COMMISSION
NINETEENTH REGULAR SESSION

Da Nang, Viet Nam
27 November – 3 December 2022

Reference Document for Northern Stocks CMMs and Development of Harvest Strategies under CMM 2014-06, and Highlights from NC18 for Agenda Item 11.3

WCPFC18-2022-17
11 November 2022

Secretariat

A. INTRODUCTION

1. The purpose of this paper is to provide a quick reference guide for issues related to the three northern stocks (North Pacific albacore, Pacific bluefin tuna and North Pacific swordfish). Specifically, this paper includes the latest stock status and management advice, interim harvest strategy for North Pacific albacore, and a new proposed CMM for North Pacific Swordfish. Other NC18 decision and recommendation for consideration under Agenda Item 11.3 are also listed towards the end of the paper.

2. Recommendations in the following matrix may require the Commission's attention and specific action:

Agenda	**Recommendations** (Paragraph numbers and Attachment letters are from NC18 Summary Report)	**Commission's Action**
Interim Harvest Strategy for North Pacific Albacore Fishery (HS 2022-XX)	29. The NC recommends that the Commission adopt the harvest strategy of the WCPFC for NP Albacore in **Attachment E**.	Review and adoption
North Pacific swordfish	35. The NC recommends that the Commission adopt the Conservation and Management Measure for NP Swordfish in **Attachment F**.	Review and adoption
Work Programme for 2023-2025	41. The NC reviewed and adopted the 2023-2025 Work Programme for the Northern Committee (**Attachment G**).	To be noted
Election of Officers	42. The NC recommends that the terms of the current Chair, M. Miyahara (Japan), and the current vice Chair, M. Tosatto (USA), be extended for two years.	Review and endorsement
Next meeting	43. Japan offered to host the NC19 meeting in conjunction with the JWG8 meeting in Fukuoka in early July, with the date to be determined after consultation among members and both	Review and endorsement

	RFMO secretariats. The Chair suggested the possibility of having a separate NC meeting online in September to finalize its outcomes next year. The arrangement of the next meeting will be notified well in advance.	

B. NORTHERN STOCKS

B.1 North Pacific albacore (*Thunnus alalunga*)

1) **Provision of scientific information** (*Paragraphs 147 – 149, SC16 Summary Report*)

a. Stock status and trends

3. SC16 noted that the ISC provided the following conclusions on the stock status of North Pacific albacore:

> The Northern Committee (NC) of the Western and Central Pacific Fisheries Commission (WCPFC), which manages this stock together with the Inter American Tropical Tuna Commission (IATTC), adopted a biomass-based limit reference point (LRP) in 2014 (https://www.wcpfc.int/harvest-strategy) of 20% of the current spawning stock biomass when F=0 ($20\%SSB_{current,\ F=0}$). The $20\%SSB_{current,\ F=0}$ LRP is based on dynamic biomass and fluctuates depending on changes in recruitment. For north Pacific albacore tuna, this LRP is calculated as 20% of the unfished dynamic female spawning biomass in the terminal year of this assessment (i.e., 2018) (https://www.wcpfc.int/meetings/nc13). However, neither the IATTC nor the WCFPC have adopted F-based limit reference points for the north Pacific albacore stock.
>
> Stock status is depicted in relation to the limit reference point (LRP; $20\%SSB_{current,\ F=0}$) for the stock and the equivalent fishing intensity ($F_{20\%}$; calculated as $1\text{-}SPR_{20\%}$). Fishing intensity (F, calculated as 1-SPR) is a measure of fishing mortality expressed as the decline in the proportion of the spawning biomass produced by each recruit relative to the unfished state. For example, a fishing intensity of 0.8 will result in a SSB of approximately 20% of SSB_0 over the long run. Fishing intensity is considered a proxy of fishing mortality.
>
> The Kobe plot shows that the estimated female SSB has never fallen below the LRP since 1994, albeit with large uncertainty in the terminal year (2018) estimates. Even when alternative hypotheses about key model uncertainties such as growth were evaluated, the point estimate of female SSB in 2018 (SSB_{2018}) did not fall below the LRP, although the risk increases with this more extreme assumption. The SSB_{2018} was estimated to be 58,858 t (95% CI: 27,751 – 89,966 t) and 2.30 (95% CI: 1.49 – 3.11) times greater than the estimated LRP threshold of 25,573 t (95% CI: 19,150 – 31,997 t). Current fishing intensity, $F_{2015\text{-}2017}$ (0.50; 95% CI: 0.36 – 0.64; calculated as $1\text{-}SPR_{2015\text{-}2017}$), was at or lower than all seven potential F-based reference points identified for the north Pacific albacore stock.

