not in danger of extinction throughout its range, nor likely to become so within the foreseeable future. These features would have been required for the Pacific Bluefin to meet the definition of a threatened or endangered species and gain associated protections.<sup>22</sup> Listing the Pacific Bluefin as endangered or threatened would make it illegal for Pacific Bluefin in US waters to be deliberately caught and killed. It would also prohibit the fish passing through US ports in trade on their way to foreign markets, thus also impacting international production and trade dynamics.<sup>23</sup> Environmental organizations balked at the decision. Citing a reversal of the intent to list the tuna under the Obama administration, environmental groups are organising an international boycott of sushi restaurants.<sup>24</sup>

Following these events, Pacific Bluefin management was taken up in the Western and Central Pacific Fisheries Commission Agenda, where WCPFC and IATTC members with a stake in the fishery reached an agreement on a long-term plan to restore the population in early September 2017.<sup>25</sup> The features of the plan include:

- Establishing a target goal of rebuilding the stock to 20 per cent of Pacific Bluefin tuna's historical population by 2034.
- Maintaining catch quotas for the next seven years and approving increases only if there is a high probability that doing so would not impact the targeted population goal.
- Developing a plan by 2020 to reduce the amount of illegally caught Pacific Bluefin tuna from entering the market.

**Mexico  
and Japan  
exceeded  
quota in the  
regulatory year  
ending June  
2017**

**WCPFC and  
IATTC have  
developed  
a long-term  
Pacific Bluefin  
recovery plan,  
but enforcement  
challenges  
remain**

Environmental organisations applauded the plan but cautioned that the agreement needs to be followed with action. Their cautionary response appears to be warranted as, in January 2018, only halfway through the regulatory year, Japan had already caught 98 per cent of its quota. Japanese Fisheries Agency officials are reportedly calling for restraint from the fleet and expressing concern that their quota will be reduced if the fleet continues to exceed quota. To strengthen enforcement, the agency intends to introduce new rules in July this year that include fines or imprisonment if agreements are violated.<sup>26</sup>

## TUNA INDUSTRY

### Recent developments to reduce labour abuse in fishing operations

The world's largest tuna company, Thai Union, has released a Fishing Vessel Improvement Program and Code of Conduct (VCoC), with the intention of providing clear guidance to their supplying fishing vessels and improving labour and ethical performance. The VCoC compliments Thai Union's existing Business Ethics and Labour Code of Conduct which was published in 2015, and is tailored specifically for application to fishing vessels, noting vessel operations differ somewhat from land-based processing facilities. Both codes are founded on 12 'Fundamental Principles' in line with various international instruments and social accountability frameworks: 1) business is conducted lawfully and with integrity; 2) work is conducted on the basis of freely agreement and documented terms of employment with legal compliance; 3) all workers are treated equally and with respect and dignity; 4) work is conducted on a voluntary basis with no forced or compulsory labour; 5) all workers are of an appropriate age; 6) all workers are paid fair wages; 7) working hours for all workers are reasonable; 8) all workers are free to exercise their right to form and/or join trade unions and to bargain collectively where permitted by law; 9) worker's health and safety are protected at work; 10) workers have access to fair procedures; 11) business is conducted in a manner that embraces sustainability and reduces environmental impact; and, 12) progress and compliance are monitored. Any vessels supplying Thai Union will need to sign the VCoC and be subject to third party annual compliance audits; vessels which are unable to unconditionally meet the requirements will be required to develop a Vessel Improvement Program (VIP) to address critical/major non-compliances.<sup>27</sup>

Given Thai Union's pivotal role in Thailand's Seafood Task Force, it is possible the VCoC will form the basis of an industry-wide code of conduct for fishing vessels applicable to seafood supply chains of all task force members, which includes multiple major global retailers, brand owners, processors and traders. Industry sources indicate some vessels may have difficulties meeting the VCoC's requirements unconditionally. Notably, the VCoC requires longliners to have either human or electronic observers onboard. However, currently human observer coverage rates on longliners are typically very low (below 5%) and electronic monitoring technologies are still largely in the development phase, with large-scale roll-out of affordable technologies yet to take place. In addition, the requirement for a minimum of 10 hours rest every 24 hours will be challenging for longliners during active fishing periods, given the average time taken to set and retrieve a longline may span up to 18 hours or so. Due to limited space on board longline vessels, it is challenging to accommodate ample crew members to permit crew rotation between rest and non-rest periods on fishing days.

