



PARTIES TO THE PALAU ARRANGEMENT VDS TECHNICAL & SCIENTIFIC COMMITTEE

8th MEETING

12-13 March 2019

Koror, Palau

VDS-T&SC8/WP.1a: Purse Seine VDS TAE for 2020-22

TAE Setting

1. Article 12.2 of the VDS Scheme text sets out the issues to be taken into account in setting the TAE as follows:
 - i) The best available scientific, economic, management and other relevant advice and information;
 - ii) The provisions of the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean;
 - iii) The objectives of the Management Scheme; and
 - iv) Any submission on this issue from any party, individual or organisation.

Current Status

2. At PA23:
 - a) 44,033 days was adopted as the TAE for 2019, and as the provisional PNA TAE for 2020 and 2021
 - b) 45,033 days was adopted as the VDS TAE (including PNA and Tokelau) for 2019 and as the provisional VDS TAE for 2020 and 2021 as follows:

Table 1: TAE for 2019; Provisional TAE for 2020-2021 Adopted at PA23

Determining the TAE (days)			
	TAE 2018	TAE 2019	Provisional TAE for 2020-2021
Estimated 2010 Logsheet effort	44,033	44,033	44,033
Length Adjustment factor	0.00%	0.00%	0.00%
PNA TAE	44,033	44,033	44,033
Tokelau TAE	972	1,000	1,000
Total VDS TAE (PNA + Tokelau)	45,005	45,033	45,033

Scientific Information and Advice

3. As shown below, WCPO purse seine catches of bigeye, skipjack and yellowfin tuna are provisionally estimated¹ to have declined in 2017 by 11% to around 1.8m tonnes from the record level of 2 million tonnes in 2014. Annual purse seine catches in PNA waters have fluctuated since 2010 at around 1.5 million tonnes, although they have been below this level for the last 3 years. Annual purse seine catches in other areas of the WCPO outside PNA waters roughly doubled from 2011 to 2013 and have been around 400-450,000 tonnes since then. The increase outside PNA waters has come largely from Indonesian waters and from increased fishing by PNA flagged vessels in the high seas (Indonesia reported double PS catch in 2017, while high seas catches fell by 20%). 2018 catch data is not yet available but VMS data indicates a decrease of around 5% from 2017 in purse seine effort in PNA EEZs in 2018.

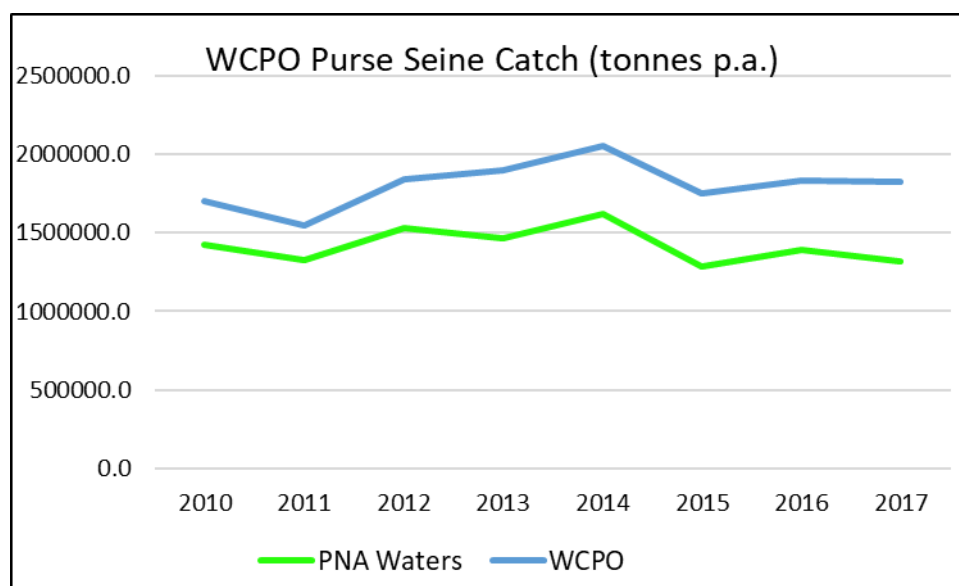


Figure 1: WCPO Purse Seine Catch (tonnes p.a)

4. Overall, the patterns of purse seine catches in PNA waters and the WCPO more generally have been remarkably stable in recent years, largely due to the effectiveness of PNA Members in applying the VDS despite major oceanographic changes.

