REPORT OF THE STANDING COMMITTEE ON RESEARCH AND STATISTICS (SCRS)

(Madrid, Spain, September 29 to October 3, 2014)

2014 Report of the SCRS

- Background
- General scope initiatives of the SCRS in 2014
- Responses to COM Requests
- General Recommendations(1)

- Species-specific Activities, Recommendations & Responses will be presented during the appropriate Panel Meeting
- Special focus will be given to species for which updated assessments/analyses were conducted:
    - Panel 1: Western and Eastern SKJ
    - Panel 2: Western and Eastern BFT
    - Panel 4: Mediterranean SWO

2014 SCRS participants

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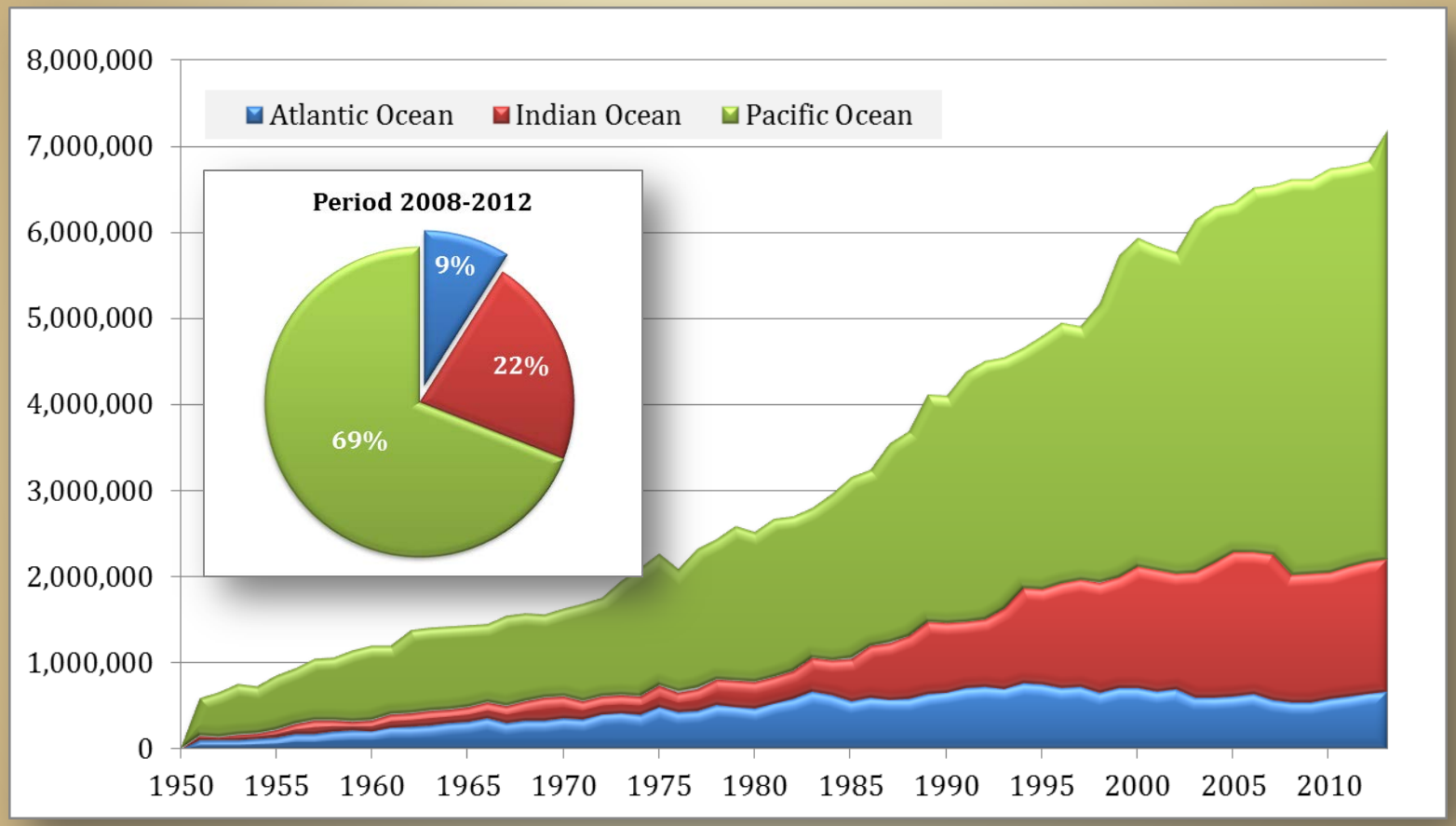
Reported catches in the different oceans:

Tuna, bonitos & billfishes

7.2 million t in 2012 (0.7 in the Atlantic)

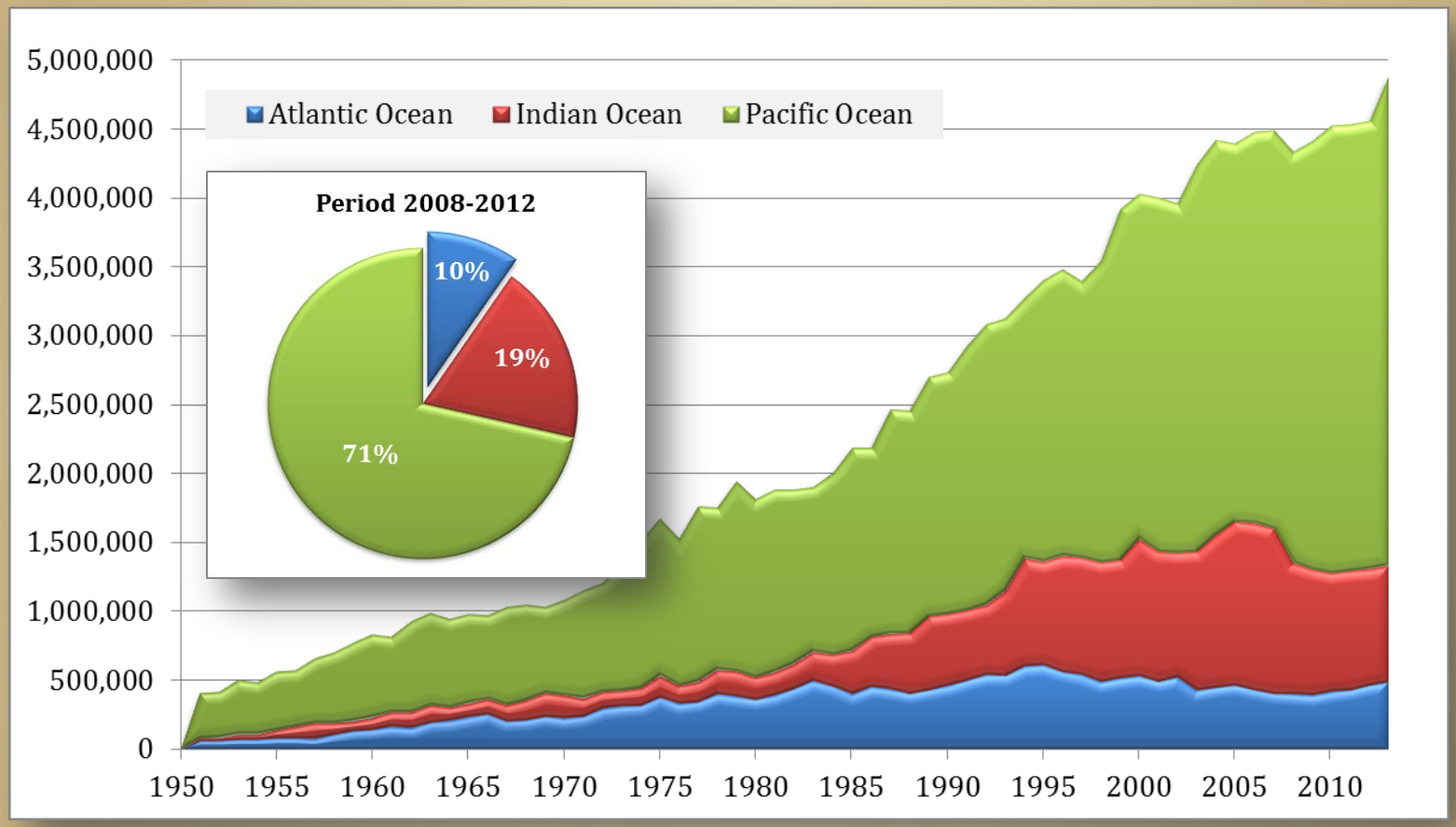


Tuna, Small Tuna and Billfish world production: **>7.0 million t in 2012.**

Reported catches in the different oceans:

5 major Tunas

4.9 million t in 2012 (0.49 in the Atlantic)

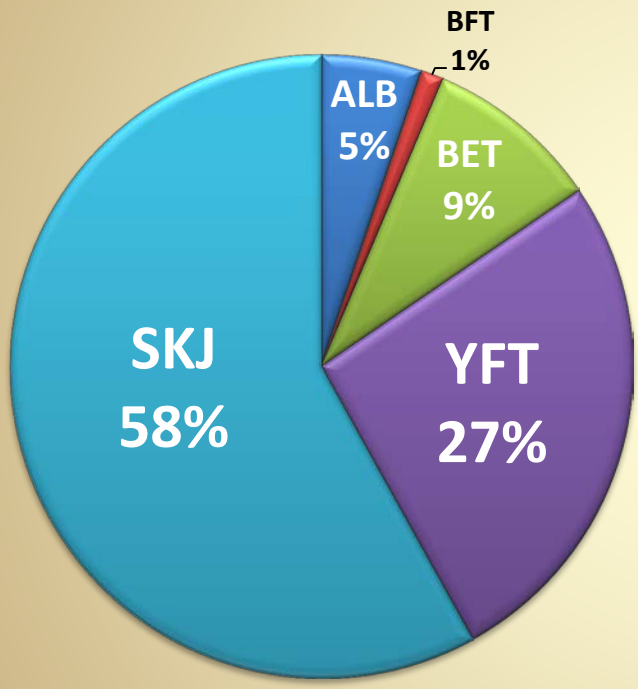


- World Tuna catches had been stabilized ~ 4.5 million MT since 2003
- **4.9 million MT in 2012**

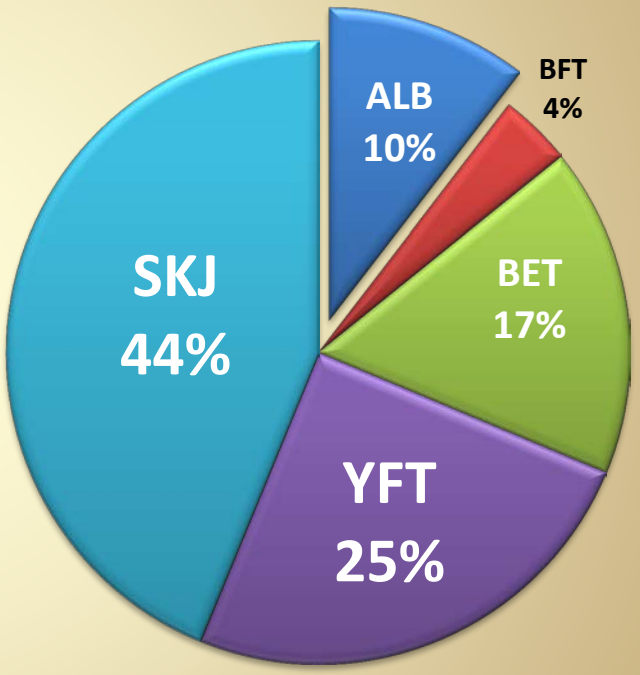
Reported catches in the different oceans:

5 major Tunas

(Average % 2008-2012)

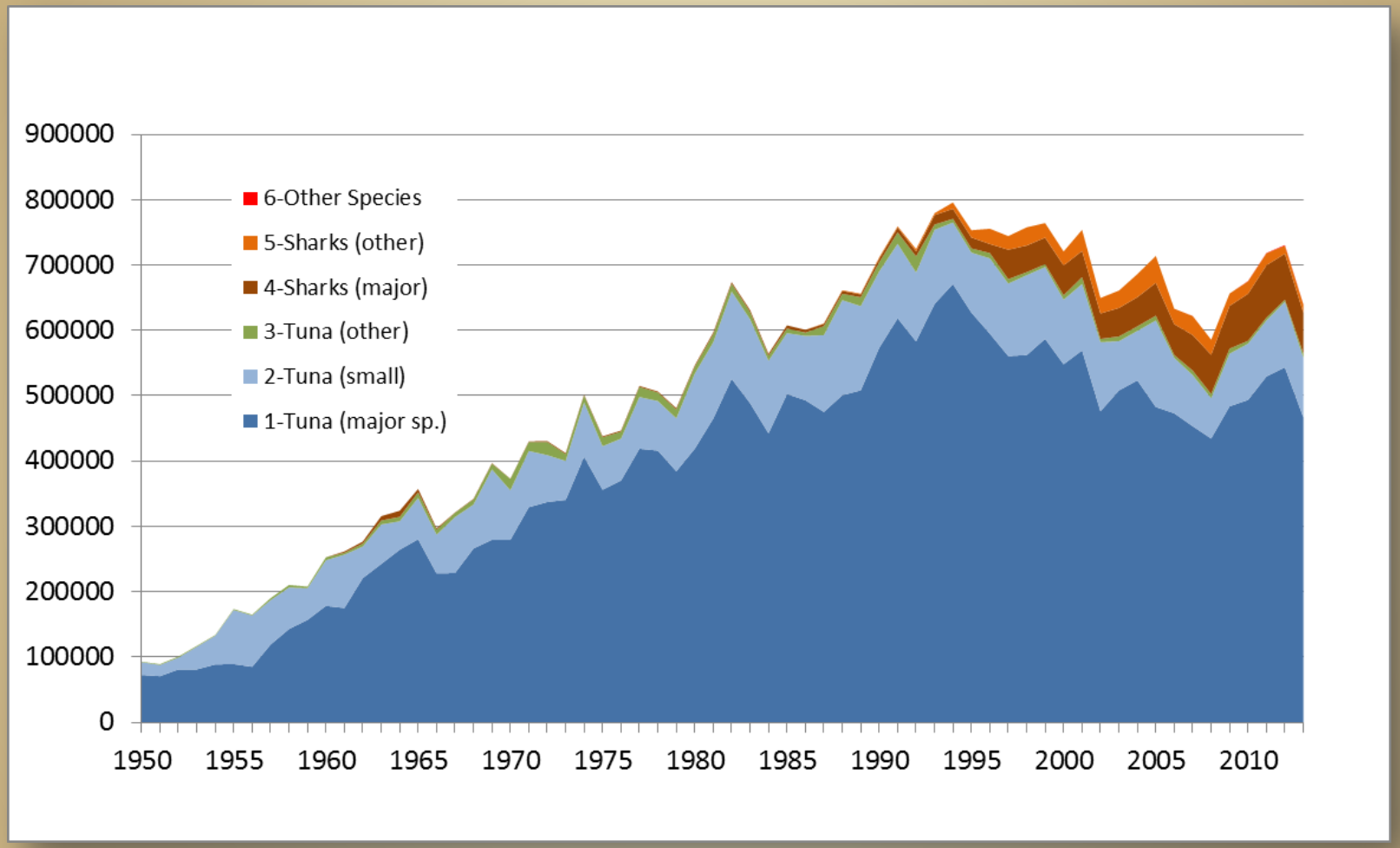


All oceans: 4.9 million t in 2012



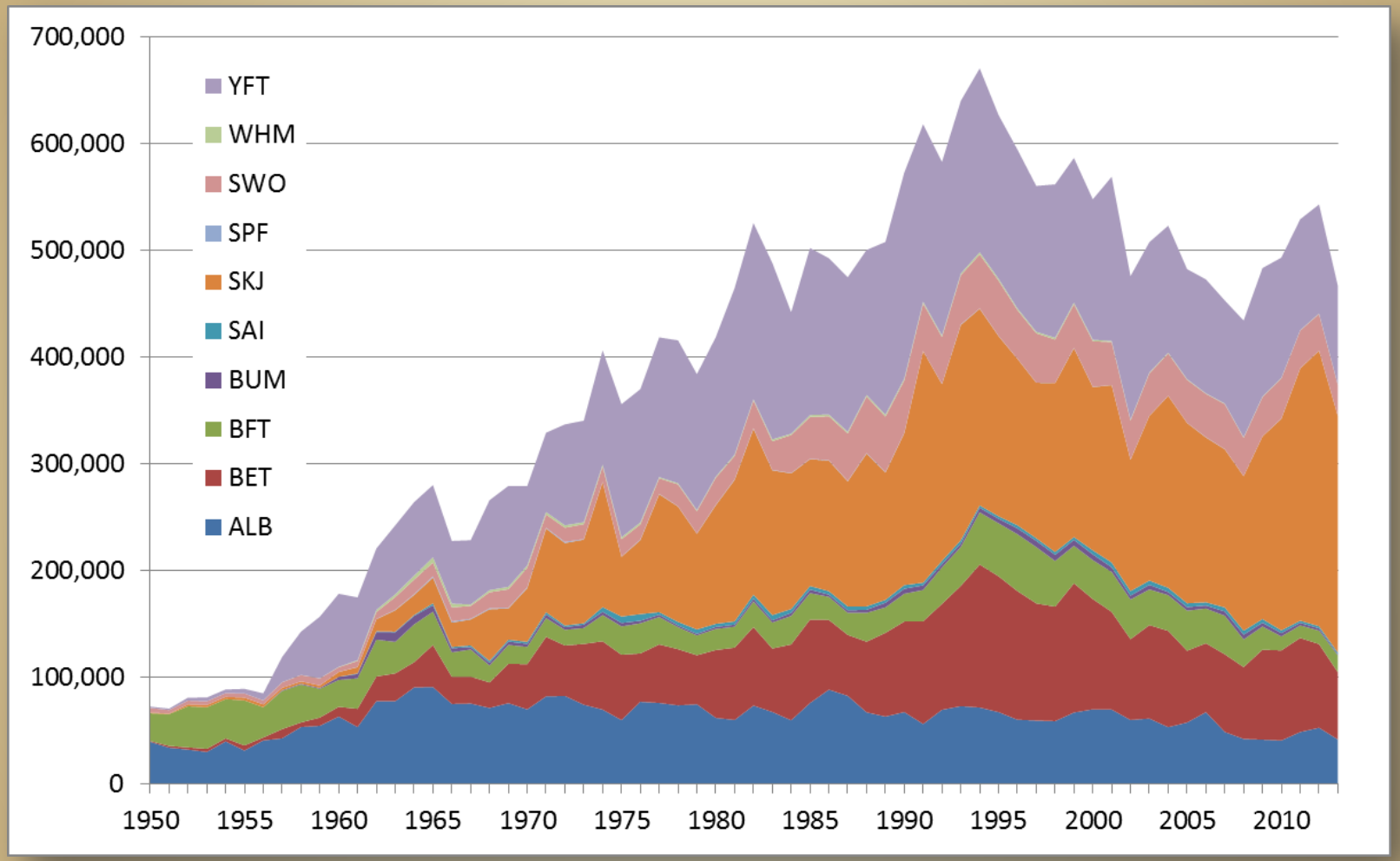
Atlantic: 0.49 million t in 2012

Reported catches in the ICCAT Convention Area



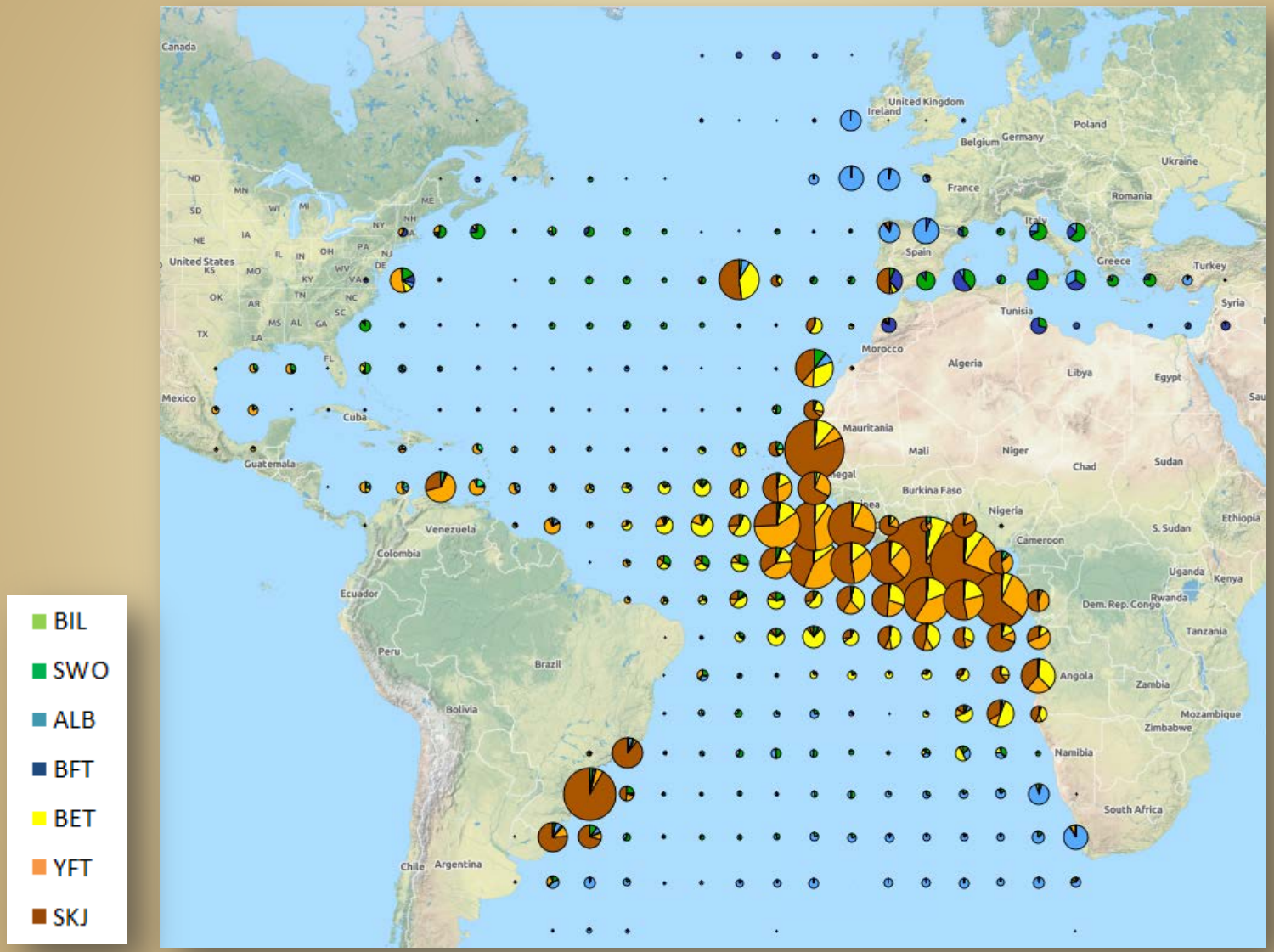
- Overall, reported catches in the ICCAT Convention Area peaked in the 1990s and have generally been in decline over the past decade
- 2009 marks the beginning of a recent reverse of this trend