*Vessels supplying Thai Union will need to comply with a strict Code of Conduct on business ethics and labour*

The Monterey Bay Aquarium Seafood Watch program has launched a free online Seafood Slavery Risk Tool, created over two years with Liberty Asia, Seafish and the Sustainable Fisheries Partnership. This tool produces a risk rating (critical, high moderate or low) for specific fisheries indicating the likelihood that human trafficking, forced labour and hazardous child labour are occurring on fishing boats. The ratings are reportedly derived from credible, publicly available sources, including reports by authoritative institutions (e.g. US/EU government agencies, United Nations and civil society organisations). The Seafood Slavery Risk Tool is designed to enable businesses to identify any slavery-related risks in their seafood supply chains and take steps to directly address them with their suppliers.<sup>28</sup> Currently, 20 fisheries are profiled on the website, including Japanese and Taiwanese tuna fisheries. A critical risk of slavery has been identified in fishing in Taiwan's tuna fisheries (covering yellowfin, skipjack, albacore, bigeye and bluefin), as well as in Thailand's fish meal sector. The Seafood Slavery Risk Tool is available at: [www.seafoodslaveryrisk.org](http://www.seafoodslaveryrisk.org)

### The rollercoaster of canning-grade tuna prices

Bangkok frozen skipjack (1.8-3.4kg) and yellowfin (10kg up) tuna prices peaked at a four-year high in October 2017 at around US\$2,300 and US \$2,500 respectively.<sup>29</sup> Canning grade raw material prices have not seen such heights since March-April 2013. Part of the explanation for this price hike was shortage of raw material supply, resulting from the purse seine FAD ban in the WCPO, which runs from 1 July to 1 November.

Skipjack prices began to drop in November and Undercurrent News reports that prices fell to as low as US\$1,450 for deliveries expected in February 2018.<sup>30</sup> While this particular trough probably reflects the buying power of the world's largest tuna corporation – Thai Union – it is likely that the heights of 2017's skipjack price will not be reached again for several months, as this trends plays out similarly in Bangkok and Manta. This can be explained by a combination of industry, market and regulatory dynamics underpinning both supply and demand. On the one hand there have been strong catch rates in the Western Pacific Ocean following the FAD closure and the re-opening of the purse seine fishery in the Eastern Pacific Ocean in late January after over two months of closure. On the other, there is ongoing slow growth in canned tuna consumption in the EU and stagnant or declining demand in North America.

The skipjack price dip may present a squeeze on profits for processors. They will struggle to make returns on selling finished product using tuna bought when prices were high, while retailers seek to procure finished product using tuna bought at more recent prices, which can be more than 25% lower.

Yellowfin tuna, conversely, may well continue to benefit from high prices into 2018. There are reports of low catch volumes of large yellowfin in the Western Indian and Eastern Atlantic oceans. This was compounded by a revised quota on yellowfin tuna put into force by the Indian Ocean Tuna Commission (IOTC) since October 2017 and new accompanying measures established by the Seychelles Government to encourage compliance for its flagged vessels.<sup>31</sup> It is hoped that the IOTC quota will reduce yellowfin catch level by 15% from the 2015 level. This fleet is expected to use the majority of its 2018 yellowfin quota in the first quarter of the year – the main season for this fishery.<sup>32</sup> If the measure has a positive effect on stocks in the long-term, then it may contribute to stabilizing catches and thus potentially price. But in the meantime, combined with the recent drop in skipjack prices, it is likely to put strain on the Western Indian Ocean purse seine fleet given the centrality of yellowfin to vessel profitability, especially when catching on free schools.