4. SC16 noted the following stock status from ISC:

> Based on these findings, the following information on the status of the north Pacific albacore stock is provided:
>
> 1. The stock is likely not overfished relative to the limit reference point adopted by the Western and Central Pacific Fisheries Commission ($20\%SSB_{current,\ F=0}$), and

2. No F-based reference points have been adopted to evaluate overfishing. Stock status was evaluated against seven potential reference points. Current fishing intensity ($F_{2015\text{-}2017}$) is likely at or below all seven potential reference points.

b. Management advice and implications

5. SC16 noted the following conservation information from ISC:

Two harvest scenarios were projected to evaluate impacts on future female SSB: F constant at the 2015-2017 rate over 10 years ($F_{2015\text{-}2017}$) and constant catch[1] (average of 2013-2017 = 69,354 t) over 10 years. Median female SSB is expected to increase to 62,873 t (95% CI: 45,123 - 80,622 t) by 2028, with a low probability of being below the LRP by 2028, if fishing intensity remains at the 2015-2017 level. If future catch is held constant at 69,354 t, the female SSB is expected to increase to 66,313 t (95% CI: 33,463 - 99,164 t) by 2028 and the probability that female SSB will be below the LRP by 2028 is slightly higher than the constant F scenario. Although the projections appear to underestimate the future uncertainty in female SSB trends, the probability of breaching the LRP in the future is likely small if the future fishing intensity is around current levels.
Based on these findings, the following information is provided:

1. If a constant fishing intensity ($F_{2015\text{-}2017}$) is applied to the stock, then median female spawning biomass is expected to increase to 62,873 t and there will be a low probability of falling below the limit reference point established by the WCPFC by 2028.

2. If a constant average catch ($C_{2013\text{-}2017}$ = 69,354 t) is removed from the stock in the future, then the median female spawning biomass is also expected to increase to 66,313 t and the probability that SSB falls below the LRP by 2028 will be slightly higher than the constant fishing intensity scenario.

2) Northern Committee recommendations (*Paragraphs 27 – 29, NC18 Summary Report*)

6. The Chair presented a draft harvest strategy of the WCPFC for NP albacore that mirrors the harvest strategy adopted by the IATTC, and NC18 reviewed and revised the proposal.

7. The NC recommended that the Commission adopt the harvest strategy of the WCPFC for North Pacific albacore (**Attachment A**).

B.2 Pacific bluefin tuna (*Thunnus orientalis*)

1) **Provision of scientific information** *(Paragraphs 24 – 31, SC18 Outcomes Document)*

a. Stock Status and trends

8. SC18 welcomed successful completion of an updated Pacific bluefin tuna (PBF) stock assessment and noted the following stock status and conservation information provided by ISC.

PBF spawning stock biomass (SSB) has gradually increased in the last 10 years, and the rate of

[1] It should be noted that the constant catch scenario is inconsistent with current management approaches for north Pacific albacore tuna adopted by the Inter-American Tropical Tuna Commission (IATTC) and the Western and Central Pacific Fisheries Commission (WCPFC).

increase is accelerating. These biomass increases coincide with a decline in fishing mortality, particularly for fish aged 0 to 3, over the last decade. The latest (2020) SSB is estimated to be 10.2% of SSB_0.

i. No biomass-based limit or target reference points have been adopted for PBF, but the PBF stock is overfished relative to the potential biomass-based reference points ($20\%SSB_0$) adopted for other tuna species by the IATTC and WCPFC. On the other hand, SSB reached its initial rebuilding target ($SSB_{MED} = 6.3\%SSB_0$) in 2019, 5 years earlier than originally anticipated by the RFMOs.

ii. No fishing mortality-based reference points have been adopted for PBF by the IATTC and WCPFC. The recent (2018-2020) $F_{\%SPR}$ is estimated to produce a fishing intensity of 30.7%SPR and is below the level corresponding to overfishing for many F-based reference points proposed for tuna species, including SPR20%.

