

REPORT OF THE INTER-SESSIONAL MEETING OF PANEL 1
(Bilbao, Spain, 23-25 July 2018)

1. Opening of the meeting

The meeting was opened by the Chair of Panel 1, Mr. Shep Helguilè (Côte d'Ivoire). The Chair introduced the new ICCAT Executive Secretary, Mr. Camille Jean Pierre Manel. Mr. Manel welcomed the participants and observers to this intersessional meeting and extended the support of the Secretariat in facilitating the discussions at the intersessional meeting. The Chair noted that the Terms of Reference were submitted by the EU with input from South Africa and the United States. One party expressed concerns that the Terms submitted were too broad and outside the purview of the Panel; however, the Chair acknowledged the need for broad terms in this context.

2. Nomination of the rapporteur

Grace Ferrara (United States) was designated as the rapporteur.

3. Meeting objectives

The objectives of the meeting as reflected in the agenda were agreed.

4. Adoption of the Agenda and meeting arrangements

The Agenda was adopted without changes and is attached as **Appendix 1**.

The Executive Secretary described the meeting arrangements and noted that the following 18 Contracting Parties were present: Angola, Belize, Brazil, Canada, Côte d'Ivoire, Curaçao, El Salvador, European Union, Gabon, Guatemala, Japan, Mauritania, Namibia, Panama, Senegal, South Africa, United Kingdom (OT) and United States. He also noted that one Cooperating Non-Contracting Party Entity and Fishing Entity, Chinese Taipei, was in attendance, as well as four Non-Governmental Organizations (IPNFL - International Pole and Line Foundation; ISSF - International Seafood Sustainability Foundation; The Pew Charitable Trusts; SCIAENA - Associação de Ciências Marinhas e Cooperação). The List of Participants is provided in **Appendix 2**.

The Chair noted that time would be given to CPCs to summarize issues raised in their opening statements.

5. Brief review on tropical tuna fisheries and stock status

The SCRS Chairman, Dr David Die, presented an overview of the status of the stocks considered by this Panel as well as the preliminary results of the 2018 stock assessment for bigeye tuna. He noted that the overall catch of bigeye tuna exceeded the TAC in 2016 and 2017 and that, although the catch level for CPCs with individual quotas had decreased in 2016-2017 compared to the period of 2010-2015, the catch level for CPCs without individual quotas in that same period had increased. It was also determined that, although catch by longline and baitboat fisheries had decreased, the catch by purse seine and other gears types had increased.

The latest assessment results indicated that bigeye tuna are overfished and subject to overfishing. Dr Die explained that the Kobe matrix and the management advice will be provided at the SCRS Plenary but the basic outcomes are not expected to change. Aside from the need to incorporate these estimates of uncertainty, Dr Die indicated that there is greater confidence in the results of the model used this year because it was able to incorporate more data, particularly set-by-set data from longline fisheries, than the models used in past years and it accounted for the size selectivity of the various fleets. All 18 runs conducted under SSC3 showed that the stock is in the red zone of the Kobe plot (overfished and overfishing occurring).

One CPC requested the Secretariat to provide total Task I nominal catches of bigeye tuna by CPC and gear type, together with allocated quotas as per Rec. 16-01. The Secretariat provided such table for the period 2010-2017. One CPC further requested that the catches by purse-seine gear to be provided for fish aggregating device (FAD) associated and free schools (**Appendix 3**).

One CPC asked whether any new conservation measures for bigeye tuna would also benefit the yellowfin tuna stock. Dr Die responded that some measures might increase catches of yellowfin tuna, e.g., a shift from fishing on FADs to fishing on free schools; the SCRS has observed this when purse seines fishing on free schools operate in the area closed to FAD fishing. Several CPCs noted the complexity of managing a multispecies fishery. Dr Die explained that the MSE process can help evaluate the impacts of individual management measures across stocks.

One CPC asked if the maximum sustainable yield (MSY) for bigeye tuna had increased or decreased in recent years. Dr Die explained that the current MSY is lower than in the past, while the spawning stock biomass (SSB) required to support MSY has been increasing.

One CPC requested that the SCRS Chair share the preliminary results of the fishery impact assessment for 2015-2017 that shows the reduction in SSB attributed to each fishing method. Dr Die presented preliminary results showing the impact of purse seine vessels fishing with FADs and longline vessels was relatively higher, by weight, than that of baitboats and purse seine vessels fishing on free schools. The Secretariat clarified that handline catches were included with baitboat for the purposes of data analysis. Dr Die explained that this analysis does not address the request from the Commission to characterize the expected impact on MSY, B_{MSY} , and relative stock status for both bigeye and yellowfin resulting from reductions of the individual proportional contributions of longline, FAD purse seine, free school purse seine, and baitboat fisheries to the total catch (paragraph 49c of Rec. 16-01). Further analyses will be developed at the SCRS meeting this fall to specifically address that request from the Commission.

6. Current conservation and management measures

There was general agreement that the measures in *Recommendation by ICCAT on a Multi-Annual Conservation and Management Programme for Tropical Tunas* (Rec. 16-01) do not take into account recent changes in the Atlantic tropical tuna fisheries. Many CPCs expressed serious concern that total reported catches substantially exceeded the bigeye TAC in 2016 and 2017. The yellowfin TAC was exceeded in 2016; yellowfin tuna catch data for 2017 were not yet available. The basic structure of Rec. 16-01 creates a problematic situation in which the TAC can be exceeded even when all CPCs are technically in compliance with the measure. CPCs also discussed the need to address the allocation table, as well as those CPCs that are not on the allocation table but are catching bigeye tuna.

Dr Die reiterated that preliminary results of the 2018 assessment clearly indicate a need to reduce overall catches of bigeye tuna and to reduce the high proportion of catches of small bigeye tuna from current levels. The CPCs agreed that a broad and holistic approach is needed to reduce overall fishing mortality and catch of small fish through fleet-specific measures that support rebuilding. Several CPCs urged that aspects of the fishery monitoring and controls in Rec. 16-01 should be strengthened to help ensure that total catches do not exceed the TACs for bigeye and yellowfin.

The CPCs agreed that, although the SCRS has been asked to provide several new analyses related to the impacts of Rec. 16-01, a great deal of scientific work has already been conducted, and the Commission must take action on the basis of the scientific information available at the 2018 annual meeting.

7. Considerations for modification of current conservation and management measures or adoption of new measures

CPCs expressed a willingness to work together to develop a comprehensive suite of measures to stop overfishing and support rebuilding of the Atlantic bigeye tuna stock. There was general agreement on two overarching goals: reducing the catch of bigeye tuna in accordance with scientific advice and reducing the mortality of juvenile bigeye tuna (<100 cm). There was a wide-ranging discussion of possible elements and options for a new tropical tunas management measure.

Capacity limits in conjunction with catch limits were discussed at length and were generally supported by the CPCs present; however, there was no agreement on the methods proposed to limit capacity. Several CPCs strongly supported limiting the number of support and supply vessels in the purse seine fishery as a method for limiting capacity in the FAD fisheries; however, the Secretariat noted the difficulty in defining and identifying those vessels. Another suggestion was to reduce the allowable number of FADs per vessel, consistent with measures taken by other tuna RFMOs. Several CPCs stressed that it would be difficult to quantify any benefit from stricter capacity limits and that capacity limits would not be an acceptable substitute for an Atlantic bigeye tuna TAC that is based on SCRS advice.

One CPC asked Dr Die how fisheries targeting bigeye tuna would be distinguished from those that catch bigeye as bycatch. He replied that for purposes of the SCRS, directed catches and bycatches of bigeye tuna are reported by weight in the same way.

The discussion of how to reduce the total catch focused largely on the structure of Rec. 16-01 wherein developing coastal CPCs harvesting over 3500 t would receive annual quotas and CPCs harvesting under that amount do not. As was the case in 2016 and 2017, it is possible for the TAC to be exceeded without any individual CPC exceeding their quota. However, when the TAC is exceeded, only the countries with quotas are required to pay back the overage. Some CPCs suggested that a quota should be allocated to all CPCs catching bigeye tuna in order to increase accountability and compliance with the TAC. Another idea was to lower the trigger for the small harvesters to 1000 t, accounting for more CPCs in the quota table but still providing some flexibility for the small harvesters. It was also suggested that the amount of carryover permitted under Rec. 16-01 is too high for an overfished stock and that carryover to adjusted quotas increases the likelihood that the TAC may be exceeded.

Several CPCs were concerned about the limitations these measures would impose on developing countries looking to develop their tropical tuna fisheries. One CPC recalled that the trigger level established for small harvesters (in paragraph 4b of Rec. 16-01) was originally designed to allow for some growth in the fisheries of developing coastal States. Several CPCs expressed their agreement, while others acknowledged this with the qualification that all fishing possibilities must be considered in the context of the status of the stock and other elements of the *Resolution by ICCAT on Criteria for the Allocation of Fishing Possibilities* (Res. 15-13). Senegal stated that the Commission may need to consider revising the allocation criteria for purposes of reaching agreement on an allocation scheme for bigeye tuna, but several other CPCs expressed concern that opening the allocation criteria would delay progress on improving tropical tuna management. Several CPCs suggested that those who have benefitted from catching bigeye tuna in the past have caused the depletion of the stock, and should, therefore, be responsible for any quota reductions that are necessary to rebuild the stock. Another CPC agreed that developing CPCs should be able to develop their fisheries, but indicated that the extent of the developments should be discussed at the Commission meeting and may need to be limited, based on scientific advice from the SCRS.