*Taiwan tuna fisheries have been rated as having a critical risk of slavery in fishing operations*

*Skipjack prices are unlikely to return to their 2017 heights for several months*

*IOTC yellowfin quota and accompanying measures by Seychelles may hit boat owners profits*

Spanish canneries will be able to rely on yellowfin hoarded in their cold stores, but this is only a short-term fix. It is worth remembering the importance of large fish size in yellowfin tuna prices because of the higher labour productivity associated with the processing of the fish. Large yellowfin are more profitable because cannery workers are able to clean a higher volume of fish more quickly and at a higher recovery rate (i.e. with less waste). This helps explain why Spain-based processors are still able to process whole round yellowfin despite relatively high labour costs.

### Japan's ultra-low temperature tuna sashimi market

Japan is the major global market for sashimi quality tuna, accounting for up to 80% of global sashimi consumption.<sup>33</sup> This market continues to drive the global longline industry. Over the past two decades, Japanese household consumption and expenditure on tuna has declined. While there is little price linkage or competition with other fish species such as salmon, competition exists from other protein sources, particularly chicken and beef. Nonetheless, an estimated 449,000 mt round fish-equivalent of sashimi-grade tuna was consumed in Japan in 2014.<sup>34</sup>

Around 80% of the sashimi market in Japan is frozen tuna (232,700 mt in 2015) and 20% fresh (66,200 mt), with imports comprising 60% of total supply. While the majority of sashimi supply comes from longline vessels, catches from pole-and-line and purse seine vessels with ultra-low temperature (ULT) freezer capability are also utilized. Japan typically relies on about 10-15,000 tonnes per month of imported, mostly frozen, tuna.

The bulk of frozen tuna (70-80%) is sold outside the traditional auction system to big trading companies. With large advances in freezing technology and development of the ULT cold chain over the past 20-30 years, coupled with the growing significance of trading companies in tuna sashimi trading, there has been a considerable shift in the volume of frozen sashimi-grade tuna sold through unofficial channels, rather than the 'traditional', government-regulated wholesale market channel.

Japan's ULT tropical tuna imports are reportedly brought into the country as follows: 65% by carriers from distant water vessels, 15% by containers and 15% direct vessel unloading (e.g. Korean vessels). All fish are gilled and gutted with the exception of albacore which is whole round. Unloading occurs all over Japan, but the port of Shimizu accounts for 80-90%.

Trading companies have become increasingly significant in Japan's sashimi distribution system. Trading companies procure fish direct from boat owners and sell to supermarkets and restaurant chains, thereby bypassing a number of links in the traditional supply chain. The 'big four' tuna sashimi trading companies in 2016 were reported to be Toyo Reizo, Try Sangyou, Fukuichi and Yamafuku. Combined, they may account for over 70% of the traded volume of ULT tuna. Toyo Reizo and Try Sangyou are subsidiaries of the giant conglomerates – Mitsubishi and Sojitz – and as such have highly competitive access to sources of finance.

Spurred by trading company demand and an interest in capturing greater profits from the catch of their national longline fleets, companies in China and South Korea have developed considerable ULT sashimi-grade processing capability, mainly for bigeye and yellowfin tuna (e.g. sashimi loins, saku blocks). Much of this processing is exported to Japan, although some is sold in domestic markets.

*High price yellowfin is likely to disproportionately impact canneries in Spain*

*Japan typically relies on 10-15,000 tonnes per month of imported, mostly frozen, tuna*

*Four trading companies dominate Japan's ULT tuna trade*

Japan's import market for frozen bigeye tuna products was worth ¥17.3 billion in 2016 (around US \$152 million), of which supply from Korea accounted for 58.5% and from China 33.1%. The market for imported frozen yellowfin tuna products was valued at ¥12.2 billion in 2016 (around US \$108 million). While there is more competition from other countries compared to bigeye, Korea and China still dominate the frozen yellowfin product market with 31% and 23.1% value share respectively. In both cases China's share has been increasing relative to Korea's – reflecting the expansion in the size and reach of the Chinese longline fleet. The growing role of China in the tuna ULT industry was re-iterated in January by new investment of \$13 million by the existing joint venture of the Japanese giant Sojitz and the Chinese firm Dalian Global Food Corporation.<sup>35</sup> It will process up to 6,000 tonnes per year, both for the Chinese and Japanese markets.