Reported catches in the ICCAT Convention Area



- **SKJ** is the cause of the recent increase in catches:
  140,000 to 258,000 from 2008 to 2012 / **222,000** in 2013

Reported catches in the ICCAT Convention Area



2010-2012

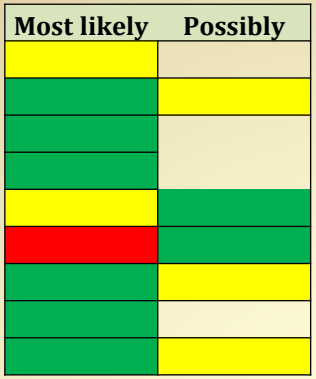
ICCAT Stock Status Report card

ICCAT ASSESSMENT FREQUENCY BY STOCK															
Stock	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Bluefin - West			■				■		■		■		■		■
Bluefin - East			■				■		■		■		■		■
Bigeye			■		■			■			■				
Skipjack - West									■						■
Skipjack - East									■						■
Yellowfin	■			■					■			■			
Albacore - North	■							■		■				■	
Albacore - South				■				■				■		■	
Albacore - Med											■	■			
Swordfish - North			■				■			■				■	
Swordfish - South			■				■			■				■	
Swordfish - Med				■				■			■				■
White Marlin			■				■						■		
Blue Marlin							■					■			
Sailfish - West		■								■					
Sailfish - East		■								■					
Blue Shark					■				■						
Shortfin Mako - N&S					■				■				■		
Porbeagle - multiple										■					

ICCAT Stock Status Report card

2014

Species	Stock	Last SA	Next SA	Most likely	Possibly
YFT		2011	2016		
BET		2010	2015		
SKJ	E	**2014**			
SKJ	W	**2014**			
ALB	N	2013			
ALB	S	2013			
ALB	M	2011			
BFT	E	**2014**	2016		
BFT	W	**2014**	2016		
SWO	N	2013			
SWO	S	2013			
SWO	M	**2014**			
BUM		2011			
WHM		2012			
SAI	E	2009	2016		
SAI	W	2009	2016		
BSH	N&S	2008	2015		
SMA	N	2012			
SMA	S	2012			
POB	NE	2009			
POB	NW	2009			
POB	SW	2009			
Seabirds		2009			
Other sharks		2012			
Sea turtles		-			



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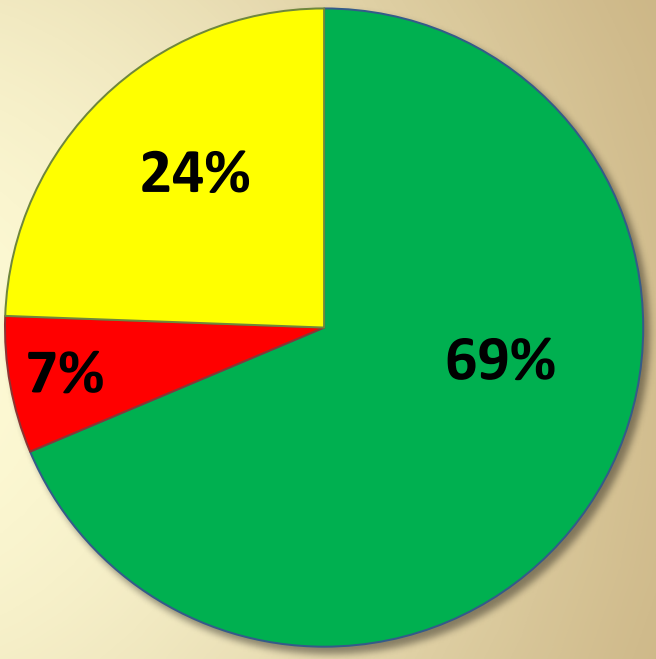


7% of the tuna catches in the ICCAT Convention area in 2013 came from stocks in the "red" zone

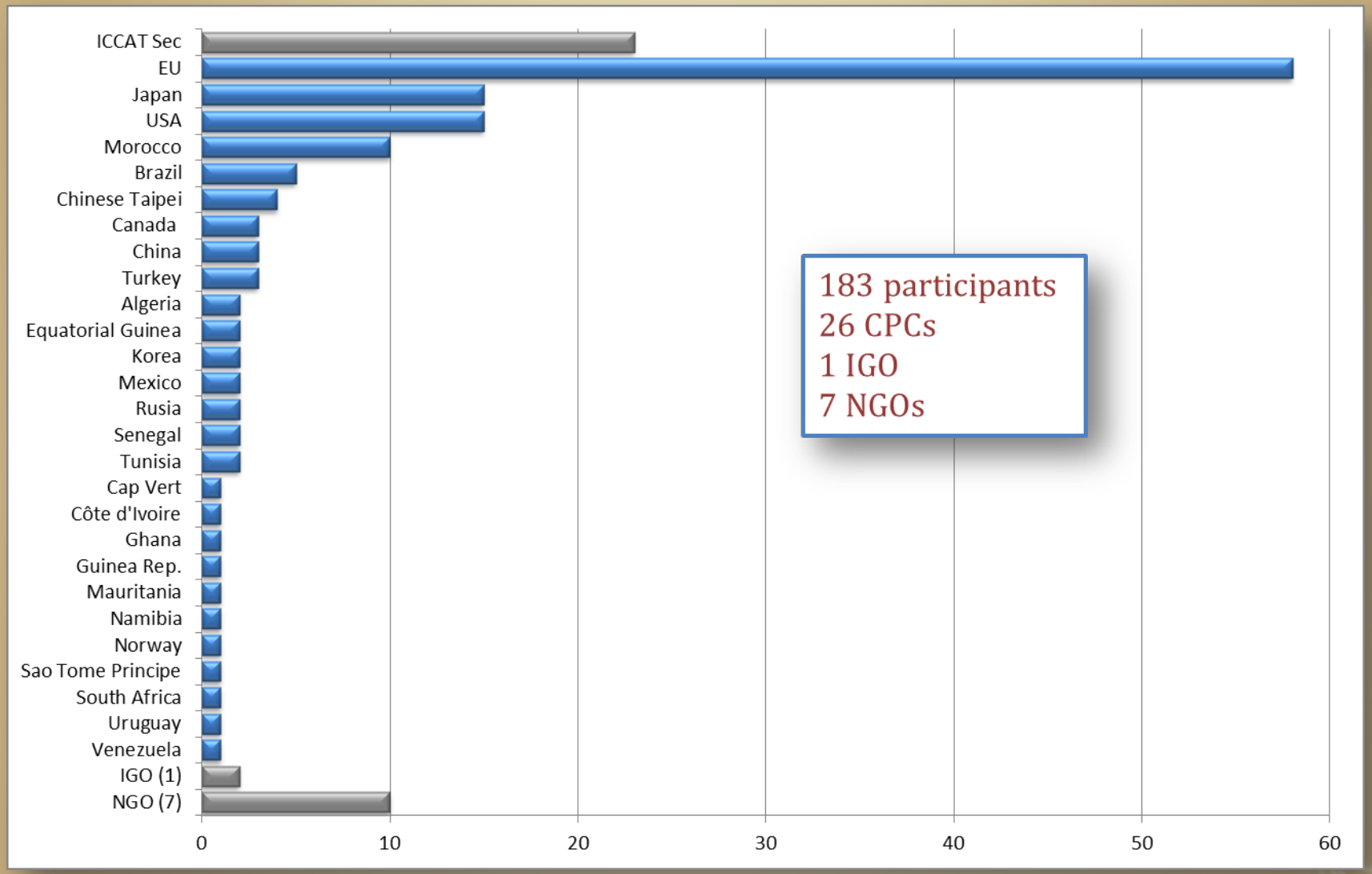
* WBFT: Equaly plausible

General scope initiatives of the SCRS in 2014

- 2014 SCRS participation
- SCRS Science Strategic Plan [2015-2020]
- Dialogue with the Commission
- Collaboration with other international organizations
- Other actions and initiatives
  - Working Group on Stock Assessment Methods
  - Subcommittee on Ecosystems
  - Subcommittee on Statistics