9. SC18 noted that while the gradual improvement of the Pacific bluefin tuna stock is a step in the right direction, it must be remembered that the current spawning biomass of the stock is only 10.2% of the unfished level. This is well below the LRP of 20% adopted for the key tuna species in WCPFC and suggests the Pacific bluefin tuna stock remains overfished relative to the LRP of key tuna species.

10. SC18 noted some CCMs encourage a precautionary approach towards the management of Pacific bluefin tuna until such time as the second rebuilding target is met, especially as the stock assessment and projection results are based on certain assumptions, including those on future recruitment, that may not always be met.

11. SC18 supported the continued monitoring of recruitment and spawning stock biomass, and research on a recruitment index for the stock assessment given the uncertainty in future recruitment and the influence of recruitment on stock biomass, as well as the impact of changes in fishing operations due to management changes.

b. Management advice and implications

12. SC18 noted that the updated stock assessment presented at SC18 indicates that the stock is likely recovering as planned or possibly faster, which suggests that the measures incorporated in CMM 2021-02 appear to be working as intended.

13. SC18 recommended that the Commission exercise a precautionary approach, and noted that the PBF stock is still in a depleted state (10.2% of SSB_0) when it considers any revisions to the current CMM. Consideration of any increases to the catch limit needs to be weighted against reducing the probability of recovering to the second rebuilding target.

14. SC18 further welcomed ISC's effort on further investigation of structural uncertainty to incorporate it in future management advice.

15. SC18 noted the following management information from ISC:

After the steady decline in SSB from 1996 to the historically low level in 2010, the PBF stock has started recovering, and recovery has been more rapid in recent years, consistent with the implementation of stringent management measures. The 2020 SSB was above the initial rebuilding target but remains below the second rebuilding target adopted by the WCPFC and IATTC. However, stock recovery is occurring at a faster rate than anticipated by managers when the Harvest Strategy to foster rebuilding (WCPFC HS 2017-02) was implemented in 2014. The fishing mortality ($F_{\%SPR}$) in 2018-2020 has been reduced to a level producing 30.7%SPR, the lowest

observed in the time series. Based on these findings, the following information on the conservation of the Pacific bluefin tuna stock is provided:

a) The PBF stock is recovering from the historically low biomass in 2010 and has exceeded the initial rebuilding target ($SSB_{MED1952-2014}$) five years earlier than expected. The rate of recovery is increasing and under all projection scenarios evaluated, it is very likely the second rebuilding target ($20\%SSB_0$ with 60% probability) will be achieved (probabilities > 90%) by 2029. The risk of SSB falling below the historical lowest observed SSB at least once in 10 years is negligible.
b) The projection results show that increases in catches are possible without affecting the attainment of the second rebuilding objective. Increases in catch should consider both the rebuilding rate and the distribution of catch between small and large fish.
c) The projection results assume that the CMMs are fully implemented and are based on certain biological and other assumptions. For example, these future projection results do not contain assumptions about discard mortality. Although the impact of discards on SSB is small compared to other fisheries, discards should be considered in future harvest scenarios.
d) Given the uncertainty in future recruitment and the influence of recruitment on stock biomass as well as the impact of changes in fishing operations due to the management, monitoring recruitment and SSB should continue and research on a recruitment index for the stock assessment should be pursued.
e) The results of projections from sensitivity models with lower productivity assumptions show that this conservation information is robust to uncertainty in stock productivity.

2) Northern Committee Recommendations (*Paragraph 19 – 20, NC18 Summary Report*)

16. The NC reviewed the compiled catch and effort information for PBF in NC18-WP-02. In order for the ISC to conduct the stock assessment based on the best available data, the NC requests the Commission to encourage its non-ISC CCMs to review and make necessary correction to their historical PBF catch data submitted to the Secretariat.

B.3 North Pacific swordfish *(Xiphias gladius)*

1) Provision of scientific information (*Paragraphs 275 – 276, SC14 Summary Report*)

a. Status and trends

17. SC14 noted that ISC provided the following conclusions on the stock status of Western and Central North Pacific Swordfish in the Pacific Ocean in 2017 presented in SC14-SA-WP-07 (Stock Assessment for Swordfish (*Xiphias gladius*) in the Western and Central North Pacific Ocean through 2016).