### Blockchain technology trialled for tuna traceability in Fiji

Robust traceability systems are required to effectively monitor seafood supply chains for illegal, unreported and unregulated (IUU) fish, as well as other issues such as labour abuse. In recent years, the emphasis on development of traceability systems for tuna supply chains has grown. However, to date, such systems are still largely paper-based and typically non-public. A few tuna brand owners have responded to retailer/NGO/consumer demands for published provenance-related information by establishing a traceability portal via their websites, where consumers enter a can code and information is provided relating to the corresponding fishing trip (e.g. fishing vessel name, gear type, vessel flag, area fished, fishing master name, species etc.). However, this type of system only provides information for fishing operations and does not trace fish throughout the supply chain to shelf/plate.<sup>36</sup>

A potentially exciting development in sea-to-plate tuna traceability is the use of 'blockchain' technology; a public, tamper-proof platform which digitizes 'blocks' of information at key transaction points in the supply chain (e.g. fishing, unloading, entry/withdrawal from cold storage, processing, distribution). World Wildlife Fund (WWF) in New Zealand, Australia and Fiji are currently sponsoring a new trial to pilot Blockchain technology for tuna supply chains in Fiji, aiming for commercial roll-out by the end of the year. Fiji-based longline fishing and processing company, Sea Quest Fiji Ltd., ConsenSys, the US-based software company which owns Blockchain, and TraSeable, a local information and communications technology implementer, are the project partners.<sup>37</sup> Radio frequency identification (RFID) tags are attached to individual fish and scanned when they are first landed on board the vessel, establishing the first 'block' of information in the chain. These tags are then subsequently scanned at the dock following unloading and in the processing plant, with information further uploaded into the blockchain. Ultimately, information in the blockchain covering fishing, unloading, processing and distribution will be accessible by consumers by scanning quick response (QR) code tags on product packaging using a smart phone.<sup>38</sup>

While not impossible, application of comprehensive, digital-based traceability systems such as blockchain for tuna supply chains presents some challenges. Firstly, there are typically multiple key actors/transaction points which are geographically disbursed in tuna supply chains. For example, a Korean longline vessel may fish in multiple EEZs and then sell its catch to an Asian-based trading company who doesn't physically take possession of the fish. The fish could be transshipped to a voyage-chartered carrier in the high seas and delivered to a port in Korea and then transported to a Korean-based fish processor, which processes the fish into saku blocks. These saku blocks could then sold to a Japanese-based trading company and shipped via

*China and  
Korea process  
ULT tuna  
products for  
export to Japan*

*Blockchain has  
potential for  
public, tamper  
proof, sea-  
to-plate tuna  
traceability  
systems*

refrigerated container to a contract cold-storage facility in Japan, where they are stored for a number of months before delivery to a supermarket for retail sale. In order for the blockchain to be effective, all players along the supply chain, in every location, will need to cooperate and be willing to invest in the necessary scanners/software.<sup>39</sup> Secondly, the use of RFID tags is fairly straight-forward for high-value longline-caught fish which are hauled on-board individually. However, challenges exist for application of this technology for lower-value purse-seine caught fish, given large numbers of fish are caught in an individual net set – it is operationally unviable and impractical to tag and scan every single fish. Lastly, given slower internet speeds and capacity constraints, smaller companies based in developing countries may have difficulties effectively implementing blockchain technology.<sup>40</sup> Nonetheless, the Fiji trial is reportedly progressing well and will provide a good indication of the potential of blockchain for providing transparent, tamper-proof, sea-to-plate traceability for tuna supply chains.