Several CPCs proposed the revision of the existing time and area closure to reduce the overall catch. El Salvador suggested a total closure of all industrial purse seine fisheries in the Atlantic Ocean for a period of time each year, as an alternative to a TAC. Dr Die recalled a previous analysis conducted by the SCRS, which concluded that any benefits of an Atlantic-wide time/area closure would depend on the behavior of the fleet. If the fleets harvest more during the open season to make up for the lost catch during the closure, then any potential benefits would be offset by this additional effort. Other options were discussed, such as to expand the time/area closure in geographic area, timeframe, and/or type of fishing styles. CPCs agreed to review the results of any additional analyses that may become available from the SCRS on the effectiveness of the FADs time/area closure, but several CPCs noted that the Commission should not delay in taking other actions as needed in the meantime.

Dr Die presented results from another SCRS study that indicated that the majority of the juvenile bigeye tuna caught in the fishery were harvested by purse seiners using FADs. South Africa suggested that any CPC using FADs should be on the allocation table. Options such as reducing the allowable number of FAD deployments, establishing limits on the number of FAD sets per vessel, additional FAD closure periods, and use of biodegradable FADs were discussed. However, CPCs agreed that the management of FADs requires specific definitions that have yet to be adopted by ICCAT and that more input from the SCRS is required to determine the best options for managing FADs. Due to the status of the stock and the urgent need for measures to reduce juvenile mortality, some CPCs proposed that immediate action be taken, such as reducing the number of FAD deployments, while the SCRS conducts analyses to guide the development of more permanent measures. The Secretariat and Dr Die noted that the Ad Hoc Working Group on FADs has developed some preliminary recommendations, but this list will not be finalized until the next meeting.

Several CPCs emphasized the importance of considering additional monitoring, control and surveillance measures to help ensure compliance and reporting, noting that the rebuilding plan for eastern Atlantic and Mediterranean bluefin tuna (Rec. 17-07) could serve as a template for additional fleet-specific measures. The ideas shared included inspection plans, capacity plans, higher rates of observer coverage, and electronic monitoring. One CPC noted that given the length and complexity of Rec. 17-07, those CPCs that are not members of Panel 2 did not have sufficient time to become familiar with these measures and discuss them at this meeting.

While there was no consensus on any specific elements of a new tropical tunas measure, it was agreed that the options should be reflected in a general way under Agenda item 9. CPCs expressed their intentions to continue informal discussion intersessionally in preparation for developing and adopting a revised measure at the 2018 annual meeting.

8. Draft plan for development of Management Strategy Evaluation (MSE) and Harvest Control Rules (HCR) for Tropical Tunas

The Commission has started a process of management strategy evaluation (MSE) for tropical tunas in order to support improved management of these stocks.

MSE is a process that requires close cooperation between the Commission, its various bodies, and all stakeholders. The MSE process is a multi-year process that can culminate in the adoption of a harvest control rule and/or a management procedure.

ICCAT is conducting MSE processes for a number of priority stocks. Some of these processes are well advanced, like the northern albacore MSE process that has led to the adoption of an interim harvest control rule. Other processes are still in the beginning stages, such is the case of tropical tunas. ICCAT has a roadmap for all these processes that establishes a calendar of MSE actions. The roadmap is designed to be modified by the Commission every year in consultation with the SCRS.

For the MSE process to be effective the Commission must establish clear operational management objectives. Once these objectives are clearly defined, quantitative performance indicators can be agreed upon. These indicators can then be used to evaluate the success or failure of management measures by evaluating trade-offs between competing objectives.

ICCAT has had an ongoing discussion on these management objectives for tropical tunas; however, the Commission has not yet adopted any specific objectives other than those enshrined in the Convention texts. The meetings of the ICCAT Standing Working Group to Enhance Dialogue between Fisheries Scientists and Managers (SWGSM) have recommended that, in the interim, the SCRS uses for the purposes of the development of the MSE, the equivalent objectives and performance indicators used in the northern albacore MSE. This would imply that each tropical tuna stock would have as operational objectives:

- Maintain each stock in the “green area” of the Kobe plot with 60% probability
- Maintain long-term catches at MSY
- Avoid large fluctuations in annual catches derived from TAC changes

The Commission has already agreed on performance indicators for each of these objectives for northern albacore. Similar performance indicators are reflected in Rec. 16-01.

It is clear that it is not always possible to achieve all these objectives simultaneously. For instance, in order to achieve 60% probability of being in the green area of the Kobe plot, catches may have to sometimes be lower than MSY.

An important distinction, however, is the Commission’s management of tropical tunas as a multi-species fishery, which adds an additional layer of complexity to the tropical tunas MSE process. One CPC stated that the objectives for tropical tunas should be different from those of northern albacore for this reason. There was some discussion about how multi-species objectives or fleet-specific operational objectives could help the Commission to consider trade-offs across species.

Dr Die explained that the Commission has two alternatives:

- a) Continue with management based on single stock objectives, and, thus, be driven primarily by the needs of the weakest stock (presently bigeye tuna),
- b) Define some multi-species or fleet specific objectives and, thus, be able to evaluate trade-offs in a more strategic manner for the tropical tuna complex.

One CPC reminded the Panel of the *Recommendation by ICCAT on the Principles of Decision Making for ICCAT Conservation and Management Measures* (Rec. 11-13) which states that for stocks that are overfished with overfishing occurring, the Commission shall immediately adopt management measures designed to have a high probability of ending overfishing. Another CPC suggested that, for example, the Commission might consider a range of rebuilding probabilities of 50%, 55%, and 60% to analyze the implications for the TAC. Some CPCs questioned whether 50% would be a high enough probability to satisfy that recommendation, noting that 60% probability had been used for several other ICCAT stocks. The SCRS Chair indicated that the Kobe Matrix will be prepared by the SCRS this fall in time to inform discussions at the annual meeting.

Another CPC suggested the objective of reducing the mortality of small bigeye tuna. There was general agreement that this proposal would support the overall goal of stock recovery. Discussion of this objective led to the question of how the term 'small fish' should be defined. Dr Die explained that the SCRS characterizes juvenile bigeye and yellowfin tunas as those with a length under 100 cm. One CPC raised the concern of defining small fish as juveniles, as the majority of the catch by surface gears is composed of juveniles. Dr Die presented several graphs confirming that for all gear types, with the exception of longlines, the proportion of the catch made up of juvenile fish exceeds 80% (**Appendix 4**). There was general agreement that one operational objective should be to reduce the overall proportion of juvenile catch as this is expected to result in a higher MSY that would benefit all fisheries.

With regard to the western Atlantic skipjack stock, Brazil noted that there is limited bycatch of juvenile bigeye and yellowfin tunas in this fishery, and suggested that this stock should be subject to a separate MSE. The SCRS Chair agreed that it would be appropriate to use a single-stock MSE to evaluate options for western skipjack.

9. Recommendations to the Commission and requests to the SCRS

Appendix 5 contains a list of elements and options that were discussed under Agenda items 7 and 8 and will receive further consideration at the next Commission meeting during the development of a new measure. There was general agreement that the new tropical tunas measure must be responsive to the final outcomes of the bigeye tuna stock assessment and other analyses presented by the SCRS to the Commission.

10. Other matters

The Panel addressed the table of recommendations developed during the second Performance Review of ICCAT. The recommendations pertaining to Panel 1 were reviewed and supplemented with new information as necessary. The final updated table is contained in **Appendix 6**.

The Secretariat requested that the Panel review the current schedule for reporting of bigeye tuna catch data by the CPCs. Recommendation 16-01 requires all CPCs to report data quarterly; however, the starting date of the fishing year is defined differently by some CPCs. The Secretariat asked the Panel to clarify this point and determine if any action needed to be taken. There was general agreement that the dates on which quarterly reporting is provided may be determined based on each CPC's fishing year. The Panel will return to this issue at the annual meeting in November.

11. Adoption of the report and adjournment

The meeting was adjourned. The report was adopted by correspondence.

Agenda

1. Opening of the meeting
2. Nomination of Rapporteur
3. Meeting objectives¹
4. Adoption of the agenda and meeting arrangements
5. Briefly review on tropical tuna fisheries and stock status (including preliminary results from the 2018 Bigeye tuna stock assessment and main challenges faced in the tropical tuna stocks assessments)
6. Current conservation and management measures (including challenges in their implementation and evaluation of their effectiveness)
7. Considerations for modifications of current conservation and management measures² or adoption of new measures that could include, inter alia:
 - Capacity limits
 - Catch limits
 - Time and/or area closures
 - Limits on/reduction of FAD fishing effort
 - Limits on/reduction of the number of support vessels
 - Other measures to reduce mortality of juvenile BET and YFT
 - Other measures
8. Draft plan for development of Management Strategy Evaluation (MSE) and Harvest Control Rules (HCR) for tropical tunas
 - Potential management objectives
 - Identification of performance indicators
 - Possible management procedures, including HCRs
9. Recommendations to the Commission and request to the SCRS
10. Other matters
11. Adoption of report and adjournment

¹ The meeting seeks to provide a forum for discussion on current and possible future management measures related to tropical tunas, including the possible future adoption of Harvest Control Rules.