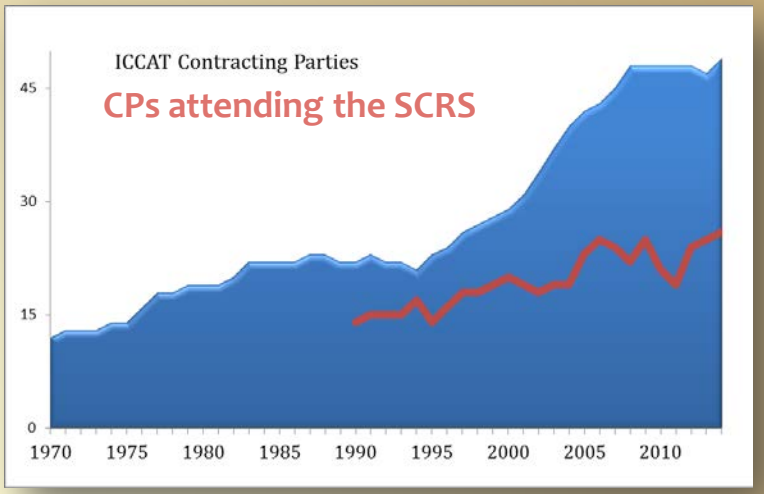
2014 SCRS participation

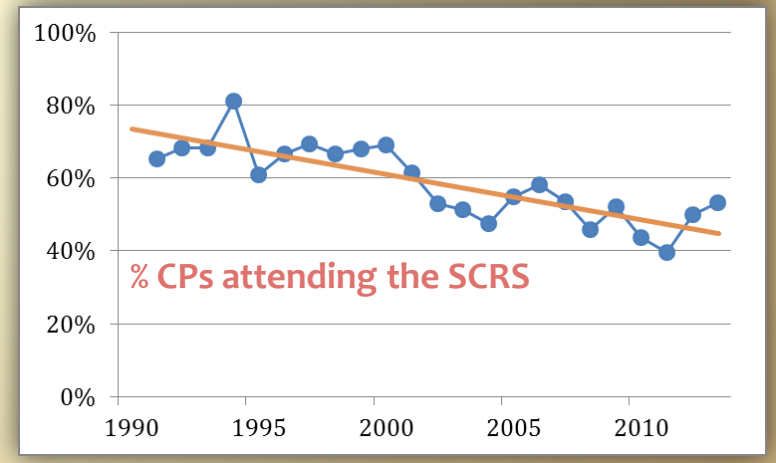
2014 SCRS participation



2014 SCRS participation

X	JAPAN		PANAMA
X	SOUTH AFRICA		TRINIDAD & TOBAGO
X	GHANA	X	NAMIBIA
X	CANADA	X	BARBADOS
	FRANCE (St-Pierre et Miquelon)		HONDURAS
X	BRASIL	X	ALGÉRIE
X	MAROC	X	MEXICO
X	KOREA, Rep. of	X	VANUATU
X	CÔTE D'IVOIRE		ICELAND
	ANGOLA	X	TURKEY
X	RUSSIA		PHILIPPINES
	GABON	X	NORWAY
X	CAP-VERT		NICARAGUA
X	URUGUAY		GUATEMALA
X	SÃO TOMÉ E PRINCIPE	X	SENEGAL
X	VENEZUELA		BELIZE
X	GUINEA ECUATORIAL		SYRIA
X	GUINÉE REP		St VINCENT & THE GRENADINES
	UNITED KINGDOM (O. territories)		NIGERIA
	LIBYA		EGYPT
X	CHINA, People's Rep. of		ALBANIA
X	MAURITANIA		SIERRA LEONE
X	EUROPEAN UNION		CURAÇAO
			LIBERIA

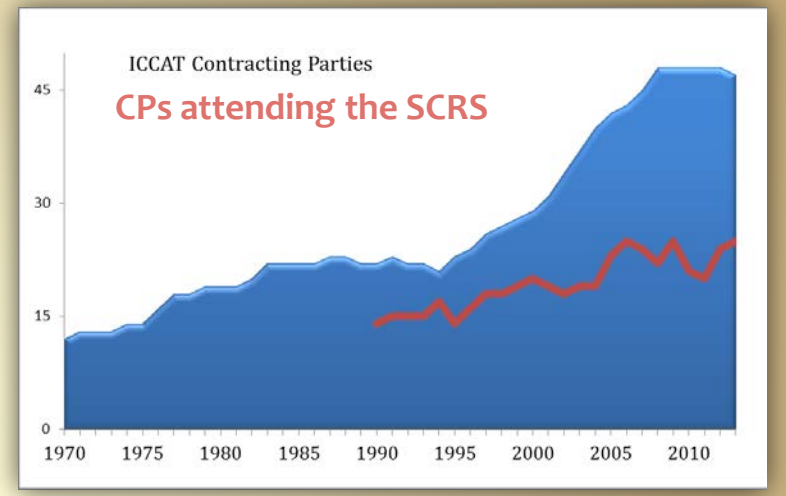


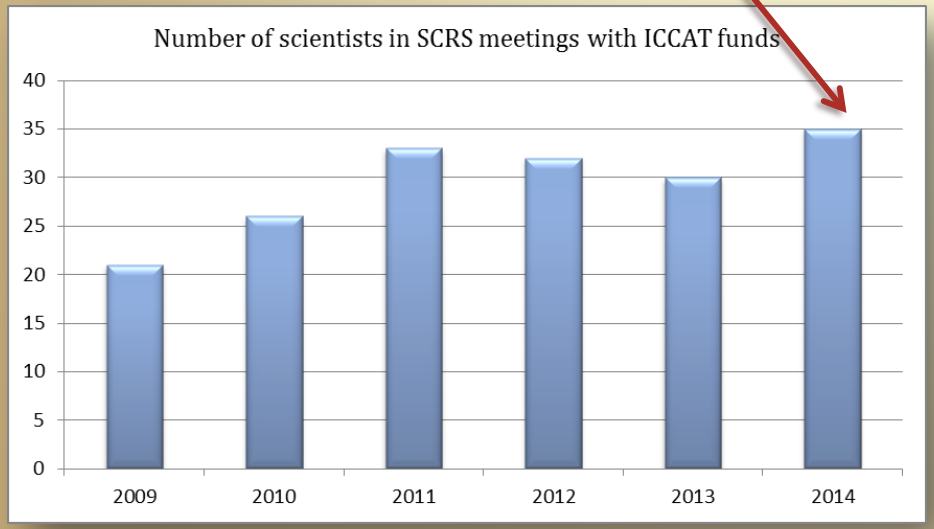


- SCRS 2014: **26** CPs.
- Only **53% of the 49 CPs** were represented at the 2014 SCRS and Species Groups discussions where Scientific & Fishery Management Advice is developed.

2014 SCRS participation

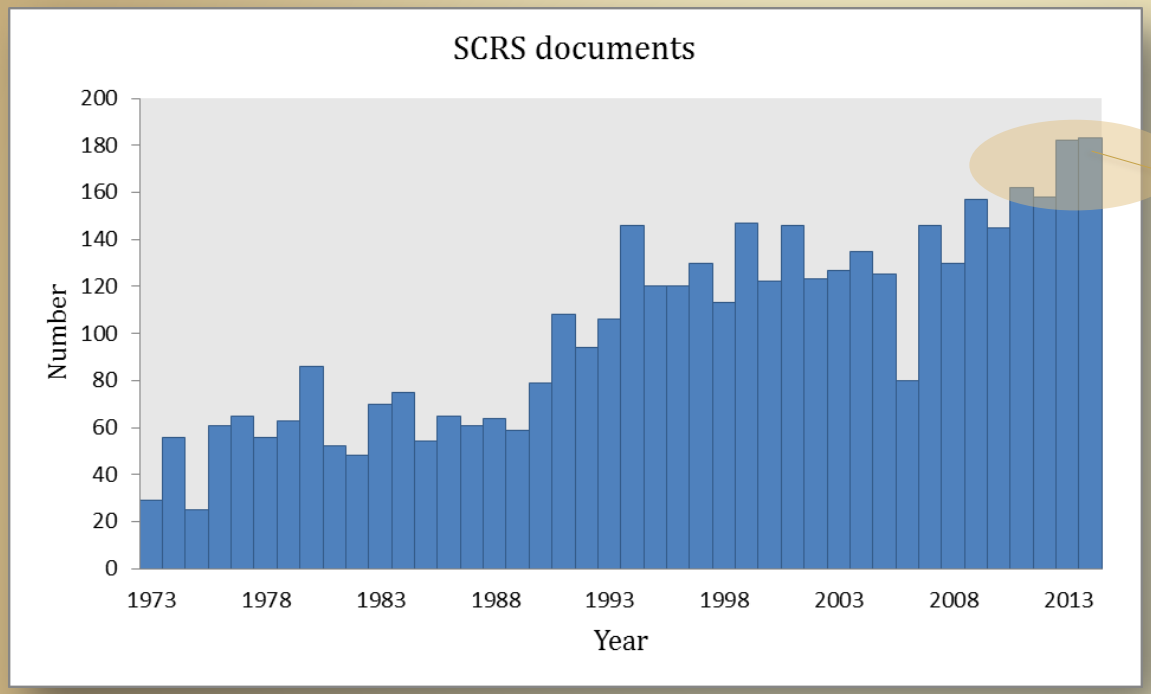
- **Extra-budgetary funds** contributed to assist scientists of Contracting Parties to join in the work of the Committee. Continued contributions are encouraged.
- During 2014, participation of **35 scientists (16 countries)** was supported with ICCAT funds provided by several CPCs.



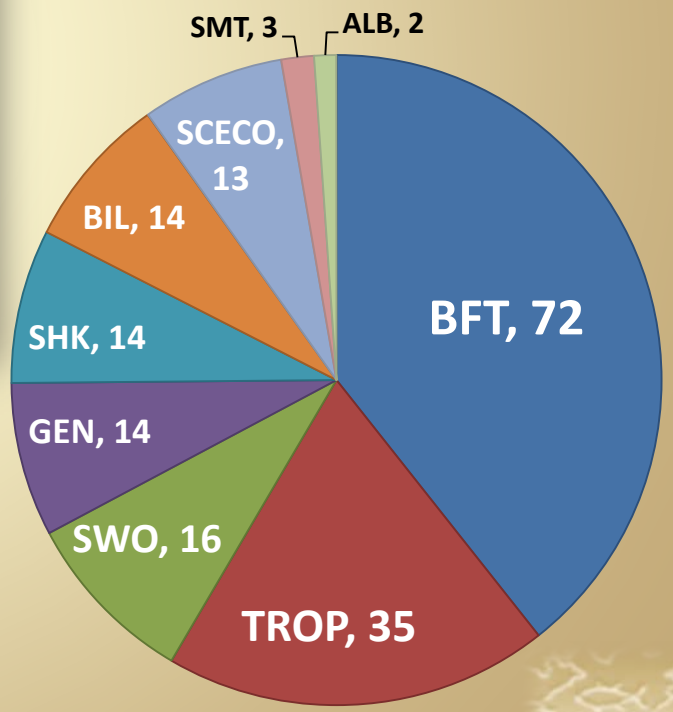


Importance of the **Protocol for the use of data funds & other ICCAT Funds** adopted in 2011.