### Popularity of tuna-based 'poke' in the US increasing the market for carbon monoxide-treated tuna

The consumption of raw tuna as sashimi, sushi toppings and, more recently in marinated form as an ingredient in poke ("po-kay") bowls, has increased significantly in the US since the early 2000s. The use of tuna in these products has been accelerated by treatments that have overcome the inherent problem of the rapid discoloration of fresh tuna meat caused by natural biological processes. Treating raw tuna with carbon monoxide (CO) or derivatives containing CO enables tuna to retain or enhance its original color when the gas reacts with the oxygen-carrying pigment of muscle tissue. The process has also been used in the U.S. meat packing industry for some time in modified atmosphere packaging that extends the shelf life of raw meat found in supermarkets and elsewhere.

The US Food and Drug Administration (USFDA) has determined that the practice of treating fresh tuna with CO is "generally regarded as safe" or "GRAS", a term commonly used by the USFDA in other areas of food safety. Several countries including Japan, Canada, and Singapore as well as most of the countries in the EU reportedly ban its use.<sup>41</sup> The New Zealand Ministry for Primary Industries issued an amendment to the Food Standards Code effective 5 June 2014 that expressly prohibits the use of carbon monoxide in the processing of fish where its use results in a change or fixes the colour of fish flesh.<sup>42</sup>

Treatment with carbon monoxide (CO) became widespread beginning in the late 1990s when what was termed "tasteless smoke" and similar treatments were granted US patents. As early as 2003 it was estimated that around 12,000 tons of treated tuna entered the US, about 30% of all tuna imports.<sup>43</sup> An undetermined volume of the product currently used in the US is obtained overseas, including from SE Asia (Philippines, Indonesia, Vietnam), South America (Ecuador) and the Pacific Islands (Marshall Islands and more recently, Kiribati). The center of production in the US seems to be concentrated in the Southeast US, Florida and Georgia. It is important for the import business that CO-treated fillets can be imported into the US duty free rather than attracting duty as "prepared or preserved fish" under a ruling in 2013 by US Customs and Border Protection.

The CO process enables the use of lower grades of tuna that otherwise might not be suitable for export and can be a boon to fishermen, as well as processors. Longline and handline operations targeting yellowfin are those that provide the raw material supply to CO processors. The sale of treated tuna or "gassed fish" has been opposed

*The US is one of the few countries that allows sale of tuna treated with carbon monoxide*



by several fishermen's' groups in the US, in particular the tuna longline industry in Hawaii which has an interest in maintaining the quality reputation of Hawaiian-caught "ahi," the Hawaiian term for yellowfin and bigeye tuna that has been usurped and used in marketing in the US and elsewhere. The fishing industry in Hawaii has long argued that such "adulterated" tuna is a threat to consumers' health and its presence could damage the reputation and sales of their own products. Ironically, one of the first companies to utilize the process was Hawaiian International Seafood whose raw material supplies came from overseas. A second Hawaii company, Hilo Fish Company has also been involved in this segment of the industry for over a decade or more.

Since the early 2000s several lawsuits and counter-suits have been brought in the US by patent holders and others claiming patent infringement on their CO processing technologies or otherwise seeking to protect their businesses. A Hawaii-based patent holder, Hawaii International Seafood, called his process "tasteless smoke" and later a different processor, Anova, identified its process as "clear smoke". Both companies have been involved in lawsuits with other processors, some of which have patented their own processes and machinery producing CO for use with tuna or other fish. In the case of Anova, they not only are involved in the importation, sale and distribution of CO products, but also generate the actual gas and sell to some CO processors through a subsidiary company.

This brings us to poke, a Hawaiian word that means to slice, or cut crosswise into pieces. Poke can describe not just fish, cut into cubes, but also cut vegetables and fruits, or even pieces of cut wood. It has gained common usage outside of Hawaii to denote cubed pieces of raw fish tossed in shoyu or other sauce with seaweed, sesame, cucumbers or other ingredients mixed in. Actually, ahi poke that is commonly made from cubes of yellowfin tuna flesh is just one form of poke. Any well-stocked supermarket fish counter or fish specialty shop in Hawaii will contain numerous kinds of poke made from marlin, shrimp, octopus, or other fish species. A local favorite is aku, skipjack tuna, but its dark red color is unlikely to gain acceptance in the broader market where pink or light red colors are expected from tuna.