² In discussing possible measures, Panel 1 should evaluate the scientific basis, conservation and management benefits, and compliance elements. In light of this evaluation, Panel 1 should seek to prioritize those measures (or combination of measures) that appear to have the greatest likelihood of supporting the relevant conservation and management objectives identified in item 8. Specific consideration should be given to the likely effectiveness and efficiency of these measures, and how CPCs verify compliance.

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Appendix 3

**Total Task I nominal catches of bigeye tuna (BET) for the period 2010-2017
by CPC, gear type and fishing mode**

Total Task I nominal catches of bigeye tuna (BET) for the period 2010-2017 by CPC, gear type and fishing mode. TAC and quotas as per Rec. 16-01. The catches for 2017 are provisional. Purse seine catches were split by fishing mode, FAD and Free School (FS) fishing, based on the available Task II data.

Fleet Group		Year								
		Main Gear	2010	2011	2012	2013	2014	2015	2016	2017
Fleet A		Longline	39206	34761	32606	29524	33169	35445	30960	29965
		Purse seine FAD	12892	11450	11184	11188	10800	12557	13878	12316
		Purse seine FS	3682	3293	3989	2270	2602	1797	2872	1331
		Bait boat	6731	11725	9436	8115	8079	7135	5986	7655
		Other surf.	286	237	29	64	25	120	468	160
	Fleet A Total		62797	61465	57244	51161	54675	57054	54163	51427
Fleet B		Purse seine	8628	10302	9533	10149	11209	11744	13757	13764
		Longline	3314	3139	2338	2720	3601	4921	5312	4098
		Other surf.	192	766	1123	2698	4892	5585	5874	7126
		Bait boat	1000	694	822	1121	652	867	802	567
	Fleet B Total		13133	14901	13815	16687	20354	23118	25745	25555
Total (Fleet A + B)			75930	76366	71059	67849	75029	80172	79909	76982

PANEL 1 INTERSESSIONAL MEETING, BILBAO 2018

Fleet Group	CPCs	CPC_TAC Rec 16- 01	Main Gear	Year							
				2010	2011	2012	2013	2014	2015	2016	2017
A	EUROPEAN UNION	16989	Purse seine FAD	8053	9176	8108	8054	7525	6417	8283	8359
			Purse seine FS	3152	2537	3151	2048	2467	1688	2709	1298
			Bait boat	5847	11214	9074	7654	7273	6571	5647	7346
			Longline	1278	973	726	966	1059	982	1115	1014
			Other surf.	286	237	29	64	25	120	468	160
	JAPAN	17696	Longline	15205	12306	15390	13397	13603	12391	10316	10977
	CHINESE-TAIPE	11679	Longline	13189	13732	10819	10316	13272	16453	13115	12028
	GHANA	4250	Purse seine FAD	4839	2274	3076	3134	3275	6141	5594	3957
			Purse seine FS	531	756	838	222	135	109	162	33
			Bait boat	883	511	362	461	806	564	339	309
			Other surf.						1		
	CHINA PR.	5376	Longline	5489	3720	3231	2371	2232	4942	5852	5514
	KOREA REP.	1486	Longline	2646	2762	1908	1151	1039	677	562	432
			Purse seine	0							
	PHILIPPINES	286	Longline	1399	1267	532	1323	1964			
Total Fleet A				62797	61465	57244	51161	54675	57054	54163	51427

PANEL 1 INTERSESSIONAL MEETING, BILBAO 2018

B	BRAZIL	Other surf.	22	210	555	2012	4332	4967	5336	6538
		Longline	1055	1452	1165	1377	1966	2606	2322	1044
		Bait boat	97	174	401	235	159	178	2	113
		Purse seine		5						
	CURAÇAO	Purse seine FAD	2401	3255	2548	1659	2021	2399	3277	2523
		Purse seine FS	346	232	402	340	336	174	322	321
	PANAMA	Purse seine FAD	2924	3438	1506	2728	2033	1240	1720	1132
		Purse seine FS	161	94	230	125	308	49	302	353
		Longline							315	105
	CABO VERDE	Purse seine FAD	542	911	698	1218	2249	2673	1625	991
		Purse seine FS	113	165	36	159	112	84	54	57
		Other surf.	1	1	1	1	7	7	1	5
	BELIZE	Purse seine FAD	160	345	611	848	962	1373	1048	672
		Purse seine FS	86	359	635	426	400	280	241	303
		Longline	48	556	12	103	163	224	474	287
	SENEGAL	Purse seine FAD						400	834	2677
		Purse seine FS						29	61	9
		Bait boat	843	215	226	639	361	501	577	287
		Other surf.	15	24	4	7	10	101	29	47
	UNITED STATES	Longline	443	603	582	509	584	574	386	572
		Other surf.	128	119	286	372	275	257	138	202
	GUATEMALA	Purse seine FAD	784	210	173	137	804	317	922	1250
		Purse seine FS	244	79	100	31	203	23	181	278
	GUINÉE Rep.	Purse seine FAD	402	525	1804	1674	1091			
		Purse seine FS	0	0	0	0	21			
	EL SALVADOR	Purse seine FAD						969	1302	1510
		Purse seine FS						23	148	215
	CÔTE D'IVOIRE	Purse seine FAD		47	601	627	438			
		Purse seine FS								
		Longline	576						465	311
		Other surf.		2	0	54	3	12	79	31

PANEL 1 INTERSESSIONAL MEETING, BILBAO 2018

MAROC	Other surf.		201	210	220	220	209	250	288
	Longline	276	99	90	88	80	100	100	123
St VINCENT & GRENADINES	Longline	396	37	25	15	30	496	622	889
	Other surf.		1		1	0	0		0
NAMIBIA	Longline	133	26	196	35	186	371	236	264
	Bait boat	48	263	181	100	54	94	123	91
S. TOMÉ E PRINCIPE	Purse seine	91	100	103	107	110	633	421	393
	Other surf.	6							
SOUTH AFRICA	Longline	137	124	35	294	282	143	111	196
	Bait boat	8	28	12	142	50	50	10	22
	Other surf.	0							
CANADA	Longline	97	121	155	190	186	249	166	208
	Other surf.	5	16	12	7	32	9	6	6
VENEZUELA	Purse seine	49	223	87	70	121	88	112	107
	Longline	31	27	9	18	30	44	31	35
	Bait boat	5	14	2	6	18	0	13	10
UNITED KINGDOM (O.Territories)	Other surf.	11	190	51	19				
	Bait boat					10	44	77	44
	Longline	0	0	0	4	9	0		
TRINIDAD & TOBAGO	Longline	40	33	33	37	59	77	37	28
	Other surf.			0					
BARBADOS	Longline	12	6	11	10	23	30	19	24
	Other surf.		2	4	1	3	0	1	
VANUATU	Longline	42	39	23	9	4			
GUINEA ECUATORIAL	Purse seine		58						
	Other surf.				3	10	17	4	11
URUGUAY	Longline	23	15	2	30				
Guyana	Longline						6	25	10
LIBERIA	Other surf.							27	
MEXICO	Longline	3	1	1	2	1	2	2	2
NIGERIA	Other surf.	3	1	0					

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	FRANCE (St-Pierre et Miquelon)	Longline	2			0	0		
	MAURITANIA	Longline						1	
	Non-contracting parties	Purse seine	324	257			989	1187	972
		Other surf.	0	0	0	0	6	4	
Total Fleet B			13133	14901	13815	16687	20354	23118	25745
								25555	

Appendix 4

Tropical tunas stock status

(Presented by SCRS Chair)

ICCAT SCRS Report Status of Tropical tunas



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ICCAT Stock Status Report card 2017 Tropical tunas

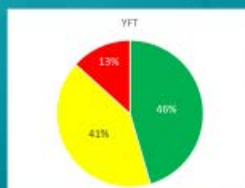
3 species, 4 stocks inhabiting similar areas, caught together by same gears – but with different stock status

Stock in 2014



BET (2015)

Stock in 2014



YFT (2016)