2014 SCRS participation



The highest number of SCRS scientific documents: **183**



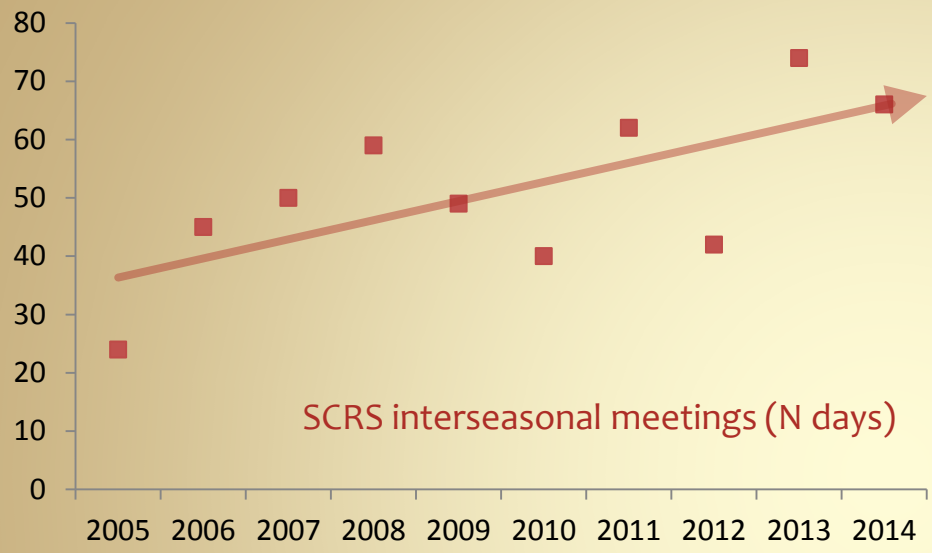
2014 SCRS activities

Date	SCRS – 2014 Meetings	Location	
Apr 14-16	Sharks Species Group inter-sessional meeting	Piriapolis, Uruguay	P4
May 5-10	ICCAT Working Group on Stock Assessment Methods	Dublin, Ireland	PLE
May 19-21	Meeting of the Strategic Plan Group	Madrid, Spain	PLE
May 22-24	Bluefin data preparatory meeting	Madrid, Spain	P2
May 7-13	Billfishes species group inter-sessional meeting	Veracruz, Mexico	P4
Jun 2-7	Skipjack stock assessment meeting	Dakar, Senegal	P1
Jun 23-Jul 1	Training course on Bayesian Surplus Production (BSP)	Madrid, Spain	
Jul 14-18	Mediterranean swordfish stock assessment meeting	Crete, Greece	P4
Jul 21-25	Sub-Committee on Ecosystems intersessional meeting	Olhâo, Portugal	PLE-P4
Sep 22-26	SCRS Species Groups meetings	Madrid, Spain	All
Sep 27- Oct 3	Meeting of the Standing Committee on Research and statistics	Madrid, Spain	All

Other Meetings			
May 26-28	Dialogue between Scientists and Managers Working Group	Barcelona, Spain	PLE
Jul 7-12	WG of Fisheries Managers and Scientists in support of the W-BFT stock assessment	Prince Edward I., Canada	PLE

Meeting Reports Available at: www.iccat.int

Workload of the SCRS and the Secretariat



- 13 meetings
- 66 days

- **concerns** over the increase in number and length of inter-sessional scientific meetings;
- the **current workload** for both SCRS and the Secretariat would be difficult to maintain with the current human resources.

- The majority of the meetings are scheduled in response to the **work determined by the Commission.**
- The use of **more complex assessment models** (e.g., integrated statistical models) implyies **higher burden of work in both the preparatory and assessment processes:**
  - **more time and focus than is possible in a typical 7-10 day assessment workshop meeting**
  - much **additional time in assembling and preparing** the data streams needed to support these models

Workload of the SCRS and the Secretariat

- **SCRS** has instituted the process of conducting a **data preparatory meeting** in advance of a stock assessment workshop, developing **new procedures for the preparation of data and analysis** (i.e., CPUE procedures in 2012) and utilizing electronic communication mechanisms to facilitate **intersessional collaboration** to attempt to alleviate the difficulty. [Not sufficient!]

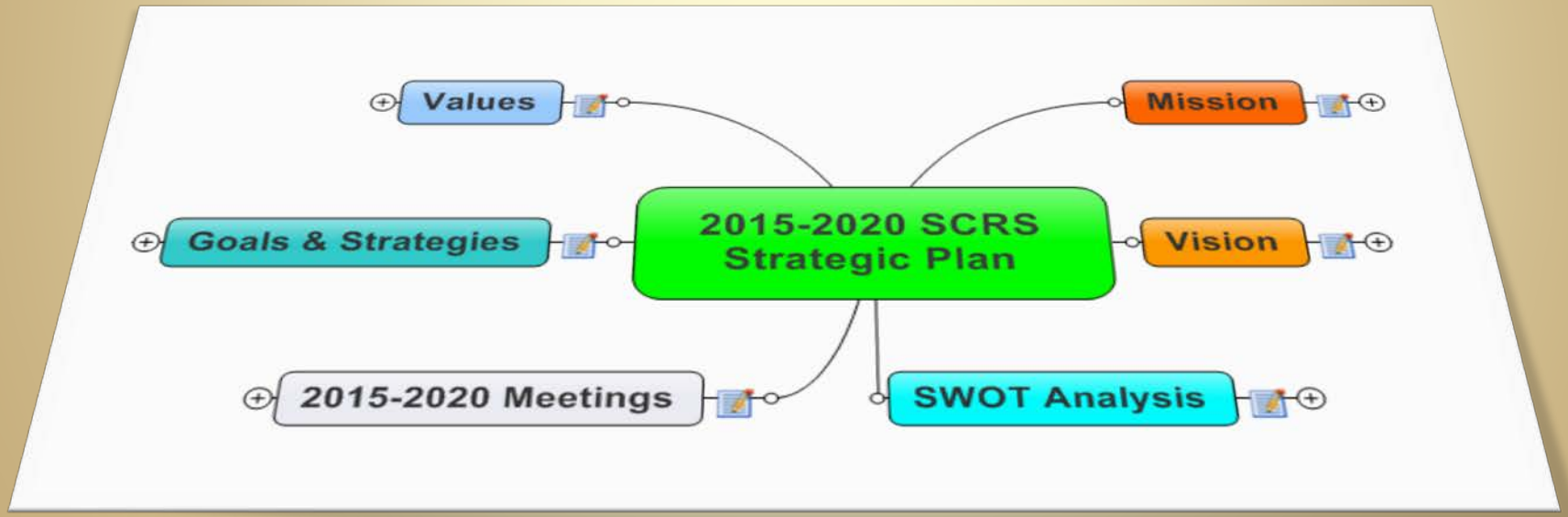
- **Other tRFMOs** which most commonly apply these approaches: the Secretariats have significantly larger **SA and DB management staff** which is used to centralize these functions.

- SCRS reiterates its recommendation that **further additions to data management staff at the Secretariat** should be made to address current and future demands, which are likely to increase further.

- "*The implementation of the more complex models (**MFCL and SS) is not well suited to the collaborative development of an assessment in the working group environment**. These models require considerable development, evaluation and testing by dedicated assessment personnel*" (ALB peer review [SCRS/13/171])

- **SCRS Science Strategic Plan** [2015-2020]: provides the appropriate framework for this debate

2015-2020 SCRS Science Strategic Plan



2015-2020 SCRS Science Strategic Plan

Background:

2011

- **meeting of the WG on the Organization of the SCRS** (Anon., 2012) identified a set of priorities regarding Research & Development investments, participation of CPC national scientists, capacity building, quality assurance and transparency.

- **Resolution on Best Available Science** [Res. 2011-17]. The Resolution proposes a set of actions affecting to the different links in the chain of the development of the scientific advice: quality assurance, including aspects in the sphere of collection of data, research, participation and capacity building, Dialogue with the SCRS and, very particularly, quality control of the stock assessments and advice.

2012

- **ICCAT Working Group On Stock Assessment Methods**
  - [SCRS/2012/40] "IMPLEMENTATION OF BEST SCIENCE IN THE SCRS" proposed the elaboration of the 2014-2020 SCRS Science Strategic Plan.
  - Recom. of the 2012 WGSAM: "During 2013 the 2014-2020 SCRS Science Strategic Plan (including Quality Assurance, Capacity Building and Code of Conduct text,) should be developed by the SCRS."

- **SCRS meeting**

  "It is therefore proposed, starting in 2013, to develop a draft Strategic Science Plan which will be considered at an ad hoc meeting of the SCRS. This will be peer reviewed before approval by SCRS and adoption by the Commission. The importance of the plan and its development was agreed."

2015-2020 SCRS Science Strategic Plan

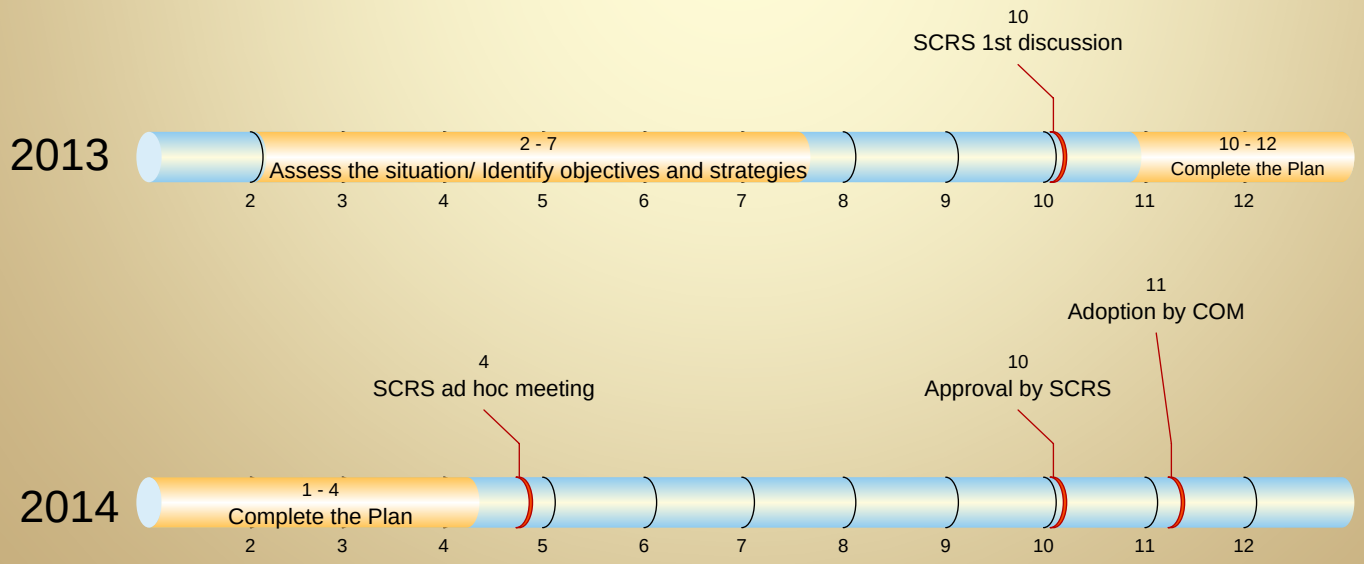
Background:

2013

- **ICCAT Working Group On Stock Assessment Methods**
  - [SCRS/2013/24] "A PLAN FOR THE PLAN" outlined an approach for identifying key research needs and components of and a roadmap for developing the 2015-2020 SCRS Strategic Plan
  - Recommendation of the 2012 WGSAM: "WGSAM endorsed and recommended the plan outlined in SCRS/2013/024.