The surging popularity of poke in many US specialty restaurants that feature sashimi and sushi has expanded in the last 5 years, with the addition of "poke bowls" to the menu. The popularity of poke is helped by the millions of tourists who visit Hawaii each year, many of which sample the dish at restaurants, luaus or elsewhere during their stay and who pass their experiences along to others via social media. Poke has been called "fast food" because it is quick to make, but the main attractions seem to be its flavor and cachet as a healthy food. A recent magazine article noted that restaurants serving the popular dish have popped up worldwide, from Los Angeles to London, with owners and chefs switching up ingredients and adding their own spin.<sup>44</sup> One recent analysis of the poke phenomenon in the US notes that in the past two years, almost 300 Hawaiian restaurants have opened in the US, the majority of them featuring poke, and for one simple reason: to open a poke restaurant all you need is an electrical outlet to cook the rice and a refrigeration unit for the fish.<sup>45</sup>

It is generally recognized that the most popular ingredient in poke in Hawaii and elsewhere is tuna. The use of high quality tuna in fast food-style poke in the US is thought to be rare due to its high cost. But processors and distributors are happy to provide less expensive frozen CO-treated tuna, often already cubed and ready to defrost. The CO tuna is easily detected in most cases by its watermelon-like color. In Hawaii, retailers of tuna poke sometimes denote CO fish as "previously frozen" while that prepared from fresh fish is often noticeably darker in color depending on the

*Use of CO  
can expand  
markets for  
lower grades  
of longline or  
handline-caught  
tuna*

*Frozen poke  
bowls aimed  
at home  
consumption  
are making  
their mark*

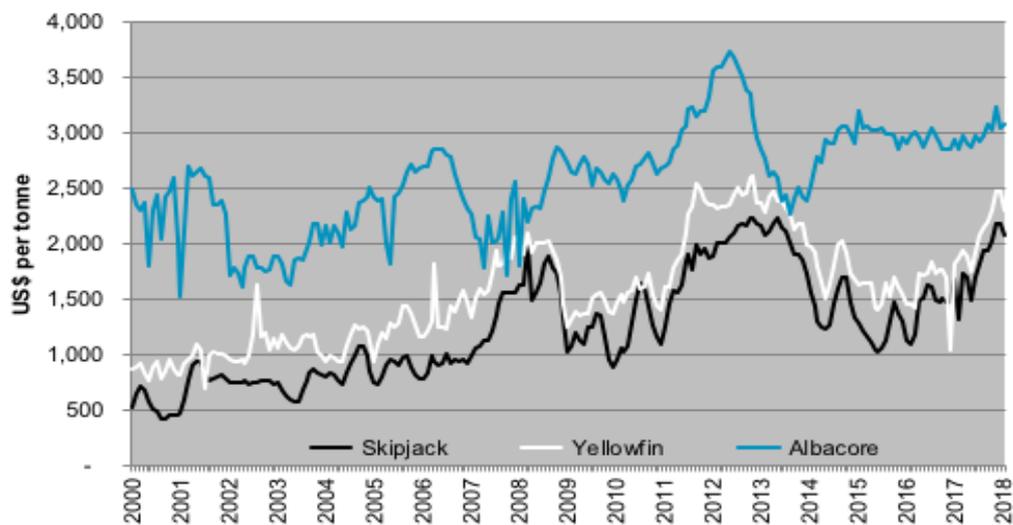


freshness. It is also almost always more expensive than that which was previously frozen.