> Estimates of total stock biomass show a relatively stable population, with a slight decline until the mid-1990s followed by a slight increase since 2000. Population biomass (age-1 and older) averaged roughly 97,919 t in 1974-1978, the first 5 years of the assessment time frame, and has declined by only 20% to 71,979 t in 2016. Female spawning stock biomass was estimated to be 29,403 t in 2016, or about 90% above SSB_{MSY}. Fishing mortality on the stock (average F, ages 1 – 10) averaged roughly F = 0.08 yr^{-1} during 2013-2015, or about 45% below F_{MSY}. The estimated SPR (the predicted spawning output at the current F as a fraction of unfished spawning output) is currently SPR_{2016} = 45%. Annual recruitment averaged about 717,000 recruits during 2012-2016, and no long-term trend in recruitment was apparent. Overall, the time series of spawning stock biomass and recruitment estimates indicate a stable spawning stock biomass and suggest a fluctuating

pattern without trend for recruitment. The Kobe plot depicts the stock status relative to MSY-based reference points for the base case model and shows that spawning stock biomass declined to almost the MSY level in the mid-1990s, but SSB has remained above SSB_{MSY} throughout the time series.

For this 2018 benchmark assessment, note that biomass status is based on female spawning stock biomass, whereas for the 2014 update assessment, biomass status was based on exploitable biomass (effectively age-2+ biomass). It is also important to note that there are no currently agreed upon reference points for the WCNPO swordfish stock and that retrospective analyses show that the assessment model appears to underestimate spawning stock biomass in recent years.

Based on these findings, the following information on the status of the WCNPO SWO stock is provided:

1. The WCNPO swordfish stock has produced annual yields of around 10,200 t per year since 2012, or about 2/3 of the MSY catch amount.
2. There is no evidence of excess fishing mortality above F_{MSY} ($F_{2013\text{-}2015}$ is 45% of F_{MSY}) or substantial depletion of spawning potential (SSB_{2016} is 87% above SSB_{MSY}).
3. Overall, the WCNPO swordfish stock is not likely overfished and is not likely experiencing overfishing relative to MSY-based or 20% of unfished spawning biomass-based reference points.

b. Management advice and implications

18. SC14 noted the following conservation advice from ISC:

Stock projections were conducted using a two-gender projection model. The five stock projection scenarios were: (1) F status quo, (2) F_{MSY}, (3) F at $0.2*SSB_{F=0}$, (4) $F_{20\%}$, and (5) $F_{50\%}$. These projection scenarios were applied to the base case model results to evaluate the impact of alternative levels of fishing intensity on future spawning biomass and yield for swordfish in the Western and Central North Pacific Ocean. The projected recruitment pattern was generated by stochastically sampling the estimated stock-recruitment model from the base case model. The projection calculations employed model estimates for the multi-fleet, multi- season, size- and age-selectivity, and structural complexity in the assessment model to produce consistent results.

Based on these findings, the following conservation information is provided:

1. The results show that projected female spawning biomass is expected to remain above SSB_{MSY} under all of the harvest scenarios, with increases in spawning biomass expected under lower fishing mortality rates.
2. Similarly, projected catch is expected to increase under each of the five harvest scenarios, with greater increases expected under higher fishing mortality rates.

Research needs

The lack of sex-specific size composition data and the simplified treatment of the spatial structure of swordfish population dynamics remained as two important sources of uncertainty for this benchmark assessment

2) Northern Committee Recommendations (*Paragraphs 35 and 39, NC18 Summary Report*)

19. NC18 reviewed a draft CMM for North Pacific swordfish, and recommended that the Commission adopt the *Conservation and Management Measure for North Pacific Swordfish* in **Attachment B**.

20. The NC requests that the ISC BILLWG conduct an analysis of how catch and effort for North Pacific swordfish varies spatially in the North Pacific, with the aim of estimating the proportion of catch and effort north and south of 20º N in the Convention and including this information in the 2023 stock assessment for North Pacific swordfish.

D. OTHER NORTHERN COMMITTEE RECOMMENDATIONS

1) Work Programme for 2023-2025 *(Paragraph 41, NC18 Summary Report)*

21. The NC reviewed and adopted the 2023-2025 Work Programme for the Northern Committee (**Attachment C**).

2) Election of Officers *(Paragraph 42, NC18 Summary Report)*

22. The NC recommends that the terms of the current Chair, M. Miyahara (Japan), and the current vice Chair, M. Tosatto (USA), be extended for two years.