- **SCRS meeting**

  "The SCRS agreed that the Strategic Plan was an excellent proposal and noted that ICCAT will be the only tRFMO that will have such a holistic scientific vision"



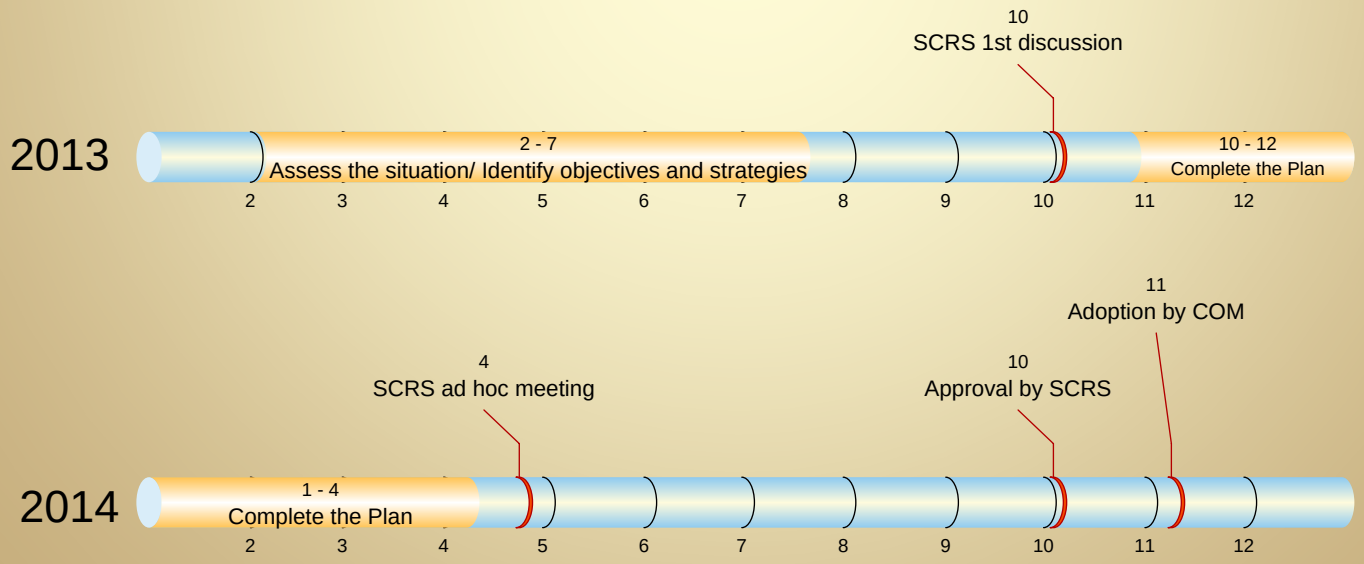
2015-2020 SCRS Science Strategic Plan

Background:

2014

- **ICCAT Meeting of the Strategic Plan Group** [SCRS/2014/013]

- **SCRS meeting**
  - The Committee noted the important, extensive and collaborative work conducted in order to develop the plan. Its necessity for organizing the work of the SCRS; flexible and open to revision according to requests by the Commission.
  - GEF ABNJ Tuna Project as a source of potential funding
  - The Committee strongly supported the adoption of the plan as an important step in SCRS work and its presentation to the Commission for adoption.



2015-2020 SCRS Science Strategic Plan

Components of the SCRS Strategic Plan:

- **[2015-2020]**

- **Mission**: Outline **the purpose of the SCRS**, in line with the Rules of Procedure defined in the ICCAT Convention, its values and the necessities of the Commission. In other words, define "*what business are we in?*"
- **Vision**: A statement describing **where the SCRS desires to be in 2020**; the target around which we pursue to focus the attention and energies of the SCRS.
- **SWOT Analysis:** Strengths – Weaknesses – Opportunities – Threats
- **Values**: The **guiding principles** of the SCRS, including the elaboration of a code of conduct.

2015-2020 SCRS Science Strategic Plan

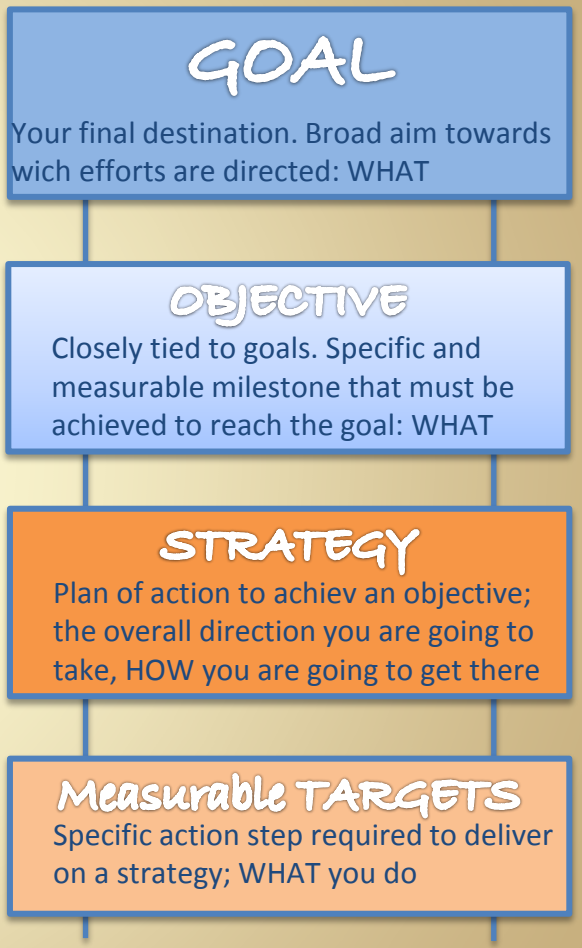
Components of the SCRS Strategic Plan:

Goals: The goals are broad priorities for the SCRS.

Objectives: Closely tied to goals. Specific and measurable milestone that must be achieved in order to reach the goal

Strategies: Within each goal should be strategies, initiatives, projects and priorities that will advance the goal.

Measurable targets: To accomplish the goals applying strategies identified, the plan should include accountability and performance measures. Identify who is responsible for which elements and how success will be measured.



2015-2020 SCRS Science Strategic Plan

Mission of the SCRS

- Provide scientific advice to the ICCAT Commission
- Develop policy procedures for collection, compilation, analyses and dissemination of fishery statistics.
- Coordinate research programs, capacity building activities and stock assessmentrs.
- Advice ICCAT Commission for specific conservation and management measures

Vision of the SCRS

A Scientific Committee with **broad participation of competent scientists all the CPCs** that fish tuna and tuna-like species in the Atlantic Ocean and adjacent seas, working **cooperatively** in an **effective and transparent** way, with a **solid scientific and technical support of the Secretariat,** to provide **objective, reliable and robust scientific advice** to the Commission in support of the Convention Objectives.

2015-2020 SCRS Science Strategic Plan

Values of the SCRS

I	**INTEGRITY**: The SCRS applies the highest ethical standards to all its scientific work. **INDEPENDENCE**: The SCRS provides advice that is objective and based on the best scientific information available and not unduly influenced by stakeholders, ideological or political pressure groups or by economic or financial interests
C	**COOPERATION**: The SCRS values and encourages the participation of scientists from all CPCs, acting through scientific collaboration and cooperation to cultivate a diverse set of expertise and to promote best available scientific practices.
C	**COMMITMENT**: The SCRS is totally committed to provide the best scientific advise in support of the Commission's objective of implementing science-based fishery management
A	**ABILITY**: The SCRS strives to ensure the work of the Committee conforms to the highest scientific standards and state of the art methodologies, constantly improving the foundation of knowledge to support the mandate.
T	**TRANSPARENCY**: The SCRS conducts its work in open sessions and encourages the participation of national scientists and external experts; the information, analyses and decision-making process are well-documented and easily accessible to all interested parties.

2015-2020 SCRS Science Strategic Plan

Goals by thematic Area:

1. DATA COLLECTION

- Improve **fishery data** collection and reporting
- Institute **biological sampling** programs
- Develop programs for collection/compilation of **additional data**

2015-2020 SCRS Science Strategic Plan

Goals by thematic Area:

2. DIALOG AND COMMUNICATION

- Improve the dialog with the **Commission**
- Promote open dialog with the **COM and interested parties**
- Improve dialog **within SCRS**
- Improve dialog with **scientific community**
- Improve dialog with the **Society**
- Improve **mechanisms** of communication of the SCRS

2015-2020 SCRS Science Strategic Plan

Goals by thematic Area:

3. PARTICIPATION AND CAPACITY BUILDING

- Preserve and promote the **independence and excellence** of the SCRS and WGs
- Improve science **capabilities** of the SCRS objectives
- Enhance and improve **participation** in the SCRS, and in particular enhancing the **active involvement of developing economies** in SCRS activities

2015-2020 SCRS Science Strategic Plan

Goals by thematic Area:

4. RESEARCH PRIORITIES

- Quantify the **major uncertainties** affecting stock assessment and management advice.
- Acquire the **necessary biological knowledge** in tuna-like species, as well as in critical by-catch species commensurate to the needs for the assessment of the different stocks under the convention
- Improve the standardisation of the **fishery dependent** information
- Apply approaches which provide information on population dynamics **independent** of data from the commercial fishery
- Seek the **adequacy between models** used and quality of **data** and knowledge
- **Evaluate management measures and strategies** in achieving the objectives of the Commission
- Cover **research needs** so as to be able to include **Ecosystem Considerations** in the provision of scientific advice.

2015-2020 SCRS Science Strategic Plan

Goals by thematic Area:

5. STOCK ASSESSMENTS AND ADVICE

- Provide **objective, reliable and robust scientific advice** to the Commission in support of the convention objectives.
- **Evaluate** precautionary management references and robust harvest control rules through **Management Strategy Evaluations**
- Advance **Ecosystem** Based Fishery Management Advice
- Broaden the scientific advice to **include economic and social** aspects of various management measures

2015-2020 SCRS Science Strategic Plan

2015-2020 TENTATIVE SCHEDULE OF MEETINGS

	2015	2016	2017	2018	2019	2020
ALB		ALB (N,S,M) Data Prep ALB (N,S,M) SA session				ALB (N,S,M) Data Prep ALB (N,S,M) SA session
BFT	BFT (E,W) Data Prep	BFT (E,W) Data Prep BFT (E,W) SA session		BFT (E,W)Data Prep BFT (E,W) SA session		
YFT-SKJ- BET	BET Data Prep BET SA session	YFT Data Prep YFT SA session	Management of FAD fishing in the EAF context		SKJ (E,W)Data Prep SKJ (E,W) SA session	BET Data Prep BET SA session
SWO			SWO (N,S,M) Data Prep SWO (N,S,M) SA session			
BIL		SAI SA session	BUM Data Prep BUM SA session	WHM Data Prep WHM SA session		
SHK	BSH SA session		POR SA (ICCAT-ICES)		SMA SA session	
SMT	SMT Data Prep		SMT Data Prep		SMT Data Prep	SMT SA session
Methods	Annual meetings of the Working Group of Stock Assessment Methods					
Ecosystems	Annual meetings of the Subcommittee of Ecosystems					
SCRS-COM	WG Dialogue Managers and Scientists					
Workshops		Workshop on Ecosystem Based Fishery Management			Workshop on fishery independent abundance indicators	

This schedule has been prepared for planning purposes and will be adapted according to the different requirements by the Commission and the progress of the SCRS SSP, especially with the incorporation of MSE approaches in the work of the SCRS.

