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#### FISHERIES TRADE

### Crunch time for the Pacific Islands as WTO Fisheries Subsidies negotiations enter final lap

Not a great deal has changed in substance since the last report on WTO fisheries subsidies negotiations in *FFA Trade and Industry News* in July-August 2019, despite three one-week clusters of negotiations.<sup>2</sup> The most politically important development was the release in November of an alternative approach to the overcapacity and overfishing prohibition by the EU, Japan, Taiwan and South Korea.<sup>3</sup> This is posed as a distinct pathway to that advanced by the US and others in their capping proposal, which envisages that the top 25 or so marine fishing nations negotiate national subsidy caps among themselves, while the rest of the WTO members subsidies are either capped annually at \$50 million (most Pacific Islands) or are uncapped. The US-led cap approach is likely to impact the hardest the four proponents of the EU *et al.* proposal as they are among the world's major subsidisers.

The EU et al. proposal prohibits subsidies to capital and operating costs which contribute to overcapacity but provides for extensive green box exemptions where fisheries management systems are in place. In short, the proposal is unlikely to shift the status quo in the contemporary structure of global fishing industry.

The technical malaise and political impasse in negotiations since the summer does not mean that a deal will not be reached in time for the WTO's Twelfth Ministerial Conference (MC12) in June 2020. But, it does mean that power politics and brinkmanship rather than careful technical work is likely to shape outcomes even more.

In this context it is of profound importance to the Pacific Islands that it ringfences its ability to benefit from direct or indirect subsidies in access arrangements. Whether this is through payments provided by DWFNs, at a national PIC level or among PICs in regional arrangements. For example, if access fees subsidies are included in a US-style cap the Pacific Islands risks losing one of the most powerful tools of government support for fisheries development available to them. Ascertaining a 'market price' of fisheries access is likely to be controversial, but assuming that a price is identified, the provision of discounted access fees to promote domestic fisheries development either within or between Pacific Islands will be counted in any national cap. (As noted, most Pacific Island WTO members fall under Tier 2 of the US-led cap proposal, which limits total annual subsidies to \$50m for all types of at-sea subsidies.) If the final fisheries subsidies agreement has any effect in practice, one may be an increase in marine capture fish price and thus access prices; either way, fish price is likely to rise over time and the \$50m cap is static. In combination, this means that the policy space for subsidy provision via access fee discounts will be narrowed.

The negotiations are now being shaped by facilitators' draft texts on the prohibitions and cross-cutting issues. These texts highlight areas of consensus such as prohibitions on subsidies to IUU fishing and to fishing on stocks that are overfished, or they set out clearly the wide gulf among Members competing positions such as the more commercially significant overcapacity and overfishing rule. It is imperative that the Pacific Islands make clear, text-based proposals in multilateral and bilateral settings to ensure that facilitator documents properly recognise the sovereign rights of the Pacific islands under UNCLOS and as fisheries-dependent small island developing states.



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#### FISHERIES REGULATION

### **EU IUU regulation targets Ecuador, Panama and Vietnam**

The EU continues to use its unilateral IUU Fishing Regulation to prevent, deter and eliminate illegal, unreported and unregulated fishing. While only three countries are subject to a 'red card' – Cambodia, Comoros and St. Vincent and the Grenadines – meaning that fish caught by boats flagged to these countries are denied access to the EU market, several have 'yellow card' warnings and new cases are being identified on a regular basis.

The EU issued a yellow card against Ecuador in October citing outdated legislation and insufficient controls at processing plants, among other factors.<sup>4</sup> Ecuador's tuna industry, which relies heavily on EU markets for canned tuna and tuna loins, issued a statement emphasising that it has strong MCS and traceability measures in place.<sup>5</sup> Further, the Ecuadorian Government responded with the rapid launch of a new national tuna action plan in December. This may temporarily reassure European buyers, but Ecuador will have to wait until April 2020 for the EU to undertake an initial evaluation of its reform measures.<sup>6</sup>