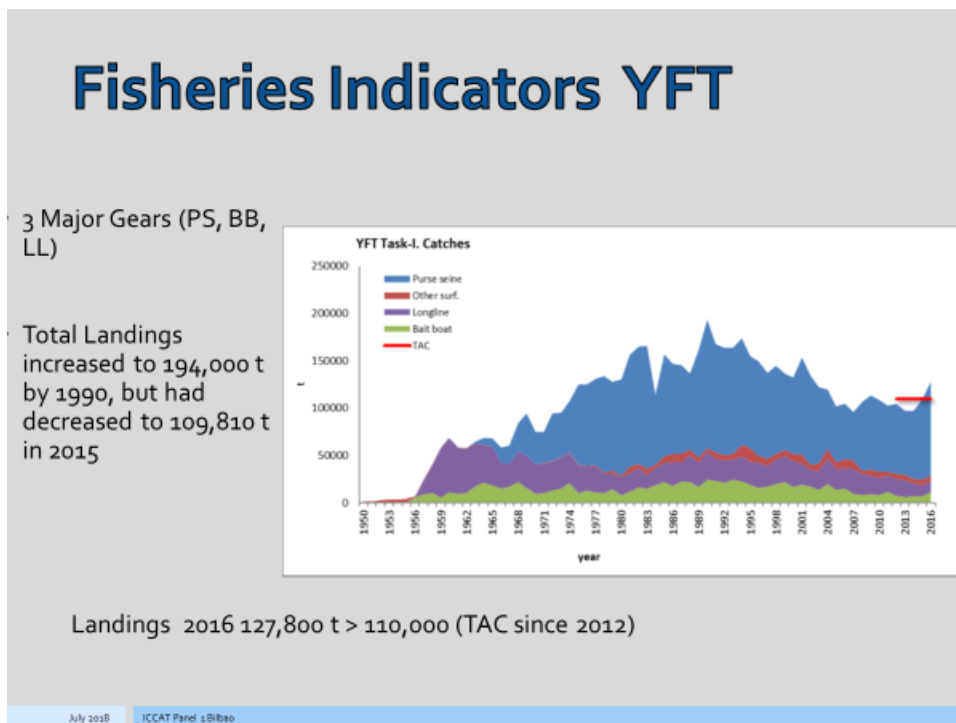
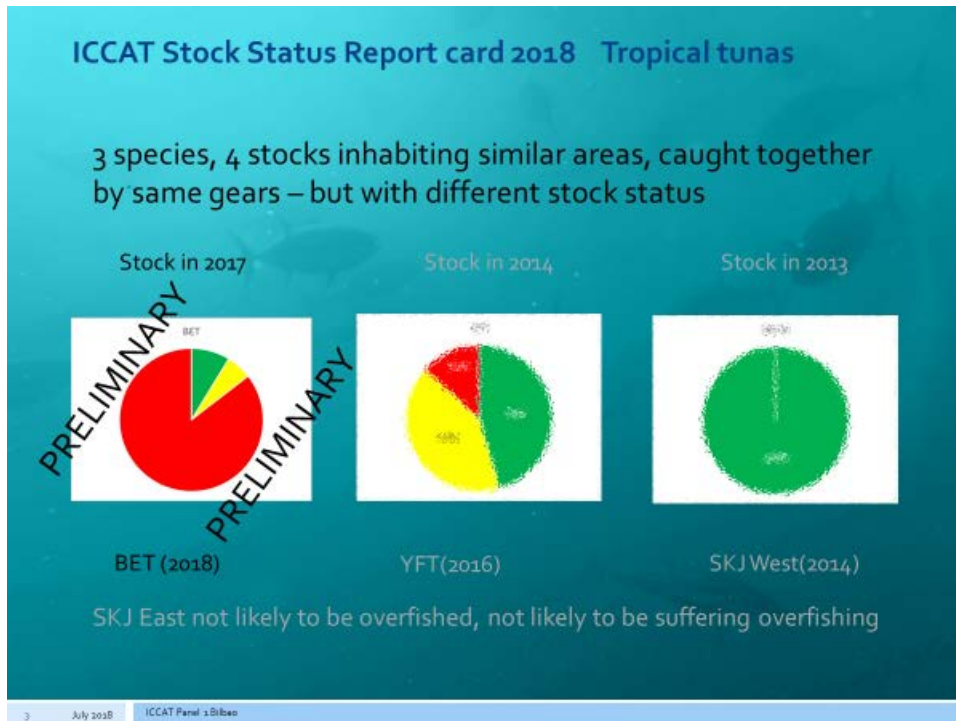
Stock in 2013

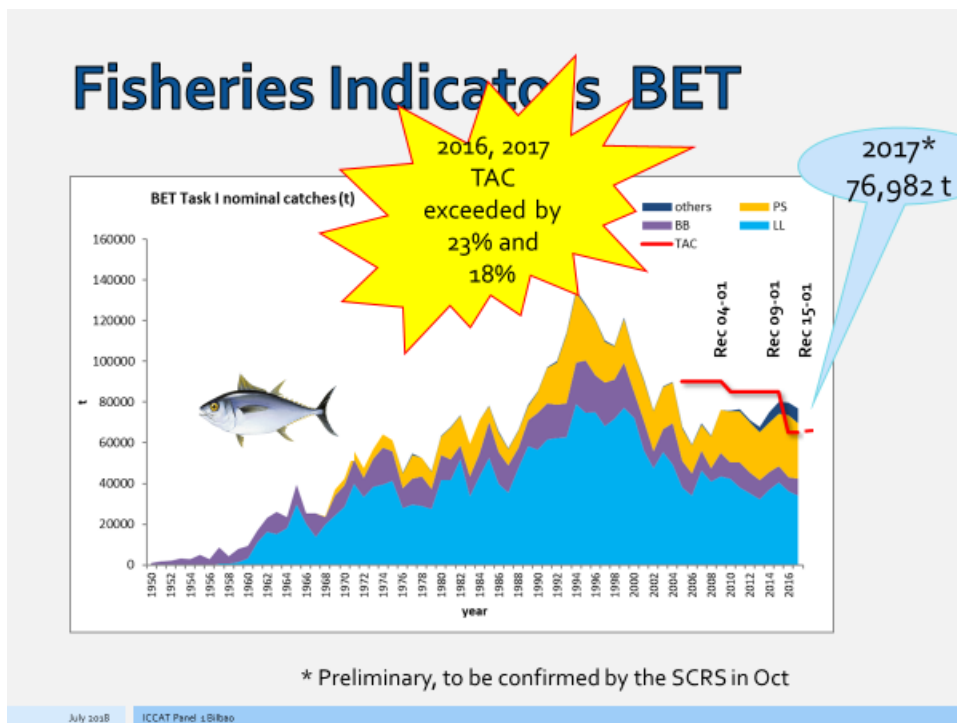
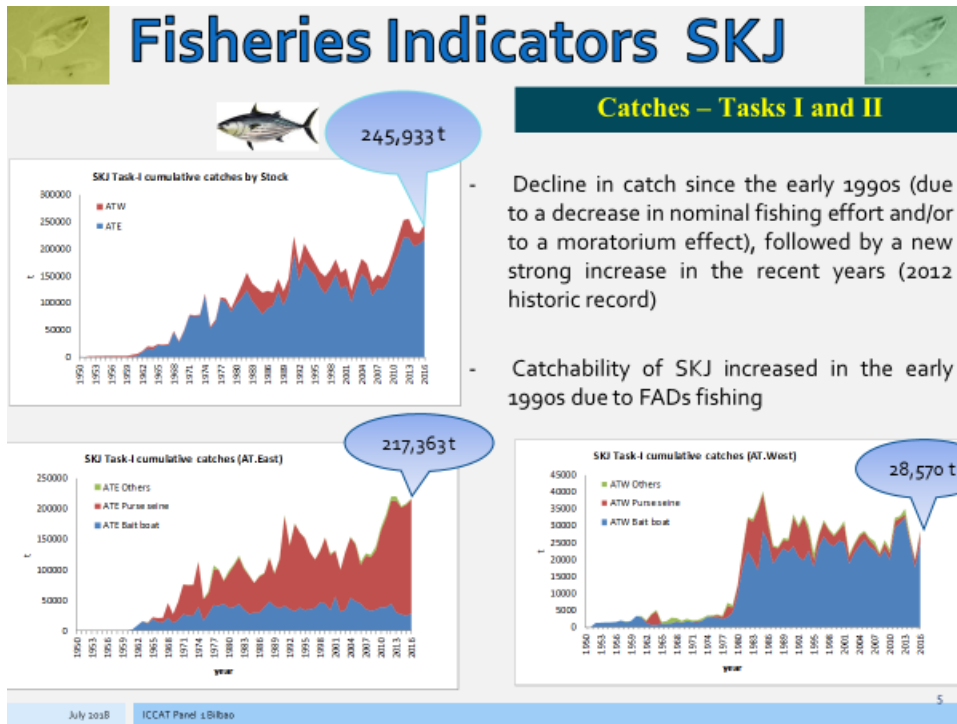


SKJ West (2014)

SKJ East not likely to be overfished, not likely to be suffering overfishing

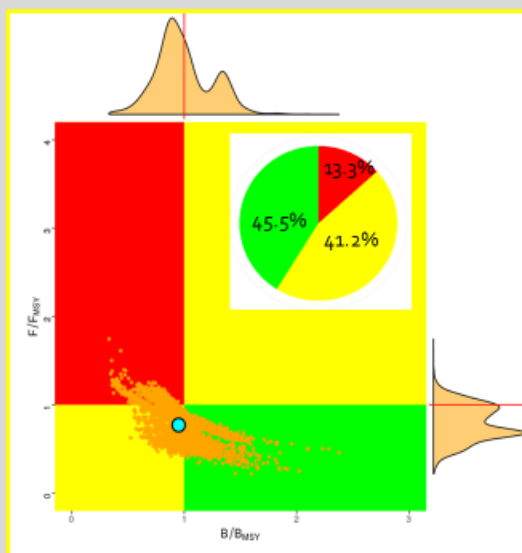
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Stock Status 2014 YFT

- Combined 7 models, equally weighted.
- $B/B_{MSY} = 0.95$
 - Overfished
- $F/F_{MSY} = 0.77$
 - Not Overfishing
- $MSY = 126,000$ t



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YFT Outlook

- Maintaining the current TAC of 110,000 t was expected to maintain healthy stock status through 2024 with >68% probability, increasing to 97% by 2024.