2015-2020 SCRS Science Strategic Plan

2015-2020 ESTIMATED BUDGET

Thematic area	Budget 2015-2020
A. DATA COLLECTION	30,000
B. DIALOGUE AND COMMUNICATION	25,000
C. PARTICIPATION AND CAPACITY BUILDING	295,000
D. RESEARCH PRIORITIES	115,000
E. STOCK ASSESSMENTS AND ADVICE	227,000
Total	**692,000**

- Many of the activities proposed in the Plan that are **aligned with the objectives of the FAO-GEF ABNJ Tuna** Project .
- The FAO-GEF ABNJ Tuna Project is an important funding opportunity to realize work planned under the SCRS Strategic Plan.

2015-2020 SCRS Science Strategic Plan

at a glance….

Dialogue with the Commission

- First Meeting of the **Standing Working Group to Enhance Dialogue between Fisheries Scientists and Managers** [COM 14: Agenda item 10]

- Second Meeting of the **Working Group of Fisheries Managers and Scientists in support of the western Atlantic bluefin tuna stock assessment** [COM 14: Agenda item 11]

First Meeting of the Standing Working Group to Enhance Dialogue between Fisheries Scientists and Managers [COM 14: Agenda item 10]

- The SCRS welcomed this important first step to facilitate communication between scientists and managers and strongly supported the **continuation of this initiative**.

- Specially **useful** to:
  - demonstrate the utility of the MSE and HCR approach.
  - present important SCRS research programmes (such as tagging initiatives)
  - …

- The SCRS emphasized the need to **ensure a more balanced presence and active participation** of scientists and managers in future meetings.

Second Meeting of the Working Group of Fisheries Managers and Scientists in support of the western Atlantic bluefin tuna stock assessment [COM 14: Agenda item 11]

- The Committee noted the **usefulness** of the meeting and **welcomed the more informal dialogue** between the scientists and the managers that occurred.

- **Requests to the SCRS:**
  1. Consider the proposal from Canada to employ the **surplus production model**.
  2. Provide guidance on a range of **fish size management measures** and their impact on YPR and SPR considerations, and on their ability to monitor stock status.
  3. Provide to the 2014 Commission meeting for its consideration:
     - A range of **potential interim TRPs** based on levels expressed in the percentage of currently estimated SSB taking into account …
     - K2SM to achieve these interim TRPs;
     - A **LRP**, taking into account the historically lowest level of spawning stock biomass; and
     - K2SM to avoid dropping below the interim LRP.
  4. Review the current stock **abundance indices for WBFT** at the data preparatory meeting scheduled **early in 2015**

…… Panel 2

Collaboration with other international organizations

Collaboration with other international organizations

- **Support for collaborations between ICCAT and other organizations:** this will improve the capacity,information and analysis available for scientific advice.

- Several organizations had already conducted extensive work on areas of interest to ICCAT and the SCRS could take advantage of these analyses.

- **WECAFC:** participation of SCRS scientists in 2014

- **ICES:**
  - Joint work with the ICES Working Group on Elasmobranch Fishes should be continued.
  - ICCAT Secretariat will be participating in the ICES Methods Working Group meeting in 2015 in Copenhagen.
  - Maintain involvement with the ICES SISAM (Strategic Initiative on Stock assessment Methods) initiative

Collaboration with other international organizations

- Invite **ICES WGEF** (Working Group on Elasmobranch Fishes), **GFCM** (General Fisheries Commission of the Mediterranean), the **West African SRFC** (Sub-Regional Fisheries Commission), and the **SEAFO** (Southeast Atlantic Fisheries Organisation) to provide data and participate in the **2015 Blue Shark Stock Assessment.**

- **FAO/GEF ABNJ** tuna project
  - Support of MSE process: capacity building, facilitation of the science-management dialogues.
  - Establishment of a global By-catch Mitigation Information System and development of best practices to mitigate incidental mortality of non-target species
  - Implementation of an EBFM

- **Others:** collaboration with OSPAR and CITES

Other actions and initiatives

- **Working Group on Stock Assessment Methods (WGSAM)**
- **Subcommittee on Ecosystems**
- **Subcommittee on Statistics**
  - Streamlining ICCAT conservation and management measures and associated reporting requirements for the SCRS

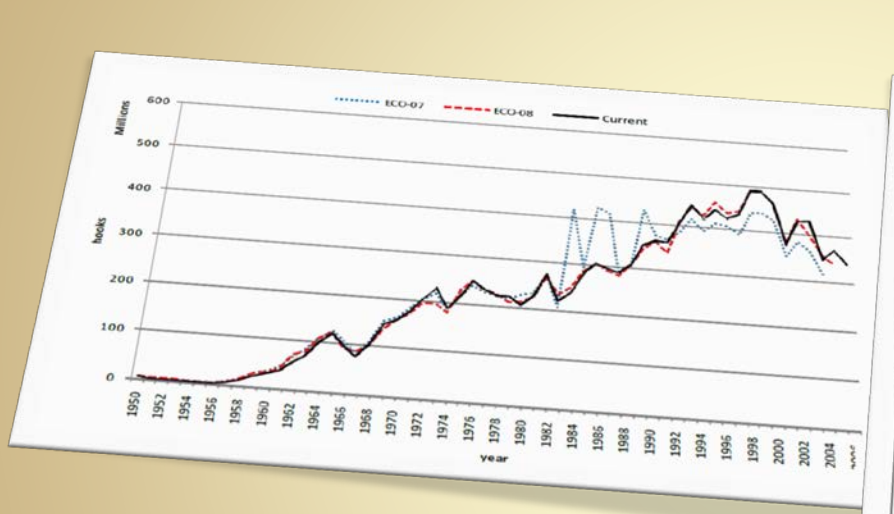
Working Group on Stock Assessment Methods (WGSAM)

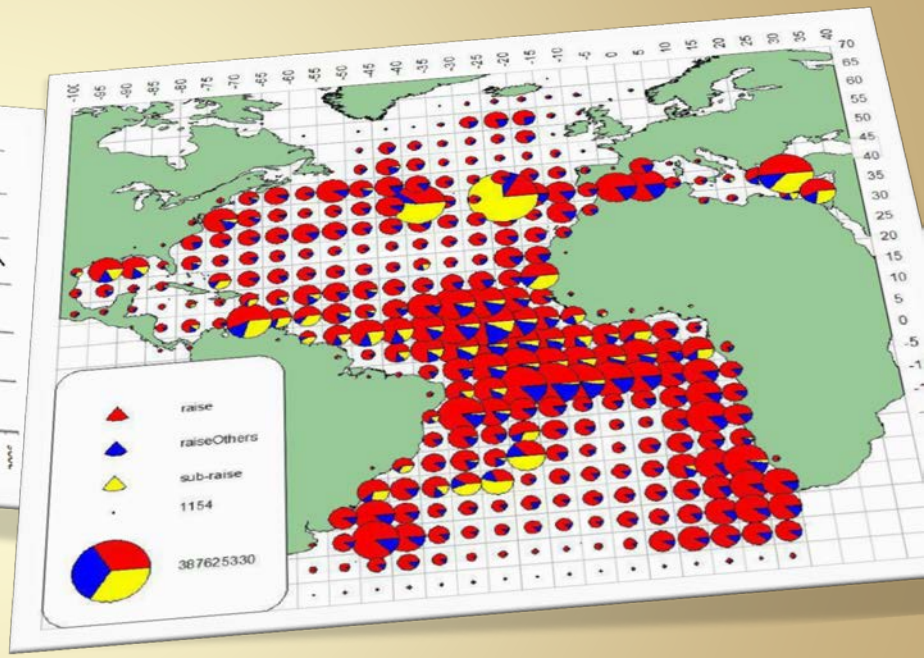
This year's work of the WGSAM…

1. Review of current ICCAT method for estimating Effort Distribution (**EFFDIS**)
2. Quantification of **uncertainty** in ICCAT assessments
3. Characterization of **quality of the fisheries data** and biological information
4. Reconcile the results when dealing with **Multiple Modeling Methods**
5. **LRP, HCR, MSE**
6. Incorporation of Ecosystem, Climate, and Habitat **(ECH) information** into stock assessments

Working Group on Stock Assessment Methods (WGSAM)

1. Review of current ICCAT method for estimating Effort Distribution (**EFFDIS**)





- ✓ EffDIS: estimation of a quantitative global LL effort, spread in time and space (month, 5°x5°)
- ✓ Different recommendations were identified to improve EffDIS
- ✓ Develop similar EffDIS estimates for the BB and PS gears

Working Group on Stock Assessment Methods (WGSAM)

2. Quantification of **uncertainty** in ICCAT assessments

- The group identified **three basic approaches to characterizing uncertainty** in the outputs of stock assessment:
  - "**Model-based**" approach that explicitly accounts for the perceived major sources of uncertainty using a single, versatile modeling platform;
  - **Model averaging**, i.e., combining alternative runs from multiple model platforms, and
  - An "**empirical**" approach that uses existing historical information on the consistency of stock assessment outputs through time.

Working Group on Stock Assessment Methods (WGSAM)

3. Characterization of **quality of the fisheries data** and biological information

- In response to Resolution [13-15] the group reviewed work on how to better characterize the quality of the ICCAT biological, life history, and tagging data
- [SCRS/2014/035] proposed a tentative quality score (Q) of the different information sets:

Information	ALB-N		ALB-S		ALB-Med	
	D	I	D	I	D	I
Task I Catch	3	3	2	3	1	3
Task II CAS	3	3	2	2	1	2
Task II C/E	3	3	1	2	1	2
Tag-recovery data	2	2	1	1	1	1
Catch at Age	2	1	1	1	1	1
CPUE indices	2	3	2	3	1	3
Independent indices	1	3	1	3	1	3
Growth	3	3	3	2	2	2
Maturity	3	2	2	2	2	2
Natural mortality	1	3	1	2	1	3
Stock structure & movements	2	3	1	3	1	3
	66		38		29	

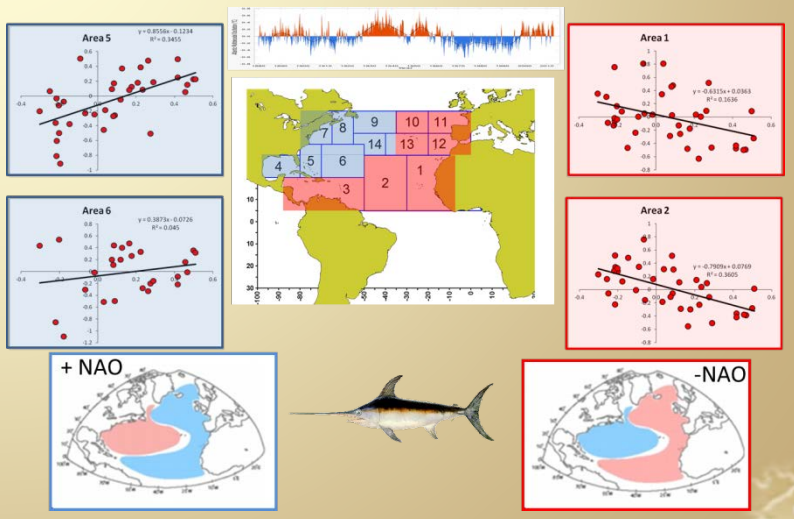
$Q = D * I$

D=availability and quality of Data
I=Impact of the data on assessment outcomes

Working Group on Stock Assessment Methods (WGSAM)

4. Reconcile the results when dealing with **Multiple Modeling Methods**
5. LRP, HCR, **MSE**
   - The Group continues to **support** the use of LRF, HCR and MSE as a mean to meet ICCAT objectives
   - In order for these endeavors to have the highest probability of success the Group emphasized the **importance** of the meeting of the ICCAT 'Standing Working Group to Enhance **Dialogue between Fishery Scientists and Managers**', and that without this dialogue HCRs cannot be developed
6. Incorporation of **Ecosystem, Climate, and Habitat** (ECH) information into stock assessments

To conduct a simulation study [2015-2016] on how best to bring spatially changing oceanographic and environmental conditions into the assessment process.