Meanwhile, in December the EU issued a second yellow card against Panama (the first was lifted in October 2014). The decision was based upon the EU claim that fishing vessels flying the Panama flag have 'serious deficiencies in terms of control', which undermines the integrity of the traceability system, including in processing. It also highlights 'a lenient approach towards infringements' of Panama-flagged fishing vessels.<sup>7</sup>

Vietnam was hit with a yellow card in 2017. EU inspectors visited Vietnam this November to assess the effectiveness of its considerable national reforms to comply with the IUU regulation.<sup>8</sup> The outcomes are not yet known, but there are indications that it might be positive.<sup>9</sup>

Yet compliance costs with the EU's IUU Regulation are high – including socioeconomic impacts – and reforms may be eroded or ignored. For example, Thailand is experiencing considerable push-back from elements of its seafood industry and fishers as a result of the reforms implemented to remove a yellow card – including a December demonstration involving 10,000 fishers.<sup>10</sup>

#### FISHERIES MANAGEMENT

## WCPFC16 makes inroads in bycatch mitigation; slow going on tropical tunas<sup>11</sup>

The Sixteenth Regular Session of the Western and Central Pacific Fisheries Commission (WCPFC) was held in Port Moresby, Papua New Guinea from 5-11 December 2019.

The Commission adopted a resolution on climate change (Resolution 2019-01) which was considered a great success by FFA members, who developed a proposal in response to calls from Pacific Island Forum Leaders. While non-binding, the resolution firmly places climate change on the Commission's agenda. The resolution calls for the Commission to consider the potential impacts of climate change on highly migratory fish stocks and any related impacts on the economies of members, food security and livelihoods, particularly for Small Island Developing States and Participatory Territories. The resolution also calls for support for further development of science on the relationship between climate change and target and non-target

EU IUU
Regulation
continues to
target flag of
convenience
states including
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Grenadines



stocks and consideration of how climate change and fishing activities may be related and address any potential impacts. Options for reducing the environmental impacts of the Commission itself are also to be considered, in terms of operations at the Commission's Headquarters and meetings of the Commission and its subsidiary bodies.

Following two years of intense negotiations, WCPFC16 adopted a comprehensive conservation and management measure (CMM) for sharks and rays which integrates five previously separate shark measures into a single measure (CMM 2019-04). The CMM requires members to implement the FAO International Plan of Action for Sharks, as well as ensuring vessels flying their flag fully utilize all sharks retained on board and do not engage in shark finning. The previous 5% fins:carcass ratio is replaced with a requirement for fins to remain naturally attached to carcasses which will facilitate much easier compliance monitoring. To minimize shark by-catch, longline vessels targeting tuna and billfish must not use or carry wire trace as branch or leader lines or shark lines and should implement safe release practices for non-retained species. Species specific requirements apply to silky, oceanic white tip and whale sharks – retention, transhipment, storage or landing of these species of special interest is prohibited.

The comprehensive measure applies to all sharks, skates, rays and chimaeras and will come into effect on 1 November 2020 for all members except Indonesia, who has an additional 12-months to implement the new measure. A new CMM was also adopted for mobulid rays (i.e. manta rays) caught in association with WCPO tuna fisheries (CMM 2019-05) which comes into effect in 2021. Supplementary non-binding safe handling and release guidelines for seabirds were adopted and will be included as an attachment to the existing seabirds CMM (CMM 2018-03).

While some progress was made in by-catch mitigation, there was limited progress relating to tropical tuna stocks. The adoption of target reference points (TRP) for yellowfin and bigeye was slated for WCPFC16 under the Harvest Strategies Workplan, as was a review of the interim TRP established for skipjack under CMM 2015-06. On the yellowfin and bigeye TRPs, FFA members called for a decision to be postponed, while further economic analysis is conducted on the impacts of proposed candidate TRPs on their domestic tuna fisheries.

Japan opposed the revision of the interim skipjack TRP of 50% of unfished spawning biomass to the proposed 42%, projected under the new stock assessment model to achieve roughly the same fishery outcomes as the 50% TRP when it was adopted in 2015. Japan continues to cite pressure from their domestic fishers, who report having experienced a decline in skipjack availability in their national waters, due to potential stock range contraction resulting in less migration northwards from the equatorial region. These candidate TRPs have been referred back to Scientific Committee and the Commission's Scientific Services Provider (SPC) for further analysis and discussion in 2020.