Current
TAC →

TAC	2017	2018	2019	2020	2021	2022	2023	2024
60,000	75	91	99	99	99	99	100	100
70,000	74	87	97	99	99	99	99	99
80,000	73	86	96	99	99	99	99	99
90,000	71	82	91	97	99	99	99	99
100,000	70	80	89	92	96	97	99	99
110,000	68	78	85	90	92	95	96	97
120,000	65	73	79	78	79	80	82	82
130,000	57	59	61	61	57	54	50	48
140,000	45	44	38	33	31	31	31	30
150,000	31	24	21	20	19	20	20	20

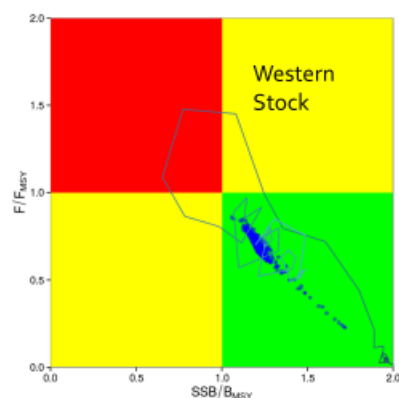
Joint Probability that $B > B_{MSY}$ and $F < F_{MSY}$

As the actual 2016 catches exceeded the values assumed for projections and the TAC (by 16%), the percentages above, are likely to be optimistic.

STATE OF THE STOCKS

ICCAT CICTA CICAA

State of the stocks



	East Atlantic	West Atlantic
Maximum Sustainable Yield (MSY)	Probably higher than previous estimates (143,000-170,000)	Around 30,000-32,000 t
Current yield (2016)	217,363 t	28,570 t
Current Replacement Yield	Unknown	Somewhat below 32,000 t
Relative Biomass (B_{2016}/B_{MSY})	Likely >1	Probably close to 1.3
Mortality due to fishing (F_{2016}/F_{MSY})	Likely <1	Probably close to 0.7
Management measures in force	Rec. 16-01	None

July 2018

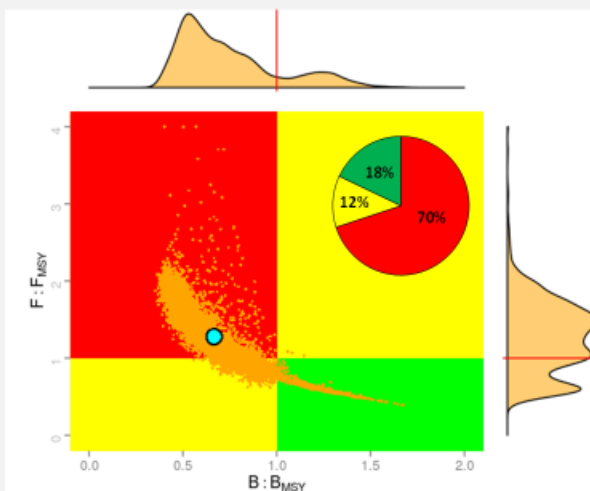
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BET 2015 Assessment

Status for 2014

- ✓ Catch 2016 ~ 72,375 t
- ✓ Average catch 2012-2016 ~ 72,911 t
- ✓ TAC 2016 65,000 t
- ✓ MSY = 78,824 t.
- ✓ (67,725 – 85,009 t)
- ✓ $B_{2014}/B_{MSY} \sim 0.67$
- ✓ (0.48–1.20) – Overfished
- ✓ $F_{2014}/F_{MSY} \sim 1.28$
- ✓ (0.62–1.85) - Overfishing



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ICCAT CICTA CICA *BET Assessment*
MANAGEMENT RECOMMENDATION

- Projections indicated that catches at the current TAC level (65,000 t) would have 49% chances of achieving Convention objectives by 2028.
- This probability may be improved by the additional measures (i.e. FAD moratorium) agreed by the Commission.

Probability of being in the green zone ($B > B_{msy}$ and $F < F_{msy}$)

Catch (000 t)	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
0	17	17	21	33	37	74	33	35	35	37	36	36	36	39
40	17	17	18	22	31	40	51	60	67	73	78	81	84	87
45	17	17	18	21	29	37	45	53	60	66	71	76	79	81
50	17	17	18	20	27	34	41	48	53	59	64	69	72	76
55	17	17	18	20	25	31	37	42	47	51	56	60	64	68
60	17	17	18	20	24	30	36	41	46	50	54	58	62	66
65	17	17	17	18	22	26	30	33	36	39	42	44	46	49
70	17	17	17	18	19	22	25	28	31	34	36	38	40	42
75	17	17	17	18	19	22	24	26	27	29	31	32	33	35
80	17	16	16	16	18	19	21	22	23	25	26	27	28	29
85	17	16	16	16	18	18	20	21	21	22	23	24	25	26
90	17	15	15	15	16	16	17	19	19	19	19	18	18	19
95	17	14	14	13	13	12	12	12	12	11	10	10	10	8
100	17	12	11	10	8	7	6	6	5	4	6	5	4	3

Preliminary and partial results of 2018 BET Assessment

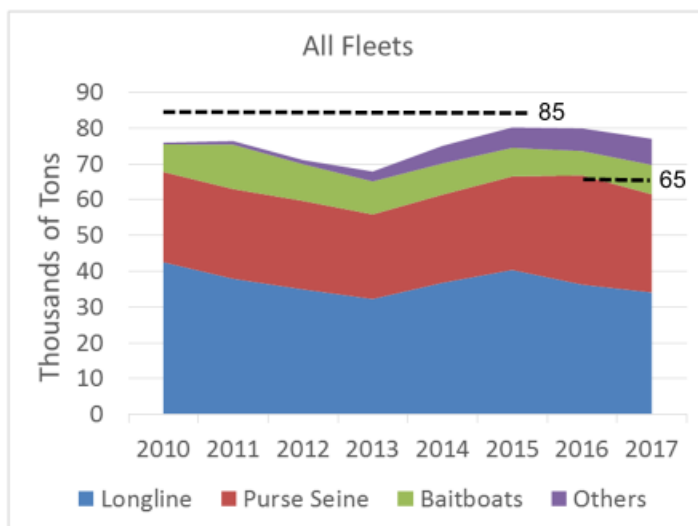


Data preparatory meeting
April 23-27 Madrid

Assessment meeting
July 16 -20 2018 Pasaia



CATCH of 2016 and 2017 exceeded TAC



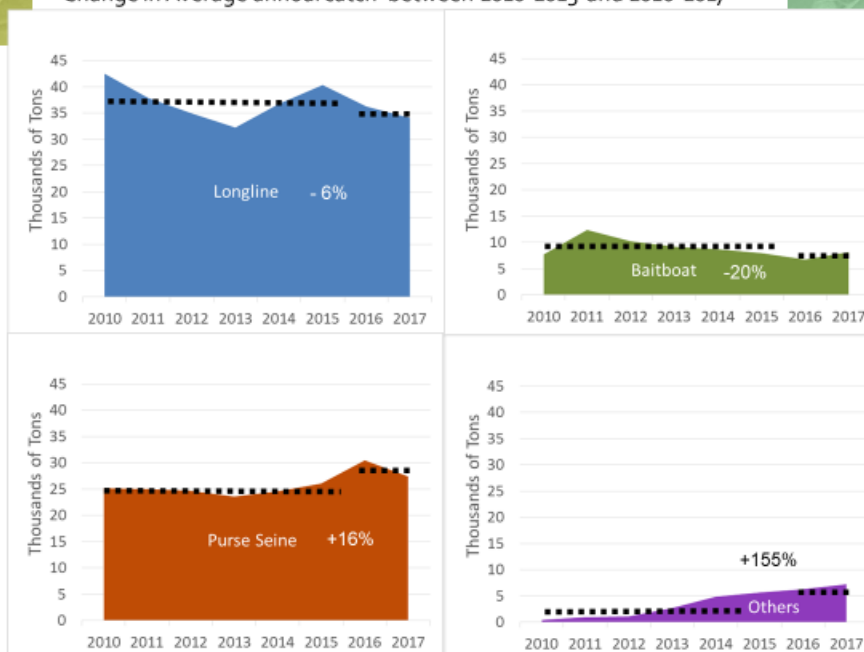
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Change in Average annual catch between 2010-2015 and 2016-2017



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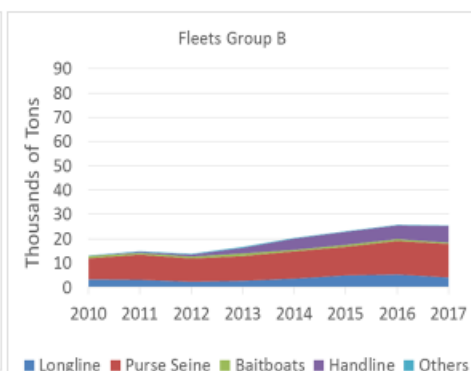
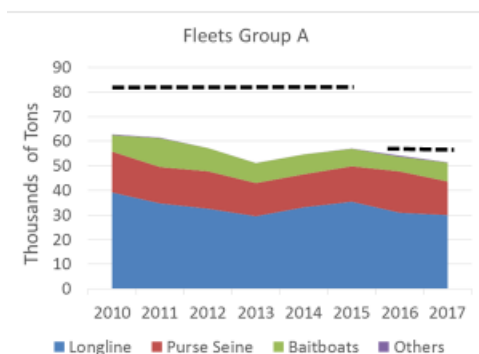