5. The WCPFC Scientific Committee has provided the following advice:

a) on the status of the **skipjack** stock:

The latest assessment of the skipjack stock was conducted in 2016. In response to this assessment, the SC has advised as follows:

“SC12 noted that fishing is having a significant impact on stock size and can be expected to affect catch rates. The stock distribution is also influenced by changes in oceanographic conditions associated with El Niño and La Niña events, which impact on catch rates and stock size. Additional purse-seine effort will yield only modest gains in long-term skipjack tuna catches and may result in a corresponding increase in fishing mortality for bigeye and yellowfin tunas. The management of total effort in the WCPO should recognize this.

SC12 noted that skipjack spawning biomass is now around the adopted TRP and SC12 recommends that the Commission take action to keep the spawning biomass near the TRP

¹ Data provided by SPC in February 2018

and also advocates for the adoption of harvest control rules based on the information provided”.

More recently, SPC has projected that at recent effort levels, the spawning biomass is projected to stabilise at 47% of unfished biomass, slightly below the TRP².

- b) on the status of the **yellowfin stock**, SC13 advised as follows on the basis of the latest assessment of the yellowfin stock in 2016,:
- i) *it appears that the stock is not experiencing overfishing (96% probability) and it appears that the stock is not in an overfished condition (92% probability)..” and*
 - ii) *SC13 also reiterates its previous advice from SC10 that measures should be implemented to maintain current spawning biomass levels until the Commission can agree on an appropriate target reference point (TRP).*

More recently, , SPC has projected that at recent effort levels, the spawning biomass is projected to stabilise slightly below recent assessed levels, with worse results if a more pessimistic assumption is made about longline and purse seine effort.

6. As described below, the 2010 base level of 44,033 days for the WCPFC PNA EEZ effort limit has been maintained in CMM 2018-01 in response to the scientific advice above. Overall, while the skipjack and yellowfin stocks are healthy, there is no room to increase purse seine fishing effort if the skipjack TRP is to be met, nor if the yellowfin spawning biomass is to be maintained at the recent level.
7. A further implication of the scientific advice above is that, it should be clear with the skipjack biomass projected to stabilise slightly below the TRP, that increased high seas effort, mostly from Party vessels, is increasing the likelihood of a future reduction in the TAE and PAEs.

Economic Information and Advice

Market for Tuna for Canning

8. Annual average prices for tuna for canning have been relatively stable for the last 5 years as shown in figure 2 below taken from the PA24 Working Paper on Purse Seine Economic. Bangkok, prices of skipjack for canning declined by 5% in 2018, and are projected by FFA to decline slightly again in 2019 to around \$1,500/mt which is slightly below the long term average trend level.

² See WCPFC15-2018-12_rev2

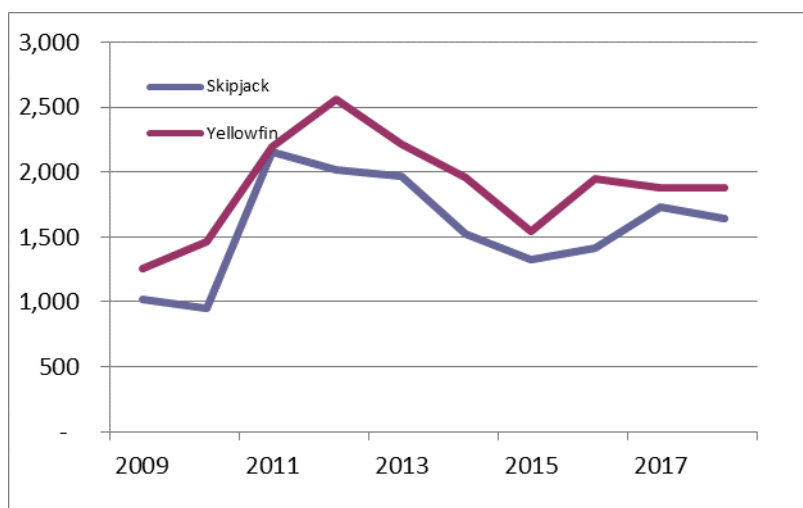


Figure 2: Bangkok Skipjack price trends, 2009-2018 (US\$)

9. With current prices slightly below the long term average trend level, relatively stable and projected to cycle upwards by FFA, there is no indication of any systematic over-supply of material for tuna canning. In addition, there are likely to be reductions in canning material supply from other oceans as IATTC, ICCAT and IOTC take additional measures to reduce effort on overfished bigeye and yellowfin stocks in those regions. In this circumstance, and taking into account the relatively weak effect of changes in WCPO catches on global tuna prices, there is no reason to consider reducing the TAE below the level agreed at the WCPFC in order to tighten tuna supply and promote an increase in tuna prices which can be extracted as increased vessel day prices.