An updated Workplan for the Adoption of Harvest Strategies under CMM 2014-06 was agreed, which is now titled 'Indicative' and once again shifts timelines outwards for key harvest strategy elements. A preamble was added which indicates the first workplan developed in 2015 had a deliberately ambitious schedule and that the intention is that the workplan serves as a 'living document' which is updated annually to reflect actual progress. The preamble acknowledges that delays in execution of the workplan may occur, noting the complexity of developing harvest strategies for multiple species within the multilateral WCPFC environment, as well as the capacity of members to understand and participate fully in the process. The 2019 update *inter alia* identifies the need for additional work and time to explore and develop a multispecies framework covering all four tuna stocks – skipjack, yellowfin, bigeye and albacore.

WCPFC16
adopted a
resolution on
climate change,
in line with calls
from Pacific
Island Forum
Leaders

A
comprehensive
shark measure
was adopted
which
consolidates
five existing
shark CMMs
and requires
sharks to have
fins naturally
attached



Several agenda items related to the current tropical tunas measure (CMM 2018-01). At WCPFC15, members agreed to a one-year inclusion in 2019 of a provision which excluded small amounts of plastic or small garbage that do not have a tracking buoy attached from prohibited set types during the FAD closure period. At WCPFC16, Korea and US unsuccessfully proposed further changes to the FAD definition with the intention of providing greater clarity to improve compliance monitoring of the FAD closure. Korea and US proposed narrowing the definition of a FAD to essentially floating objects with tracking buoys attached, more in line with IATTC and IOTC definitions. Any sets on unbuoyed objects less than 2 metres in horizontal linear dimension and 1 metre-squared at the water surface would not be considered a FAD set. The distance of an unassociated set from a drifting FAD would be reduced from the existing one nautical mile to half a nautical mile. In the view of FFA members, these proposed changes weaken the current FAD definition and may potentially result in increased fishing pressure on juvenile bigeye and yellowfin. Hence, the FAD definition for the purpose of the FAD closure remains unchanged.

CMM 2018-01 tasks the Commission with establishing hard purse seine effort or catch limits for the high seas and bigeye longline catch limits amongst all members and participating territories, as well as a framework for allocating these limits, by 2020. A considerable amount of time was spent during WCPFC16 attempting to draft terms of reference for a two-day intersessional workshop to be held in 2020 to progress this. Agreement could not be reached on the terms of reference, with a decision instead made to extend WCPFC17 by two days. The inability to even agree on terms of reference for an informal workshop indicates the contentiousness and level of divergence in positions amongst members relating to allocation and how challenging the task at hand will be in 2020, particularly given the entire measure needs to be reviewed in 2020, not just these elements.

#### ICCAT reaches weak bigeye decision, but curbs FADs

The International Commission for the Conservation of Atlantic Tunas (ICCAT) held its annual meeting from 18-25 November 2019 in Palma de Mallorca, Spain. At the top of the agenda was bigeye catch quota. Atlantic bigeye is now less than 20% of historic levels. There was considerable media pressure in the lead-up to this meeting as it was seen as crucial in righting the ongoing wrongs of catch levels exceeding the quota, which is already considered to be too high. Yet only West African members were pushing for a quota reduction anything close to the levels argued for by conservationists like Pew Charitable Trusts. Latin American members sought no change and the EU only a minor reduction. For its part, WWF was advocating for time-limited no-catch zones.<sup>12</sup>

Members agreed to modest quota reductions in the range recommended by the EU, which means a decrease from 65,000mt to 62,500mt for 2020 and 61,500mt for 2021. But Pew Charitable Trusts remain adamant that this will not suffice to allow Atlantic bigeye to recover. European industry complained that its purse seiners will suffer a disproportionate burden in the reduction, especially compared to East Asian longliners.<sup>13</sup> In contrast, the outcome was heralded a major success by the International Pole & Line Foundation.<sup>14</sup>