3) Next meeting *(Paragraph 43, NC18 Summary Report)*

23. Japan offered to host the NC19 meeting in conjunction with the JWG8 meeting in Fukuoka in early July, with the date to be determined after consultation among members and both RFMO secretariats. The Chair suggested the possibility of having a separate NC meeting online in September to finalize its outcomes next year. The arrangement of the next meeting will be notified well in advance.

Attachment A

Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean

NORTHERN COMMITTEE
EIGHTEENTH REGULAR SESSION

ELECTRONIC MEETING
4 – 6 October 2022

HARVEST STRATEGY FOR NORTH PACIFIC ALBACORE FISHERY

Harvest Strategy 2022-XX

Introduction and scope

This Harvest Strategy, applicable to all fisheries that harvest North Pacific albacore, was developed based on the results of the Management Strategy Evaluation (MSE) completed by the International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean (ISC) in 2021.

1. Management objectives

Considering the overarching objective of ensuring the sustainability of North Pacific albacore tuna and current fisheries supported by the stock in the Western and Central Pacific Ocean, the following management objectives are established:

(a) Maintain Spawning Stock Biomass (SSB) above the Limit Reference Point (LRP), with a probability of at least 80% over the next 10 years.

(b) Maintain depletion of total biomass around historical (2006-2015) average depletion over the next 10 years.

(c) Maintain fishing intensity (F) at or below the target reference point with a probability of at least 50% over the next 10 years.

(d) To the extent practicable, management changes (e.g., catch and/or effort) should be relatively gradual between years.

2. Reference points

For the purpose of the North Pacific albacore tuna harvest strategy, the following reference points are established.:

(a) Target reference point (TRP) = $F45_{\%}$, which is the fishing intensity (F) level that results in the stock producing 45% of spawning potential ratio (SPR)

(b) Threshold reference point ($SSB_{threshold}$) = $30\%SSB_{current,F=0,}$ which is 30% of the dynamic unfished spawning stock biomass

(c) Limit reference point (LRP) = $14\%SSB_{current,F=0,}$ which is 14% of the dynamic unfished spawning stock biomass.

3. Acceptable levels of risk

The risk of breaching the Limit Reference Point based on the most current estimate of SSB shall be no greater than 20%.

4. Monitoring strategy

The ISC will conduct a stock assessment every three years, at which time the status relative to the reference points established under paragraph 2 will be evaluated.

When performing a stock assessment, the ISC will consider if the biology, environmental conditions, data sources, status of the stock, and/or other underlying assumptions have changed substantially enough to warrant revisiting the components in this harvest strategy.

5. Harvest Control Rules (HCR)

(a) By 2023, the Commission shall adopt harvest control rules as part of the harvest strategy for North Pacific albacore, consistent with Figure 1.

(b) The harvest control rules adopted pursuant to paragraph 5(a) shall outline inter alia the actions the Commission will take to manage North Pacific albacore tuna.

(c) The actions referenced under paragraph 5(b) shall be determined by the position of the most recent fishing intensity and biomass estimates relative to the reference points established pursuant to this CMM.

Other Provisions

The Commission shall promote compatibility between the harvest strategy adopted herein and the harvest strategy adopted by the Inter-American Tropical Tuna Commission with respect to North Pacific albacore tuna.

The ISC is requested to develop criteria for identification of exceptional circumstances in 2023.

This Harvest Strategy replaces the "Interim Harvest Strategy for North Pacific Albacore Fishery" adopted as Harvest Strategy 2017-01.