Fleets with catch limits



as per 16-01 paragraph 3

as per 16-01 paragraph 4



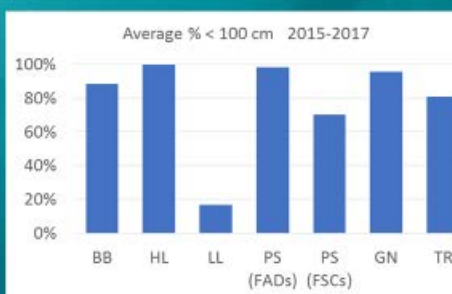
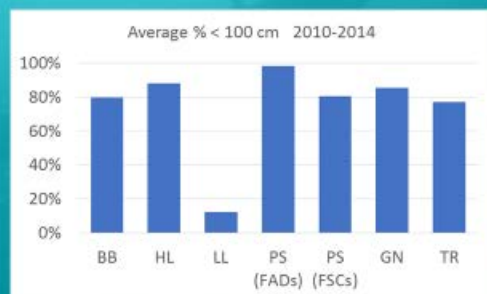
----- Aggregate catch limit for Group A

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Proportion of small BET (<100 cm) in the catch by fishing gear group for two recent periods 2010-2014 and 2015-2017

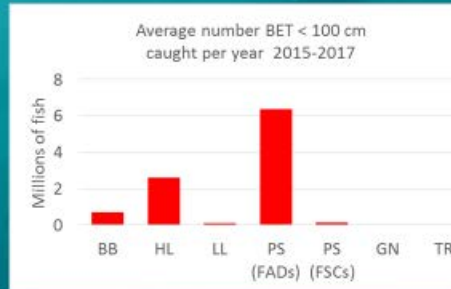


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Average number of small BET (<100 cm) caught per year by fishing gear group for two recent periods 2010-2014 and 2015-2017



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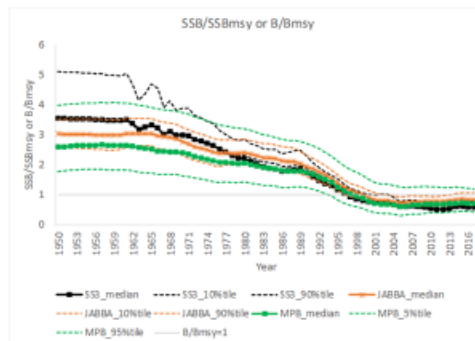
Assessment Models performed

mpb: Non-equilibrium production model

JABBA: Bayesian production model.

SS3: Statistical age-structured model.

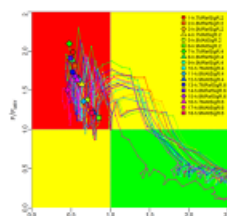
ALL THREE MODELS PROVIDE COMPARABLE ASSESSMENT RESULTS



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SS3

ADVICE IS PROVIDED WITH RESULTS FROM SS3

BECAUSE:

- IT USES MORE OF THE DATA
- CAN BETTER ACCOUNT FOR CHANGES IN FISHERY COMPOSITION, SELECTIVITY
- CAN HELP ANSWER QUESTIONS FROM THE COMMISSION ABOUT IMPACTS OF FISHERIES ON SMALL FISH

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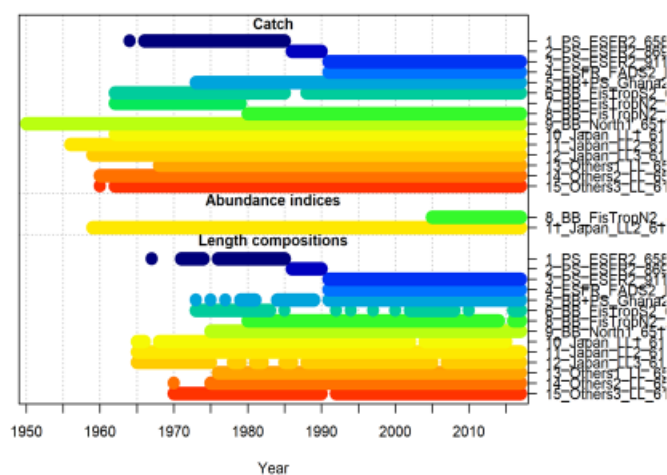


Assessment model

SS Model with 15 fleets (gear-area-period combinations)

Catch + Abundance index + Fish length data

Data by type and year

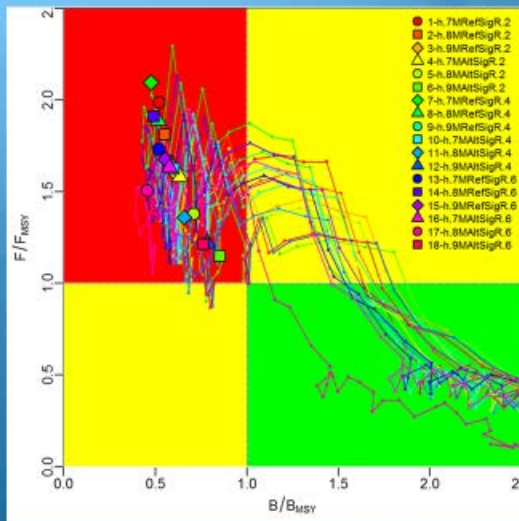


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Preliminary results: Overfished Overfishing

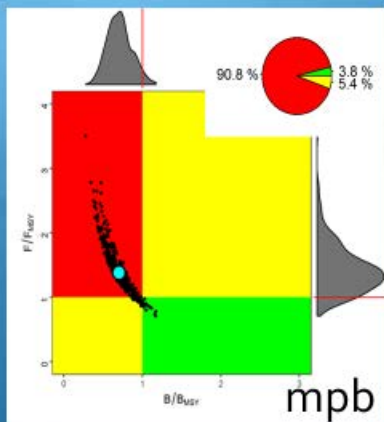


Kobe plot for the 18
deterministic runs
of the SS model
uncertainty reference grid

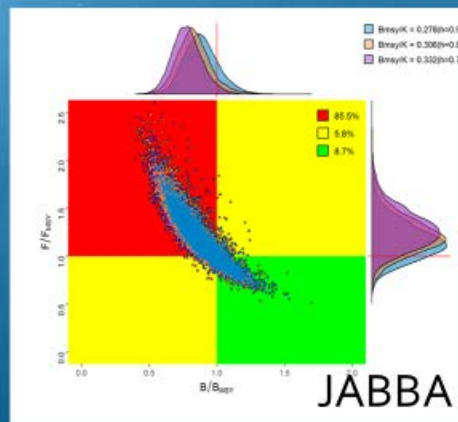
Full characterization of
uncertainty remains to be
completed

Kobe projection matrix
remains to be completed

SIMILAR RESULTS FOR OTHER MODELS: Stock is overfished and subject to overfishing



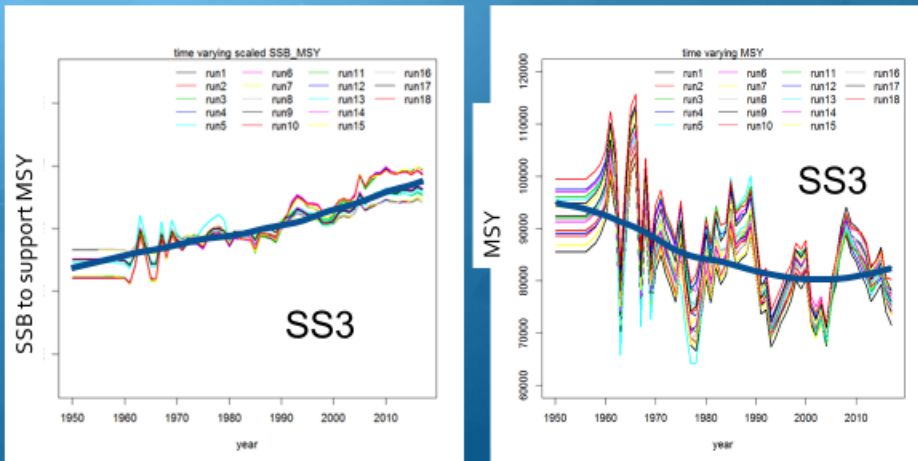
mpb



JABBA

Consequences of increases in the catch of small fish

- Spawning Biomass required to support MSY keeps increasing
- Current MSY is lower than past MSY