Some improvements in management measures were made, including a reduction in FADs from 500 units to 350 in 2020 and 300 in 2021 and a two-month moratorium on FAD-fishing in 2020, rising to three months in 2021. While catch limits for blue shark were adopted, advice from ICCAT scientists and a proposal from Canada, Senegal and eight others to introduce a science-based proposal to conserve make sharks were ignored.<sup>15</sup>

Divergent
views exist on
allocation of
high seas purse
seine effort/
catch and
bigeye catch
limits amongst
all WCPFC
members



Overall, ICCAT followed a similar pattern of weak decision-making by IATTC and IOTC in 2019, also pushing difficult decisions into the future.

### PNAO releases new business plan to complement 2019-2025 strategic plan

In 2019, the PNA released its 2019-2025 Strategic Plan that outlines its vision of "ecologically sustainable fisheries, tightly controlled and managed through PNA cooperation generating diverse maximum economic and social benefits to the Parties". The strategic plan is based on three core objectives: a stronger PNA, growing PNA influence on tropical tuna management, and PNA identifying and capturing additional opportunities. <sup>16</sup> In order to achieve these aims, the PNA strategic plan emphasizes:

- Facilitating PNA cooperation and collaboration in the development of sustainable fisheries management;
- Identifying and facilitating opportunities for PNA member to individually and collectively engage in activities that will increase and/or diversify the socioeconomic benefits from the fisheries in their waters and associated value chains;
- Cost effectively managing and administering agreed fisheries management arrangements and delivering value for services to members; and
- Building strong internal and external relationships.

In late 2019, the PNA Office (PNAO) released a complementary Business Plan that has been developed and vetted to facilitate implementation of these objectives. PRecognizing that the PNAO performs distinct functions for the Parties to the Nauru Agreement, such as the administration of the Purse Seine and Longline Vessel Day Schemes and PNA Marine Stewardship Council certification, provision of strategic policy advice, and support and services for a range of commercial functions, the Business Plan is designed to provide clarity and transparency to the Parties about the work and direction of the PNAO. It is also designed to emphasise the Parties' desire for the PNAO to be run professionally with consistent governance practices and budgetary efficiency that considers effectiveness and optimizing services and future benefits to the Parties.

The 2020 budget and business plan is centred around four key parts, each of which has an accompanying guide for the work of the PNAO in implementing the Strategic Plan and providing the framework for securing resources for implementation. These four areas include:

- The Vessel Day Scheme: with a focus on the effective and efficient administration of the VDS to ensure its management and that processes are conducted in accordance with agreed requirements, policies and procedures. Key performance indicators include that costs are fully recovered from industry.
- Pacifical and MSC programmes: with a focus on maintaining the Marine Stewardship Council fishery certification and chain of custody certification. An additional aim is to continue to develop recognition and a positive view of the PNA brand.
- PNAO Operations: with a focus on the PNAO's role in administering the contract for the PNA Observer Agency (POA) that purchases services on behalf of Parties for management of the FSMA observer programme.
- PNA Office: funding for activities for the PNAO to assist Parties to build and maintain influence on tuna fishery management, program reviews, regional engagement and to facilitate development opportunities.

ICCAT follows
2019 pattern of
weak decisionmaking by
IATTC and
IOTC by
pushing difficult
decisions into
the future

A new PNAO
Business Plan
outlines the
path towards
the PNA
Strategic Plan



The success of the Business Plan will be assessed against a monitoring and evaluation framework that includes performance indicators and outcomes. Monitoring will including quarterly reports to the Parties. Evaluations are independent and generally will be taken at regular intervals to assess implementation progress and/or performance and governance issues. Following this first Business Plan, the PNAO will develop an annual Business Plan that is integrated with and guides the PNAO budget. Over time, the Business Plan will evolve into a multi-year plan. In sum, the combined Strategic Plan and Business Plans aim to develop a pathway for increased transparency and strengthening of an overarching PNA fisheries governance vision.