Market for Days

10. In recent years, the demand for days and the price of days generally flattened after strong earlier growth as the price of days moved towards an equilibrium level. However, the number of days used reported in FIMS for the last 4 years has been below previous levels and below the TAE, although most of the unused days were sold. It is now clear that over these years, it is the price of days, rather than the TAE and PAEs that are actually limiting effort.

	2013	2014	2015	2016	2017	2018
No. of Days Used	43,178	42,652	35,729	38,746	40,991	39,050
TAE	46,284	45,610	45,610	45,881	45,590	45,005
% Utilisation of TAE	93.3%	93.5%	78.3%	84.4%	89.9%	86.8%

11. In the analysis presented in PA24/WP.1, economic rents in the fishery are estimated to have declined sharply in 2018, largely due to increasing fuel prices and are projected to decline slightly further in 2019. However, reports from Parties indicate that the market for days for 2019 has tightened and day prices are selling at, or above, prices for 2018 days. Factors indicating higher demand include:
- Continuing recovery of effort from the lower levels of effort in 2015 and 2016 that were apparently due to lower tuna prices, opening of the EHS to domestic vessels, and flight of some highly FAD-dependent vessels to other ocean areas
 - The removal of the 4th month of the FAD closure, which increased the value of the fishery attracting some effort to return, especially from the EPO, and increasing investment in new vessels

- c) Increased demand for pooled days for 2019 sold by tender
12. From this analysis, there is no reason to consider reducing the TAE at this point to take into account the market for days. If Parties are concerned to increase demand for days, they have the option available of limiting or ending access to the eastern high seas by vessels while licensed by PNA, which should increase demand for days by around 3-4,000 days, which is about \$40 million foregone revenue for parties, based on the increase in effort in the eastern high seas since the PNA ban on fishing in that area was dropped. At some point, Parties could also consider banning fishing outside PNA waters on trips involving fishing in PNA waters.

WCPFC Considerations

13. In WCPFC Tropical Tuna CMMs since 2011, PNA Members have agreed to limit purse seine effort in PNA EEZs to 2010 levels through the PNA Vessel Days Scheme. In response, the PNA TAEs adopted since 2012 and the provisional PNA TAE for 2019 and 2020 have been based on the 2010 effort level in PNA EEZs. In CMM 2018-01, this limit has been specified as 44,033 days.
14. At PA23, Parties revisited the issue of the 2010 effort level, noting that SPC continues to revise this estimate. The latest estimate is 44,150 days³, but for now Parties are obligated to limit effort to the 44,033 days specified in CMM 2018-01.
15. There has been continuing progress in the development of a harvest strategy for skipjack. Building on the adoption of a target reference point for skipjack proposed initially by PNA at its 2016 session, the WCPFC has adopted a harvest strategy workplan that reflects faster progress on skipjack than other stocks. At WCPFC13, the Commission also accepted a list of performance indicators for tropical purse seine fisheries for the purpose of the evaluation of HCRs. Meanwhile, PNA work is proceeding with SPC on the development of a PNA HCR for skipjack.

MSC Considerations

16. With respect to decision-making on the PNA skipjack fishery and the VDS in particular, current PNA commitments for MSC certification include:
- i) Establishment of a short term objective: at PA17, the Parties adopted the short term objective of limiting purse seine effort in PNA EEZs at the 2010 level.
 - ii) The link between the VDS TAEs and WCPFC requirements and the scientific advice needs to be clearly established by the PNA. Decisions taken on adjustment to the VDS scheme have to be based on the best available information. This will be derived largely from SPC scientific advice, SPC logsheet data, information compiled by the PNA Office and FFA as well as any additional work commissioned through PNA or other management organisation. Explanations on recommendations made and decisions taken, or lack of action, will be clearly documented by the PNA Office, through minutes of meetings. These minutes will be publically available on the PNA Office website.