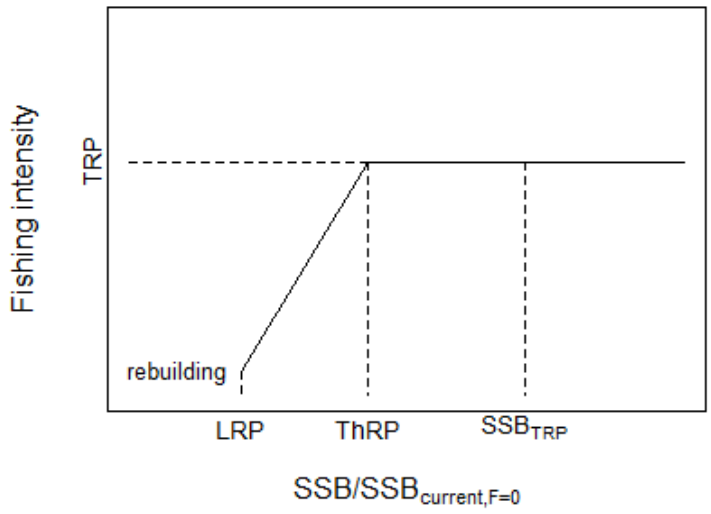

Figure 1. Illustration of the harvest control rules with target reference point (TRP), threshold reference point (ThRP), limit reference point (LRP), and the expected SSB when fishing at the TRP (SSB_{TRP}). The harvest control rules to be adopted pursuant to paragraph 5(a) are intended to include the triggering of a rebuilding plan if the $SSB/SSB_{current,F=0}$ falls below the LRP.

Attachment B

Commission for the Conservation and Management of
Highly Migratory Fish Stocks in the Western and Central Pacific Ocean

NORTHERN COMMITTEE
EIGHTEENTH REGULAR SESSION

ELECTRONIC MEETING
4 – 6 October 2022

DRAFT CONSERVATION AND MANAGEMENT MEASURE FOR NORTH PACIFIC SWORDFISH

Conservation and Management Measure 2022-XX

The Western and Central Pacific Fisheries Commission (WCPFC),

Noting that Harvest Strategy for North Pacific Swordfish Fisheries was adopted at WCPFC16, which established the Limit Reference Point for the exploitation rate (F-limit) of F_{MSY};

Observing that the best scientific evidence on Western and Central North Pacific Swordfish from the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC) indicates that the species is not likely overfished and is not likely experiencing overfishing relative to MSY-based or 20% of unfished spawning biomass-based reference points;

Also observing that the best scientific evidence on Eastern Pacific Swordfish from the ISC indicates that the species is not likely overfished but is likely experiencing overfishing some of the recent years relative to MSY-based reference points, and there is an uncertainty in stock boundary between Western Central North Pacific stock and Eastern Pacific stock that are being reviewed by the ISC toward the stock assessment scheduled in 2023;

Noting that draft Conservation and Management Measures for South Pacific Swordfish to strengthen the existing measure has been under consideration at the Commission, given that its fishing mortality has been at high levels in the last decades; and

Recalling Article 5(c) of the WCPFC Convention that requires application of the precautionary approach for the conservation and management of highly migratory fish stocks in the WCPF Convention Area;

Adopts, in accordance with the Article 10 of the WCPFC Convention that:

1. This measure shall apply in the high seas and EEZs within the Convention Area north of 20° N (hereinafter referred to as "the Area").

2. The Members, Cooperating Non-Members and participating territories (hereinafter referred to as CCMs) shall take necessary measures to ensure that the level of fishing effort of their fisheries taking North Pacific swordfish in the Area is not increased beyond 2008-2010 average annual levels[2][3];

3. Paragraphs 2 and 4 shall not be applied to those fisheries taking less than 200 metric tons of North Pacific swordfish in the Area per year. However, if the catches of such fisheries exceed 200 metric tons in any given year, the Commission shall adopt appropriate management measure for such fisheries.

[2] For the US swordfish longline fishery, the level of fishing effort shall not be increased beyond the maximum number of limited entry permits available during 2008-2010.
[3] For the Chinese Taipei's coastal artisanal longline fishery, the level of fishing effort shall not be increased beyond the number of vessels licensed during 2008-2010.

4. All CCMs shall report annually to the WCPFC Commission all catches of North Pacific swordfish in the Area and all fishing effort in those fisheries subject to the measures in paragraph 2, by gear type using the template provided in Annex 1.

5. The provisions of paragraph 2 shall not prejudice the legitimate rights and obligations under international law of those small island developing State Members and participating territories in the Convention Area whose current fishing activity for North Pacific swordfish is limited, but that have a real interest in, and history of, fishing for the species, that may wish to develop their own fisheries for North Pacific swordfish in the future.

6. The provisions of paragraph 5 shall not provide a basis for an increase in fishing effort by fishing vessels owned or operated by interests outside such small island developing State Members or participating territories, unless such fishing is conducted in support of efforts by such Members and territories to develop their own domestic fisheries.