#### TUNA INDUSTRY

### Price-fixing saga nears conclusion; Bumble Bee files for bankruptcy

In December 2019, the final criminal prosecution in the US canned tuna brands price-fixing investigation yielded a guilty verdict for Bumble Bee CEO Christopher Lischewski. Lischewski's sentencing will take place in 2020; he faces up to 10 years in prison and a US\$1 million fine. The jury verdict marks the end of a criminal prosecution that has delivered a US\$25 million fine to Bumble Bee and a US\$100 million fine to StarKist. Chicken of the Sea avoided a fine by acting as whistle-blower against the other two companies.

While the criminal outcomes of the price-fixing saga appear to be coming to a close, the implications for the big three brands in the context of a stagnant US market for shelf-stable tuna continue to play out as the firms face the financial fall-out of criminal fines, as well as civil lawsuits filed primarily by customers (e.g. US retailers). Chicken of the Sea International – owned by parent company Thai Union – reports having reached settlements with 90 percent of all plaintiffs, being in good financial health and being re-dedicated to bringing sustainable change to the seafood industry, including through Thai Union's investment in innovation and expansion.<sup>19</sup> However, Bumble Bee and StarKist have emphasised the financial blows of their penalties, and all three of the big three US brands have appealed the 'class action' structure of the civil lawsuits that groups plaintiffs into different 'tracks' such as 'direct purchasers', 'direct action', 'commercial food preparers' and 'end-payers'. The big three are arguing that this structure forces the brands to settle - and potentially pay steep settlements - rather than to proceed with litigation that could identify the specific damages caused to each customer.<sup>20</sup> Their appeal argues that large chains like Walmart are less likely to pay list price than a smaller local store, despite that the two might be organized in the same class and that the effects of this organization could unfairly penalize the defendants.

They have supported this argument in part by turning attention to Bumble Bee's financial plight. Bumble Bee, which is owned by private equity firm Lion Capital, has filed Chapter 11 bankruptcy protection, a filing status in which a firm reorganizes its debt, including the fine that has been issued by the US Department of Justice. Bumble Bee has also entered into an asset purchase agreement with its main supplier, Taiwan-based trading company FCF Co. Ltd., which has agreed to acquire the company's assets for approximately US\$925 million. As part of the sale transaction, Bumble Bee's Canadian affiliate, Connors Bros. Clover Leaf, will initiate similar proceedings under the Companies' Creditors Arrangement Act. President and CEO Jan Tharp has emphasized that the filing has been organized in order to minimize any production disruptions and to ensure that employees will continue to work and be paid.<sup>21</sup> Such stability is important to PAFCO operations in Fiji, which supply albacore loins to Bumble Bee's California plant.

A jury found ex-Bumble Bee CEO Chris Lischewski guilty of price-fixing



## World Tuna Purse Seine Organization collaborates in effort to boost skipjack prices

Notoriously volatile skipjack prices have reached record lows – in some cases, sales have been reported at below US\$900/mt, down from US\$1600/mt in March 2019– as a result of oversupply. Concern is brewing that prices could fall further in early 2020 amid strong supply in the Western Pacific and relatively low demand. High fishing levels are attributed with price declines, with fishers continuing to fish even at low levels to avoid losing the money that have spent to purchase fishing days.<sup>22</sup>

In response, the World Tuna Purse Seine Organization (WTPO), a loosely organized group of purse seine vessel owners that comes together occasionally to stabilize raw material prices, held an emergency meeting in mid-November to strategize on how best to ensure profitability across fleets. Ahead of the meeting, member had sharp differences on the approach to managing the price crisis. The head of a European fishing company urged a complete closure of the WCPO purse seine fishery for a minimum of one month; a notable proposal given that the European fleet has very limited fishing operations in the Pacific.<sup>23</sup>

At the meeting, WTPO members agreed to cut the purchase of fishing permits for fishing days by at least 25 percent.<sup>24</sup> The agreement did not, however, specify when the reduction would begin, although ahead of the meeting, WTPO members were citing the need for reduction in total purchases for the coming year. This is a response to the fact that a large part of operators' costs has become fishing days, which, if purchased, creates incentives to fish even if prices are low, so as not to lose the total cost of the purchased day. The minimum benchmark price of a fishing day is US\$8,000, however bilateral fishing days are priced as high as US \$12,000 in some PNA zones. In the near term, there are hopes that skipjack prices will rebound as vessel owners take their boats out of the water for servicing ahead of schedule. Some are estimating that this move has reduced the total number of seiners by upwards of 15 percent.