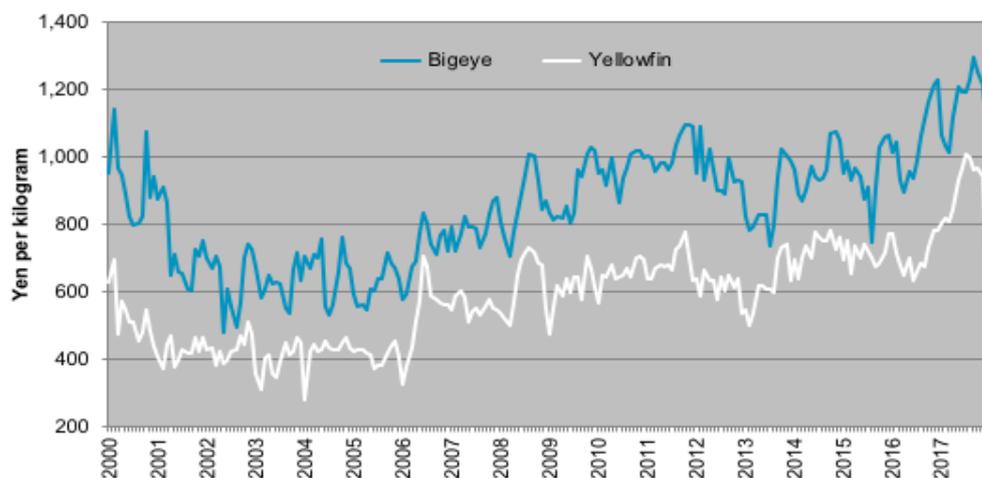
Most recently, some processors in the US have introduced frozen poke bowls in the retail market. One such product is packed as a 340 gram (12 ounce) frozen poke kit and comes in several different flavors. The product promises “a blend of flavorful sauces and cubes of high-quality fish that provide an authentic Hawaiian experience in every bite”.<sup>46</sup> Another company whose poke product is “smoked ahi tuna” shows the ahi on the package with the familiar watermelon-like color. The product is listed as one of the eight finalists in the best new retail product category of the Excellence in Seafood awards at Seafood Expo North America that takes place in March 2018.<sup>47</sup>

## TUNA PRICE TRENDS<sup>48</sup>

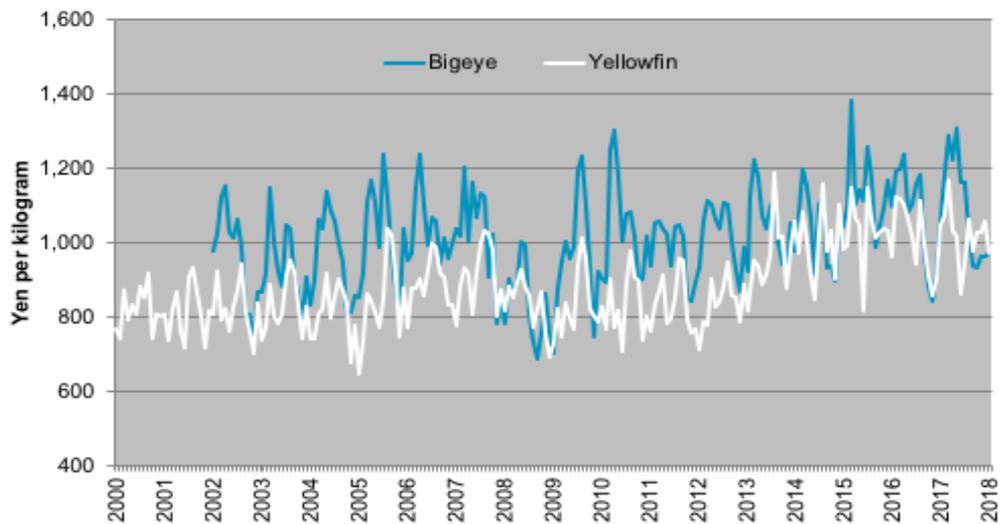
Bangkok canning-grade prices to February 2018<sup>49</sup>