Starting in 2012, this paper was modified from previous years to reflect these requirements. This includes clearly recording the link between the TAE and the relevant WCPFC measure and the scientific advice.

³ See WCPFC15-2018- IP06

Effort creep

17. The VDS Scheme text at Article 2.4 ii) requires the Administrator to provide information on any observed or potential increase in average effective fishing effort for each fishing day since the introduction of the Management Scheme. Successive Administrator's reports have reported on trends in vessel size classes and catch rates per day.
18. The PNAO and SPC report to Parties annually on effort creep. At VDS T&SC7, participants concluded:
- At the VDS TAE level: participants noted the importance of adjusting the TAE over time for effort creep, but considered it was premature at this time because the extent to which effort creep is occurring in the fishery, and the level of any change, is not clear.*

An updated analysis of effort creep will be presented to VDS T&SC8.

Management Information and advice

19. The starting point for the determination of the TAE is the estimated logsheet effort in PNA EEZs for 2010 to reflect the PNA obligation under the tropical tuna CMM referred to above. The estimated effort level for 2010 continues to be revised by SPC, largely reflecting the failure of fishing states to provide accurate and timely operational data. In order to maintain the effectiveness of the VDS, Parties agreed at PA20 to adopt the 2010 level of effort in PNA EEZs advised to WCPFC10 in 2013 by SPC⁴ of 44,033 days as the appropriate limit to be used in future. This limit has now been explicitly included in Table 1 of Attachment I of CMM 2017-01, along with a limit of 1,000 days for Tokelau.
20. The VDS TAE also needs to take into account the projected effect on effort levels resulting from the length adjustments to avoid any risk of the WCPFC limit in logsheet days being overshoot. This adjustment has declined from 3.34% initially to 0.00% for 2018 as a result of the decline in the proportion of days fished by larger vessels. In 2018, there was again no significant difference between the VDS effort with and without length adjustments. In response, it is proposed to keep the vessel length adjustment at 0.00% in future unless there is a significant risk of the WCPFC limit being overshoot because of the effect of the length adjustment factors..
21. At PA22, Parties decided to confirm, at their Annual Meetings, the TAE for the next year (in this case 2020) and adopt a provisional TAE for the following two years (in this case 2021 and 2022).
22. Tokelau is part of the VDS although it is not part of the PNA TAE. It has its own TAE of 1,000 days which it brings to the VDS and which is transferable with PNA members. The Tokelau limit of 1,000 days is also set in CMM 2018-01.
23. Taking into account the considerations set out above, it is proposed that:
- the provisional 2020 PNA TAE set last year of 44,033 days be confirmed as the 2020 PNA TAE
 - the provisional PNA TAE for 2021 and 2022 be set at 44,033 days
 - the 2020 VDS TAE be set at 45,033 days; and
 - The provisional VDS TAE for 2021 and 2022 be set at 45,033 days

as set out in the Table below.

⁴ from WCPFC10: Table 1 of Paper "WCPFC10-2013-12- Data Summaries in Support of Discussions on the CMM on Tropical Tunas"

Table 2: Proposed TAE for 2020 and Proposed Provisional TAE for 2021 and 2022

Determining the TAE (days)					
	TAE 2018	TAE 2019	Provisional TAE for 2020	Proposed TAE for 2020	Proposed Provisional TAE for 2021 and 2022
Estimated 2010 Logsheet effort	44,033	44,033	44,033	44,033	44,033
Length Adjustment factor	0.00%	0.00%	0.00%	0.00%	0.00%
PNA TAE	44,033	44,033	44,033	44,033	44,033
Tokelau TAE	972	1000	1000	1,000	1,000
Total VDS TAE (PNA + Tokelau)	45,005	45,033	45,033	45,033	45,033

Conclusions and Recommendations

24. On the basis of the considerations above, there is no reason for the Parties to change their decision at PA17 to apply a PNA TAE based on the 2010 effort level, now specified as 44,033 days in CMM 2018-01, subject to consideration of the updated analysis on effort creep referred to in the discussion above.
25. It is recommended that the 2020 PNA TAE, the provisional PNA TAE for 2021 and 2022, the 2020 VDS TAE and the provisional VDS TAE for 2021 and 2022 be adopted as set out in the table above.