WTPO Members also agreed to undertake a study on implementing a total allowable catch (TAC) at the WCPFC, which they plan to present to WCPFC and PICs when completed.<sup>25</sup> This echoes a growing movement towards introducing TACs in RFMOs to limit overall catch for conservation and economic stability (see ICCAT story). However, any move to introduce TAC also introduces political challenges associated with allocating TAC to RFMO member states, who in turn allocate their portion of TAC to domestic interests.<sup>26</sup> To date, in the WCPO, the PNA countries have utilized an input control (effort limit, capped at number of days) as opposed to an 'output' control (catch limit), in part because of the complexity of capping catch in multispecies, trans-boundary fisheries.<sup>27</sup> WTPO members have also agreed to commission a scientific and economic study on the effects of splitting the WCPFC in-zone FAD closure into two time periods, and committed themselves to continue labour initiatives with NGOs, processors and retailers.<sup>28</sup>

## Advances in acoustic discrimination of target tunas in the WCPO purse seine fishery

The expansion of the use of drifting FADs (DFADs) in tuna purse seine fisheries where multi-species catches are often the norm has intensified the search for ways in which acoustic data can be used to identify the species and size of tuna targets. Purse seiners are known to use information from onboard sonar and echo sounders, as well as echograms from FAD buoys that are returned by satellite directly to the boat and/or home office location. Some companies that manufacture the satellite echo

Bumble Bee is slated to be purchased by its main supplier, FCF

WTPO members have agreed to a 25 percent reduction in the purchase of vessels days

WTPO members are interested in exploring the use of TAC at WCPFC



sounder buoys offer complete systems including management software that enables companies to monitor conditions under DFADs at one central point, usually an onshore office. Companies that are already monitoring various oceanographic and weather conditions can utilize the DFAD buoy information in directing their vessel(s) to the most likely productive DFADs within reach. The various types of equipment use several different frequencies that can provide different relative measures of biomass of species that contain swim bladders (yellowfin and bigeye) and skipjack which does not.

The information obtained by the use of acoustics onboard has been highly successful in detecting the presence/absence of fish near a DFAD, estimating overall school size, and assisting during the course of a set. It has been less successful in definitively identifying the tuna species from the mix present under a FAD and their size(s). Better discrimination of tuna species and sizes from electronically produced echograms prior to a set remains an important goal for obvious financial, as well as fisheries management reasons.

Two recently published scientific papers in 2019<sup>29</sup> explain the latest developments in this field, as well as the need for additional research in order to better understand the acoustic properties of the three main species of tropical tunas: skipjack, vellowfin, and bigeye. Both papers are the result of investigations undertaken with the cooperation of the tuna industry on the scientific aspects of the acoustic properties of bigeye. They follow an earlier paper from 2018 that described the acoustic properties of skipjack obtained from similar research.<sup>30</sup> The bigeye papers explain that one of the prerequisites to discriminate tuna species and asses their biomass is knowing the target strength and the response of the three main species found at FADs to frequencies used by the acoustic equipment employed onboard purse seine vessels. The intention is to develop discrimination algorithms that make use of the different frequencies used by the sonars and echo sounders, including those on satellite buoys. For example, the paper by Moreno et. al. points out that results from their study suggest that vessels using low frequency echo sounders to track their DFADs (38 and/or 50kHZ) may be more attracted to DFADs with a higher proportion of tuna with swim bladders (i.e. large yellowfin and bigeye) that are detected more strongly at those frequencies.