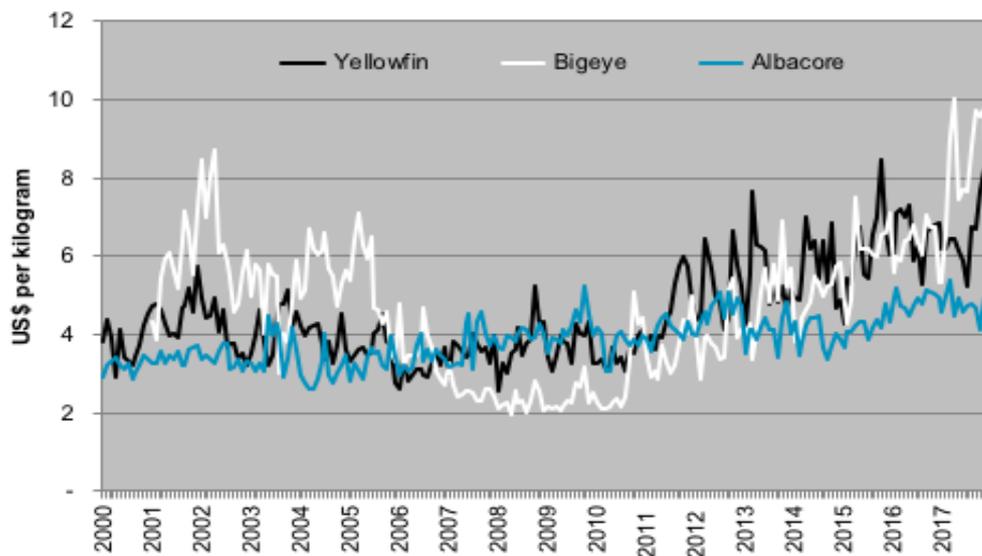
Japan frozen sashimi prices (ex-vessel, Japanese ports) to December 2017<sup>50</sup>



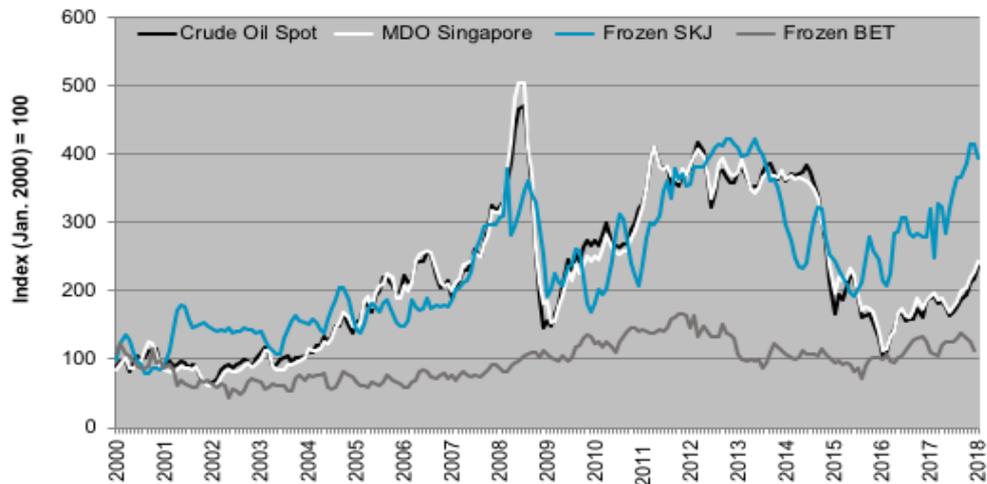
### Japan fresh sashimi prices (origin Oceania) to January 2018<sup>51</sup>



### US imported fresh sashimi prices to December 2017<sup>52</sup>



## Crude oil, canning-grade frozen skipjack (SKJ) and frozen bigeye (BET) price index to January 2018<sup>53</sup>



<sup>1</sup> Prepared for the FFA Fisheries Development Division by Dr 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 Mike Batty for his 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.

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<sup>7</sup> op.cit Campling 2015

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<sup>11</sup> See various updates in *FFA Trade and Industry News*, for example, Elizabeth Havice, Mike McCoy, Liam Campling, 'WTO Arbitrator rules in favour of Mexico in long-standing tuna-dolphin dispute', 10(2), March - April 2017. Available at: <https://www.ffa.int/node/1916>

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