Annex I: Average annual fishing effort for 2008-2010and annual fishing effort for subsequent years for fisheries taking North Pacific swordfish

CCM	Area[4]	Fishery (gear type)	2008-2010 Average			Year			Year			Year		
			Catch (t)	No. of vessels	Fishing days[5]	Catch (t)	No. of vessels	Fishing days	Catch (t)	No. of vessels	Fishing days	Catch (t)	No. of vessels	Fishing days

[4] If collective effort limits across the North Pacific Ocean, report the Area and North Pacific Ocean separately

[5] Fishing days shall be the total days of fishing (both targeting and bycatch). CCMs can consider the plural effort metrics in Annex 1 to this CMM in their entirety and in the case of fisheries that take NPS as bycatch, the metric of "fishing days" may not be appropriate for assessing the compliance with the effort control provision.

Attachment C

Commission for the Conservation and Management of
Highly Migratory Fish Stocks in the Western and Central Pacific Ocean

NORTHERN COMMITTEE
EIGHTEENTH REGULAR SESSION

ELECTRONIC MEETING
4 – 6 October 2022

WORK PROGRAMME FOR THE NORTHERN COMMITTEE

Work areas	Objectives	annual tasks		
	2023–2025	2023	2024	2025
1. Northern stocks				
a. Monitor status; consider management action	Review status and take action as needed for: **<u>North Pacific albacore</u>** Tasks (A) Review members' reports on their implementation of CMM 2019-03. (B) Implement the Harvest Strategy, including: (1) monitor if LRP is breached; (2) continue to work to establish reference points and other elements of harvest strategies, if appropriate based on MSE; (3) recommend any changes to CMM.	Review the compiled members' reports and identify and rectify shortcomings. Further development of harvest strategy including establishment of harvest control rules, which may include formulas for setting fishing intensity based on agreed reference points, and consider exceptional circumstances as appropriate to complete Task (B)(2). Obtain the new assessment results from ISC and recommend any necessary changes to CMM. (Task (B) (3))	Review the compiled members' reports and identify and rectify shortcomings. Continue to further development of harvest strategy to complete Task (B)(2).	Review the compiled members' reports and identify and rectify shortcomings. Continue to further development of harvest strategy to complete Task (B)(2).

	<u>Pacific bluefin tuna</u> Tasks (A) Review members' reports on their implementation of CMM on Pacific bluefin tuna. (B) Implement the Harvest Strategy including: (1) monitor probability of second rebuilding target being achieved on schedule; (2) continue to work to establish LRP, TRP and other elements of harvest strategy; (3) recommend any changes to CMM; (4) support MSE development, including stakeholder workshops, considering recommendations of the NC-IATTC Joint Working Group on the Management of Pacific Bluefin Tuna (JWG).	Review the compiled members' reports and identify and rectify shortcomings. Based on relevant work results from ISC and other pertinent information, recommend any necessary changes to CMM on Pacific bluefin tuna. Work in the JWG to further develop harvest strategy. JWG to recommend a set of operational management objectives and performance indicators for use in an MSE process and consider refining candidate HCRs and RPs. Obtain an overview of the ISC's technical workplan and any progress on the MSE, including but not limited to clarifications needed and consider at JWG8. If additional information is requested by the ISC from the JWG relevant to the MSE, JWG to solicit input from its stakeholders and task itself to address this at JWG9 in 2024, as appropriate. JWG to recommend an Interim Harvest Strategy to be applied during the period from the year in which the stock is projected to achieve the second rebuilding target of 20%SSB_0 to when a long-term harvest strategy based on MSE	Review the compiled members' reports and identify and rectify shortcomings. Review the 2024 stock assessment results and recommend any necessary changes to CMM. (Task (B) (3)). Work in the JWG to further develop harvest strategy. Obtain completed benchmark assessment for PBF and, if possible an update on progress of MSE from ISC. If additional information is requested by the ISC from the JWG relevant to the MSE, JWG to solicit input from its stakeholders and task itself to address this at JWG10 in 2025, as appropriate. JWG to recommend new management measures based on Interim Harvest Strategy.	Review the compiled members' reports and identify and rectify shortcomings. Review the 2024 stock assessment results and recommend any necessary changes to CMM. (Task (B) (3)). Work in the JWG to further develop harvest strategy. Obtain results from the MSE from ISC at JWG10 in 2025 JWG to recommend a final HS to the WCPFC and IATTC for adoption.