There is ongoing collaboration in this field between scientists and the tuna industry. Scientists have been taken on several commercial voyages in the Pacific and Atlantic oceans and been given access to acoustic data. They have also been working with satellite buoy manufacturers so that knowledge from the research can be incorporated in acoustic equipment to improve the species discrimination skills of those that use their equipment. Future research will focus on the acoustic response of yellowfin tuna, particularly in the smaller sizes. This is crucial, as both bigeye and large yellowfin possess swim bladders, but skipjack and small yellowfin do not. Moreno et al. explain that once the key information is available for all three species, it should be possible to create a "multi-frequency acoustic mask to discriminate species...and provide estimates (and measures of uncertainty) of their proportion at DFADs".

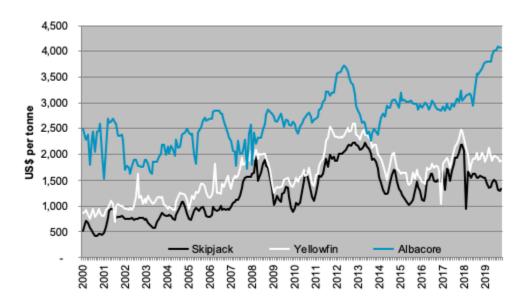
Better
discrimination
of tuna species
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goal

Tuna industry continues to assist with research in acoustic discrimination

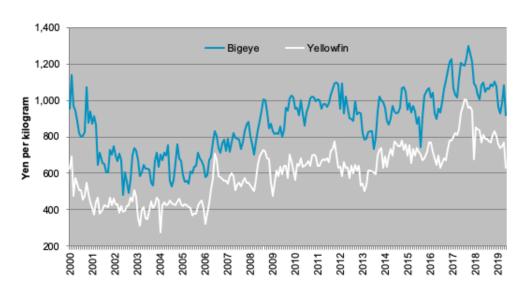


### TUNA PRICE TRENDS<sup>31</sup>

### Bangkok canning-grade prices to November 2019<sup>32</sup>

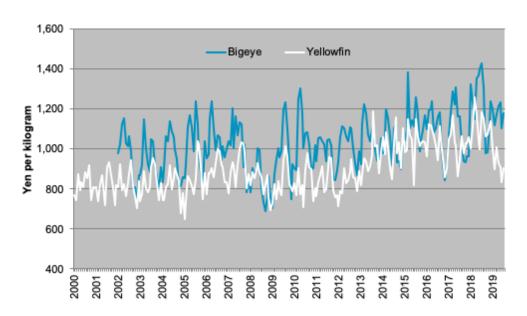


### Japan frozen sashimi prices (ex-vessel, Japanese ports) to November 2019<sup>33</sup>

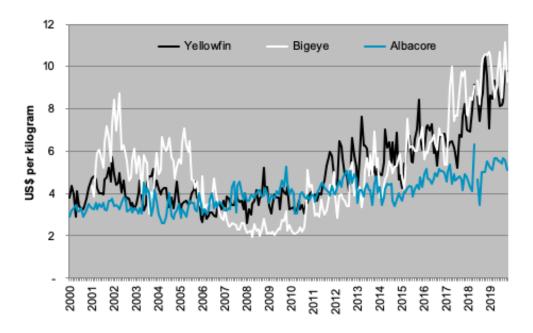




## Japan fresh sashimi prices (origin Oceania) to November 2019<sup>34</sup>

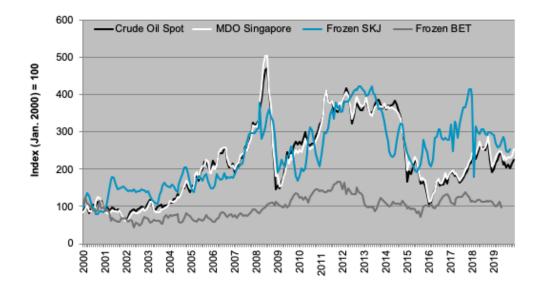


### US imported fresh sashimi prices to November 2019<sup>35</sup>





# Crude oil, canning-grade frozen skipjack (SKJ) and frozen bigeye (BET) price index to December 2019<sup>36</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 Len Rodwell 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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