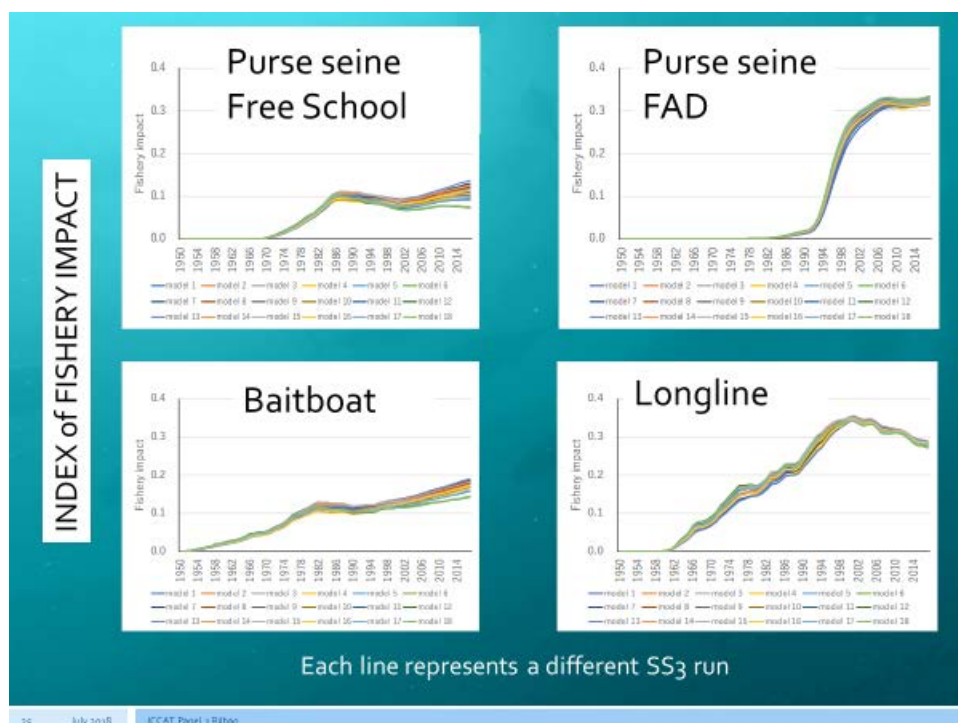


Fishery impact analysis



The method is based on having estimated the historical evolution of the spawning stock biomass. One can determine the impact of an individual fleet by:

- Removing from the population model the historical catch generated by that fleet.
- As such catch is removed, the stock responds by growing in spawning biomass.
- This growth is a measure of the foregone growth potential resulting from the harvests of each fleet, thus it is an indicator of the historical cumulative impact of each fleet on the overall stock spawning biomass.
- This methodology has been applied in other stocks (North Pacific Albacore) and uses the same SS3 model used in the stock assessment.



Average fishery impact index for 2015-2017

Gear type	Fishery Impact index (average of 2015-2017) (**)
Purse seine Free School	0.10
Purse seine FAD (*)	0.32
Longline	0.28
Baitboat	0.16

(*) includes the fleets of Ghana purse seine and baitboat
 (**) average of 18 SS₃ runs

Preliminary (*) conclusions of 2018 assessment:

Assessment results of 2018 are:

- less uncertain than those of 2015
- stock remains overfished and subject to overfishing
- stock in 2017 is in a worst state than 2014
- evolution of stock since 2015 is consistent with expected response to the recent catches, which have exceeded the TAC in 2016 and 2017
- MSY is lower now than prior to the 1990s because of the increase in catch of small fish since the 1990s

(*)To be reviewed by SCRS after projections are completed

Management Recommendations (2017)

Tropical tunas

- The Committee continues to recommend that effective measures be found to reduce FAD-related and other fishing mortality of small yellowfin tuna and bigeye tuna.

Skipjack

- East: increasing harvests and fishing effort for skipjack could lead to undesirable consequences ...for juveniles of yellowfin and bigeye that are caught in combination with skipjack in certain fisheries
- West: catches should not be allowed to exceed the MSY.

Bigeye

- Probability of reaching convention objectives is being reduced because recent catches have been exceeding the TAC of 65,000 tons

Appendix 5**Elements and options discussed under agenda items 7 and 8***(Presented by the PA1 Chair)*

Based on the general agreement of Panel 1 members that catches of bigeye tuna must be reduced, in light of the overshooting of the TAC in 2016 and 2017 while taking into account the latest scientific advice, and the willingness of Panel members to consider a suite of options that would, in some combination, be part of a rebuilding program, the following elements will be considered at the 2018 ICCAT annual meeting:

- TAC based on the 2018 SCRS recommendations of lowering the overall mortality on the stock. Given the Kobe matrix that will be produced by the SCRS, the Commission will have to decide on the appropriate TAC with the year they want to rebuild the stock by and the probability they want to achieve such rebuilding with.
- Greater accountability to the TAC. The Commission has to find ways to make sure that catches do not exceed the TAC through a range of possible measures such as:
 - Addition of CPCs to quota table
 - A lower “trigger” for CPCs without an allocation
 - Review of the quota sharing arrangement and establishing allocations, taking into account the allocation criteria
 - Continuation of annual quota adjustments for CPCs that overharvest quota
 - A sum of all quota allocations that, along with some set aside for minor harvesters, is equal to the TAC
 - Reduction of % annual carryover for quota under harvest
- Capacity limits used in conjunction with individual CPC catch limits to facilitate accountability to the TAC. A process should be considered to manage capacity efficiently, including the submission and assessment by Panel 1 of capacity plans and the special requirements of developing states.
- Measures for the purpose of reducing mortality of juvenile BET and YFT through a range of possible measures such as:
 - Reduce number of allowable FADs and FAD deployments, or establish limits on FAD sets
 - Limit the number of supply and support vessels
 - Incentives to use and eventually require biodegradable FADs
 - Expanded time/area closures
 - Atlantic-wide closure to PS fishing with FADs during a defined time period
 - Other expansion of current time/area closures
 - The measures above should be established on the basis of advice provided by the SCRS, although emergency measures might be adopted before the scientific advice becomes available. For that advice to be provided, CPCs which use FADs will have to provide detailed data on FAD use to the SCRS or alternatively to collaborate among CPCs to analyze a consolidated data set across fleets, as it was successfully done this year with set by set longline data for the purposes of establishing a CPUE index
 - Explore ways to reduce the impact of fisheries targeting juvenile BET
 - The SCRS should elaborate a set of definitions of FAD-related activities to be taken into account at the next Commission meeting
- In consideration of the above measures, consideration should be given to possible negative impacts on other fish stocks
- Consideration of improved compliance with existing MCS measures and additional monitoring, control, and surveillance measures, such as:

- Review of compliance with current observer requirements
- Increased observer coverage
- Expanded use of electronic monitoring
- Strengthened reporting requirements, e.g. inspection plans, capacity plans, etc.
- Other MCS measures, taking into account the special requirements of developing states, in particular for small-scale artisanal fisheries

In response to the SCRS request for the development of operational objectives in support of the MSE process, the Panel proposed the following:

- The SCRS should provide TAC projections for the three stocks of tropical tuna for a range of probabilities (50%, 55%, and 60%) to be in the green quadrant of the Kobe matrix for the three stocks of tropical tuna simultaneously
- The reduction of catch of juvenile bigeye tuna should be achieved to increase the MS

Appendix 6

Conclusions of the Ad Hoc WG on Follow Up of the Second ICCAT Performance Review

Not started/little progress
 Progress/requiring additional work
 Completed/significant progress made

Report chapter	Recommendations	LEAD	PA1	Term	Proposed Next Steps	Observations	Action to be taken, or already taken	Completion status following annual meeting
Bigeye	13. The Panel recommends that, in view of the current poor status of the stock, the sustainable management of the tropical tunas should be a key immediate management priority for ICCAT. The same commitment devoted to eastern bluefin by ICCAT, should now be addressed to the tropical tuna stocks.	PA1	X	S	Refer to Panel 1 to review implementation of Rec. 15-01 (as revised by Rec. 16-01) in 2017 and consider any necessary action. The Panel should further review BET management measures and take appropriate action in light of new scientific advice stemming from the next assessment.	Paragraph 6 of Recs 15-01 and 16-01 require review of management measures if the total catch exceeds the TAC.	<u>Stock assessment conducted in 2018.</u> <u>Intersessional meeting of Panel 1.</u>	<u>Progress to require additional work.</u>

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	14. The Panel notes that the lowered TAC has only a 49% probability of rebuilding the stock by 2028 and recommends that the TAC be decreased further to increase the probability of rebuilding in a shorter period.	PA1	X	S	Refer to Panel 1 to review implementation of Rec. 15-01 (as revised by Rec. 16-01) in 2017 and consider any necessary action. The Panel should further review BET management measures and take appropriate action in light of new scientific advice stemming from the next assessment.	Paragraph 6 of Recs 15-01 and 16-01 require review of management measures if the total catch exceeds the TAC.	<u>Stock assessment conducted in 2018. Intersessional meeting of Panel 1.</u>	<u>Progress to require additional work.</u>
	15. The Panel, noting that ICCAT has established a working group on FADs, recommends that ICCAT prioritise this work and, in parallel, pursue the initiative across all tuna RFMOs to pool the information, knowledge and approaches on how to introduce effective management of FADs into the tropical tuna fisheries on a worldwide scale.	PA1	X	S	Work on matters related to FADs is already underway, in particular within the context of the FAD WG. This should continue and Panel 1 should consider this work when discussing conservation and management measures for tropical tuna fisheries.	FAD WG should also work on this in association with Panel 1.	<u>Technical WG being establish within the FAD joint tRFMO WG to conduct some preliminary work as agreed during the 1st meeting of the FAD joint rRFMO.</u>	