	(C) Develop CDS	process is implemented. Develop CDS based on the inputs from members and recommendations of the JWG, and further develop a draft CMM if needed.	Complete development of CDS.	
	<u>Swordfish</u> Further develop the harvest strategy consistent with CMM 2014-06, including consideration of a target reference point and associated harvest control rule.	Consider the new assessment results from ISC and consider appropriate amendment to the CMM. Consider responses from the ISC to NC requests. Consider and recommend appropriate TRP and associated HCR.		
b. Data	Achieve timely submission of complete data needed for assessments, formulation of measures, and review of Commission decisions. Consider systems to validate catch data	CCMs participating in the NC submit complete data on fisheries for northern stocks to the Commission. Encourage submission to Commission of Pacific bluefin tuna, North Pacific albacore, North Pacific striped marlin and swordfish data from all CCMs and make available to ISC.	CCMs participating in the NC submit complete data on fisheries for northern stocks to the Commission. Encourage submission to Commission of Pacific bluefin tuna, North Pacific albacore, North Pacific striped marlin and swordfish data from all CCMs and make available to ISC.	CCMs participating in the NC submit complete data on fisheries for northern stocks to the Commission. Encourage submission to Commission of Pacific bluefin tuna, North Pacific albacore, North Pacific striped marlin and swordfish data from all CCMs and make available to ISC.
c. Scientific support	Provide support for scientific studies.			
2. Non-northern stocks				
	<u>Striped marlin</u>	Review information from ISC that may inform management advice for the rebuilding plan	Review information from ISC that may inform management advice for the rebuilding plan	Review information from ISC that may inform management advice for the rebuilding plan

	Blue shark	Review information from ISC that may inform management advice	Review information from ISC that may inform management advice	Review information from ISC that may inform management advice
3. Non-target, associated, dependent species				
a. Seabirds	Evaluate effectiveness of current measures to minimize catch and mortality, and improve them as needed.	Review implementation of CMM 2018-03 in the northern area.	Review implementation of CMM 2018-03 in the northern area.	Review implementation of CMM 2018-03 in the northern area.
b. Sea turtles	Consider appropriate implementation of methods to minimize catch and mortality.	Review mitigation research results and consider management action.	Review mitigation research results and consider management action.	Review mitigation research results and consider management action.
c. Sharks	Consider appropriate implementation for CMM 2019-04 in the northern area.	Review scientific advice from ISC, if any, and consider management options as necessary. Encourage submission of all shark data to ISC.	Review scientific advice from ISC, if any, and consider management options as necessary. Encourage submission of all shark data to ISC.	Review scientific advice from ISC, if any, and consider management options as necessary. Encourage submission of all shark data to ISC.
4. Review effectiveness of decisions	Annually review effectiveness of conservation and management measures and resolutions applicable to fisheries for northern stocks.	Review effectiveness of North Pacific albacore measure (CMM 2019-03), including members' reports on their interpretation and implementation of fishing effort control. Review effectiveness of Pacific bluefin tuna measure.	Review effectiveness of North Pacific albacore measure (CMM 2019-03), including members' reports on their interpretation and implementation of fishing effort control. Review effectiveness of Pacific bluefin tuna measure.	Review effectiveness of North Pacific albacore measure (CMM 2019-03), including members' reports on their interpretation and implementation of fishing effort control. Review effectiveness of Pacific bluefin tuna measure.
5. ROP (Paragraph 9, Attachment C of CMM 2018-05)		Review implementation of ROP for fishing vessels operating in north of 20°N.	Review implementation of ROP for fishing vessels operating in north of 20°N.	Review implementation of ROP for fishing vessels operating in north of 20°N.
6. Cooperation with other organizations				
a. ISC		Consider action to support ISC.	Consider action to support ISC.	Consider action to support ISC.

b. IATTC	Following Article 22.4, consult to facilitate consistent management measures throughout the respective ranges of the northern stocks.	Have consultation to maintain consistent measures for North Pacific albacore and Pacific bluefin tuna. Hold a joint working group meeting on Pacific bluefin tuna management.	Have consultation to maintain consistent measures for North Pacific albacore and Pacific bluefin tuna. Hold a joint working group meeting on Pacific bluefin tuna management.	Have consultation to maintain consistent measures for North Pacific albacore and Pacific bluefin tuna. Hold a joint working group meeting on Pacific bluefin tuna management.