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Bigeye	16. The Panel notes that, according to the SCRS, the area and time closure has not worked and therefore its impact on reducing juvenile catches of bigeye and yellowfin, is negligible. The Panel recommends that this policy needs to be re-examined and this can, in part, be done through initiatives on limiting the number and use of FADs.	PA1	X	S	Refer to Panel 1 for consideration when reviewing conservation and management measures for the tropical tunas fishery.	Additional information on this matter is expected from SCRS and FAD Working Group which has already started work on this issue.	<u>The SCRS will conduct an analysis to be presented to the Commission.</u>	
Yellowfin	19. The Panel recommends that a quota allocation scheme be adopted by ICCAT to manage the fishery, as is already the case for bigeye.	PA1	X	S/M	Refer to Panel 1 for annual review of the implementation of Rec. 15-01 as revised by Rec. 16-01 and consider any necessary action. The Panel should further review YFT management measures and take appropriate action in light of new scientific advice stemming from the next assessment.	Paragraph 11 of Recs. 15-01 and 16-01 require review of management measures if the total catch exceeds the TAC.	<u>To be reviewed in view of updated catch information and the next stock assessment.</u>	

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Skipjack	22. The Panel recommends that vessels which fish bigeye, yellowfin and skipjack tunas in the Convention area should be covered by Rec. 15-01. For reasons that are not clear to the Panel, skipjack fisheries in the West Atlantic seem to be outside the remit of Rec. 15-01.	PA1	X	M	Refer to Panel 1 for annual review of the implementation of Rec. 15-01 (as revised by Rec. 16-01). The Panel should further review SKJ management measures and take appropriate action in light of new scientific advice stemming from next assessment.		<u>No further actions required as the combination of fishery methods are different in the East and the West Atlantic. For the Western SKJ Stock no actions for the fleet are required under Rec. 15-01 as the combination of fishery methods are different from the Eastern Stock.</u>	
Data Collection and Sharing	6. The Panel recommends that a mechanism be found to allow minor occasional harvesters without allocations to report their catches without being subject to sanctions.	COC	X	M	Refer matter to the COC in cooperation with the other relevant bodies for consideration and also to the Panels as the issue could also be addressed in the context of management recommendations.	Overall efforts should be coordinated initially by the PWG.	<u>To be taken into account as the Commission develops new management recommendations.</u>	

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Data Collection and Sharing	6bis. The Panel concludes that ICCAT scores well in terms of agreed forms and protocols for data collection but, while progress has been made, more needs to be done particularly for bycatch species and discards.	SCRS	X	M			<u>Rec. 17-01 was adopted for the reduction of discards and should address this item.</u>	
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PANEL 1 INTERSESSIONAL MEETING, BILBAO 2018

Bigeye	12. The Panel recommends that bigeye, which is fished in association with juvenile yellowfin and skipjack on FADs, should form part of the long term management strategy for the tropical tuna stocks.	SWGSM	X	S/M	Refer to SWGSM where work is already ongoing.	FAD WG should also work on this in association with Panel 1.	<u>Panel 1 notes that this work is ongoing for all three main tropical tuna species. An MSE project has been initiated for the tropical tuna species considering a multi-species approach.</u>	
Yellowfin	18. The Panel recommends that yellowfin, which is fished in association with juvenile bigeye and skipjack on FADs, should form part of the long term management strategy.	SWGSM	X	S/M	Refer to SWGSM where work is already ongoing.	FAD WG should also work on this in association with Panel 1.	<u>Panel 1 notes that this work is ongoing for all three main tropical tuna species. An MSE project has been initiated for the tropical tuna species considering a multi-species approach.</u>	

PANEL 1 INTERSESSIONAL MEETING, BILBAO 2018

Skipjack	21. The Panel recommends that skipjack, which is fished in association with juvenile yellowfin and bigeye on FADs, should form part of the long term management strategy.	SWGSM	X	S/M	Refer matter to SWGSM where work is already ongoing.	FAD WG should also work on this in association with Panel 1.	<u>Panel 1 notes that this work is ongoing for all three main tropical tuna species. An MSE project has been initiated for the tropical tuna species considering a multispecies approach.</u>	
Rebuilding Plans	47. The Panel recommends that ICCAT move away from the current re-active management to re-redress the status of stocks through re-building plans, to a more pro-active policy of developing comprehensive long term management strategies for the main stocks. Such management strategies would encompass management objectives, harvest control rules, the stock assessment method, fishery indicators and the monitoring programme.	SWGSM	X	S/M	Refer to SWGSM where work is already underway; also relevant to the future work of the Panels.			

Fishing Allocations and Opportunities	63. The Panel considers that there are legitimate expectations among Developing CPCs that quota allocation schemes need to be reviewed periodically and adjusted to take account of a range of changing circumstances, notably, changes in stock distribution, fishing patterns and fisheries development goals of Developing States.	COM	X	S/M	Refer to Panels for consideration and appropriate action. Commission to coordinate action among the Panels.			
	64. The Panel considers it appropriate that quota allocation schemes should have a fixed duration, up to seven years, after which they should be reviewed and adjusted, if necessary.	COM	X	S/M	Refer to Panels for consideration and appropriate action. Commission to coordinate action among the Panels.			

	65. In determining quota allocation schemes in the future, the Panel proposes that ICCAT could envisage establishing a reserve within new allocation schemes (for instance, a certain percentage of the TAC), to respond to requests from either new CPCs or Developing CPCs, which wish to develop their own fisheries in a responsible manner.	COM	X	S/M	Refer to Panels for consideration and appropriate action. Commission to coordinate action among the Panels.			
Integrated MCS Measures	71. Evaluates the need and appropriateness of further expanding coverage by national and non-national on-board observers for fishing and fishing activities.	PWG	X	M	Refer to PWG for consideration and also the Panels as observer program requirements can be and some have been agreed as part of management measures for specific fisheries.	SCRS evaluation of current observer program requirements is pending due to lack of reporting.	<u>Expansion of observer coverage by ICCAT remains under consideration. CPCs concerned are also requested to report on their observer coverage by way of their annual report. Request the Compliance Committee to confirm whether CPCs are complying with the requirements contained in Rec. 16-14.</u>	-

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	72. Considers expanding VMS coverage, adopting uniform standards, specifications and procedures, and gradually transforming its VMS system into a fully centralized VMS.	PWG	X	S	Refer to PWG for consideration as Rec. 14-07 must be reviewed per para 6 in 2017. Also refer to the Panels as VMS requirements can be and some have been agreed as part of management measures for specific fisheries.		<u>Discussed at the April 2018 IMM Meeting; Agenda item 5a: A proposal was introduced and discussions are ongoing.</u>	
Reporting Requirements	85. The Panel recommends that ICCAT, though its Panels 1 to 4, should undertake an overall review of the current reporting requirements, on a stock by stock basis, both in relation to Task I and Task II data contained in the myriad of recommendations, in order to establish whether the reporting obligations in question could be reduced or simplified.	PWG	X	M	Refer to PWG to undertake this review and present its findings and suggestions to the Panels for their approval.	Such a review will involve many recommendations including proposals developed by virtually all the Panels. PWG is well placed to take a comprehensive look at all these measures. SCRS and the Secretariat could also provide support for this work where appropriate.	<u>Requests that, after receiving input from the Online Reporting Working Group by 30 June, the Secretariat circulate to Subsidiary Bodies a list of reporting requirements and how they are used. The Panel can consider which of these reporting requirements is redundant or unnecessary.</u>	

Reporting Requirements	87. The Panel recommends that ICCAT consider introducing a provision in new recommendations, whereby the introduction of new reporting requirements would only become effective after a 9 to 12 month period has elapsed. This would assist Developing States to adapt to new requirements. This is particularly relevant where the volume and/or nature of the reporting have changed significantly. The difficulties Developing States encounter in introducing new administrative/reporting requirements at short notice, is well documented in the compliance context. The option for Developed CPCs to apply immediately the new reporting requirements may of course be maintained, if those CPCs consider it opportune.	COM	X	S	Refer to all ICCAT bodies that can recommend binding reporting requirements for consideration when developing such recommendations. Commission to coordinate action among the bodies.			
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Decision-Making	91. Reviews its working practices in order to enhance transparency in decision-making, in particular on the allocation of fishing opportunities and the work of the Friends of the Chair.	COM	X	S	Commission to coordinate action among the bodies.	The Implementation of Res. 16-22 will assist with improving transparency in the COC Friends of the Chair process.	<u>An observation: Transparency, openness and participatory opportunities for all CPCs taken into account the ICCAT criteria in the allocation of fishery opportunities. Item not related to COC / or Friends of the Chair.</u>	
Presentation Scientific Advice	114. The Panel recommends that the Commission adopts specific management objectives and reference points for all the stocks. This would guide the SCRS in its work and increase the consistency of the SCRS advice.	SWGSM	X	S	Refer to SWGSM where work is already ongoing.			
	115. The Panel recommends that the development of harvest control rules through Management Strategy Evaluation should be strongly supported.	SWGSM	X	S	Refer to SWGSM and the Panels for consideration; work is already ongoing regarding this matter.		<u>ICCAT has started MSE process for 3 main tropical tuna species in 2018.</u>	

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Presentation Scientific Advice	116. The Panel recommends that in a precautionary approach, the advice with more uncertainty should, in fact, be implemented more readily.	COM	X	S	Commission to coordinate action among the bodies including referring for their consideration when drafting a new or revising an existing conservation and management measures.	Related to Rec. 43.	<u>Panel 1 will take this recommendation into account in the development of new management measures.</u>	
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