Subcommittee on Ecosystems

- By-catch component (Panel 4)
- **Ecosystem component:**
  - ✓ Assess the importance of the **Sargasso Sea** ecosystem to ICCAT species (Resolution 12-12) *[see Response to COM's requests - 18.8]*
  - ✓ Review the progress that has been made in implementing ecosystem approaches in enhanced stocks assessments (e.g. multispecies models) or **EBFM**
  - ✓ Explore **environmental factors** that affect the global distribution of highly migratory fish and their productivity

Subcommittee on Ecosystems

- ✓ Review the progress that has been made in implementing ecosystem approaches in enhanced stocks assessments (e.g. multispecies models) or **EBFM**
  - Involve the Commission in developing **conceptual management objectives** for the major ecosystem elements in order to progress on the development of a generic EBFM framework.

Ecological elements of ecosystem based management in ICCAT [1]

Ecological element	Target species	Bycatch species	Trophic relationships	Habitats
Objective	Maintaining populations of tuna and tuna-like species at levels that would maintain the maximum sustainable catch for food and other purposes [2]	Minimize the catch of non-target species [3]	Maintain the trophic interdependencies for species that are affected by fishing [1]	Support the maintenance of essential habitats for target species and associated species [1]

[1] Lodge, M. W., D. Anderson, T. Lobach, G. Munro, K. Sainsbury, and A. Willock. 2007. Recommended best practices for regional fisheries management organizations. Report of an independent panel to develop a model for improved governance by Regional Fisheries Management Organizations. The Royal Institute of International Affairs, Chatham House.
[2] ICCAT Convention
[3] FAO Code of Conduct for Responsible Fisheries

"Target species" example of ecosystem based management in ICCAT

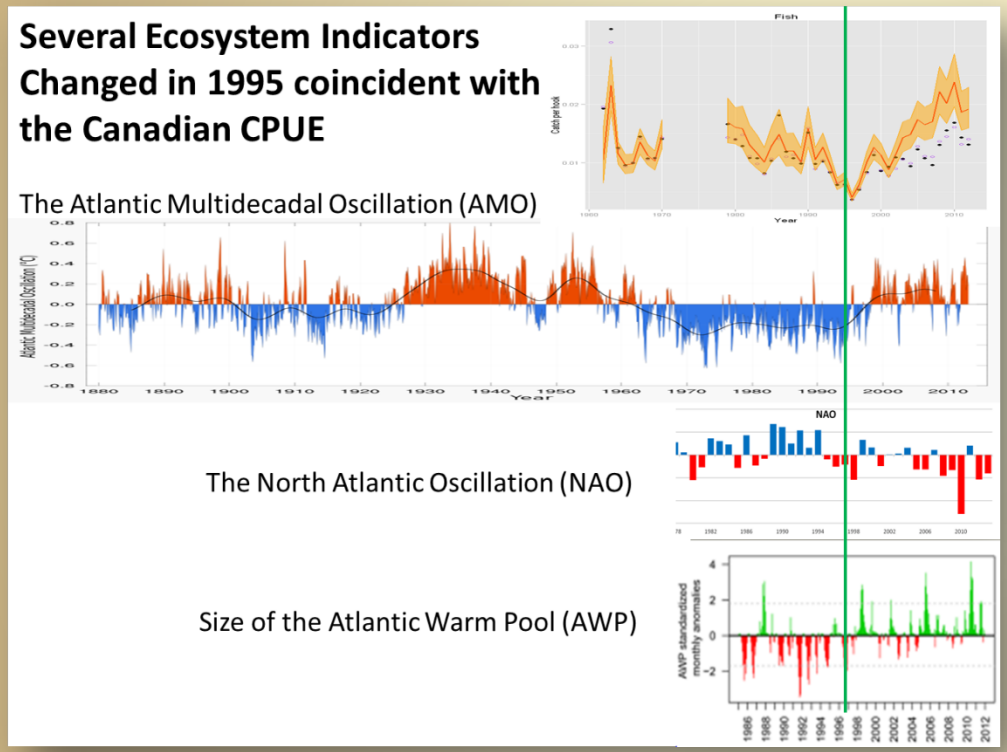
Ecological element	Target species E.g Albacore tuna
Objective	Maintain population at or above Bmsy while accounting for environmental and climatic variations
Indicator	Trend of relative biomass Trend of relative fishing mortality
Reference direction	Bmsy and Fmsy
Management response	Control fishing mortality

Subcommittee on Ecosystems

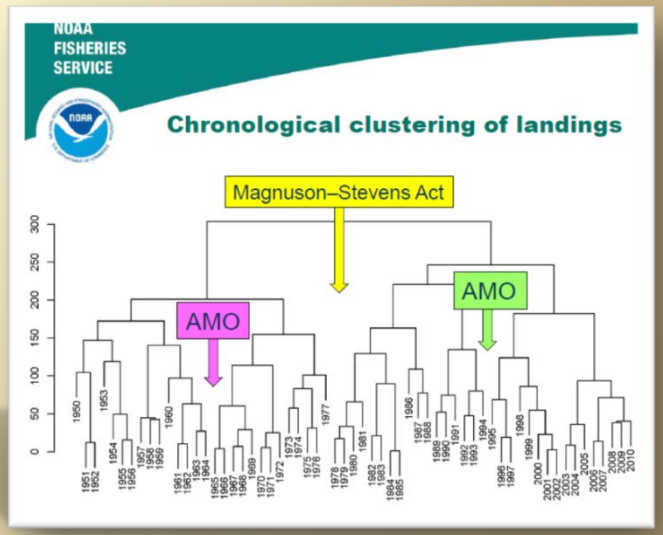
- ✓ Review the progress that has been made in implementing ecosystem approaches in enhanced stocks assessments (e.g. multispecies models) or **EBFM**
  - Propose the definition of the conceptual management objectives on the EBFM as one of the elements for the 2015 meeting of the Standing Working Group to Enhance the **Dialogue between Science and Fisheries Managers** (SWGSM).
  - **ABNJ Tuna Project** could support activities not only leading to further development of plans for the implementation of an EBFM, but also, noting the advanced state of the ICCAT work, to share this experience with other tRFMOs in a global forum.

Subcommittee on Ecosystems

- ✓ Explore **environmental factors** that affect the global distribution of highly migratory fish and their productivity



[SCRS/13/161]: incorporating ecosystem indicators in the stock assessment of North Atlantic SWO



Evidence of climate-driven ecosystem reorganization in the Gulf of Mexico

Subcommittee on Statistics

Review of fisheries and biological data submitted during 2014 (SCI-008)

- **Improvements in T1 data reporting:** reporting seemed improved during the past few years, but after initial application of the data quality criteria previously agreed, the data reporting rate remains far from ideal.

- **Improvements in T2 data.**
  - However… there are numerous **gaps** in these data which should be identified and rectified.
  - Need to recover and report **actual size frequency samples** in addition to raised CAS.

Subcommittee on Statistics

A Burden on the Secretariat: How much data to process?

In 2014, a **considerable volume of data** were handled by the Secretariat, **much of which represented revisions of data previously submitted,** presumably to meet compliance deadlines and subsequently revised to reflect a more representative view of the real fishery performance.

This practice **increases the burden on the current staff at the Secretariat** and undermines support for SCRS. Full application of quality assurance **"Filters"** is expected to improve the situation

Number of records processed in statistics (T1 & T2) databases

dset	pending (pre)	new (cur)	revisions	Total
t1fc	3	182	8	193
t1nc	625	3,905	664	5,194
t2ce	-	50,489	9,122	59,611
t2sz	5,965	877,933	64,996	948,894
TOTAL	6,593	932,509	74,790	**1,013,892**

Files involved in data processing (inventory/forms/intermediate/etc)

Group	Item	No. of files	total size (MB)
STAT	T1 & T2	1551	972
	tagging	90	23
	others (obsProgs, birds, turles, ISSF, JDMIP)	160	36
	bycatch	598	328
STAT sub-total		**2399**	**1359**
COMP	Vessels	1848	265
	BCD's	2136	680
	Re-exports	332	530
	Catch reports (month/week)	411	133
	Farming	179	100
	others (Ports, ROP, SDP's, etc)	414	72
COMP sub-total		**5320**	**1780**
TOTAL		7719	3139

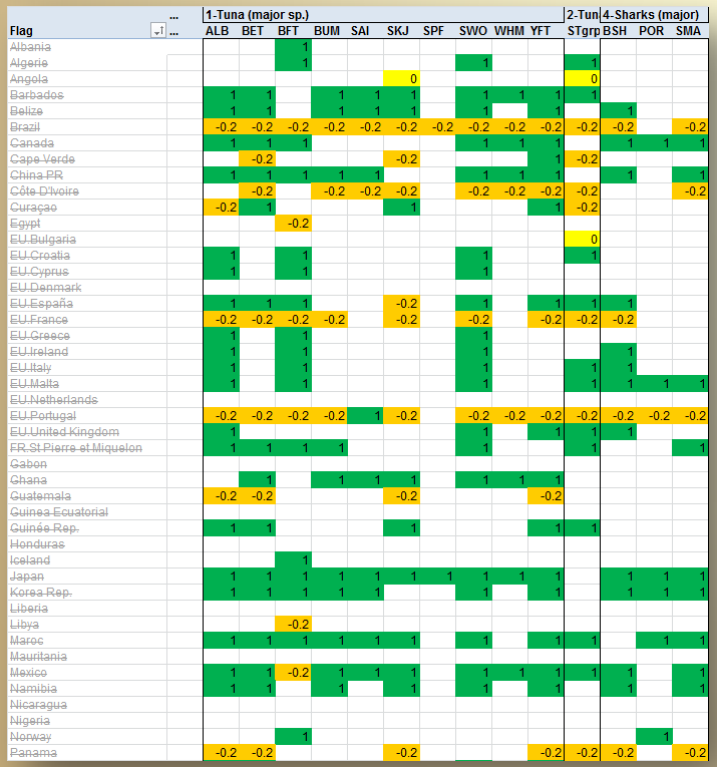
Period	between 2012-Oct-01 and 2013-Sep-01
ICCAT-DB	as of 2013-09-19

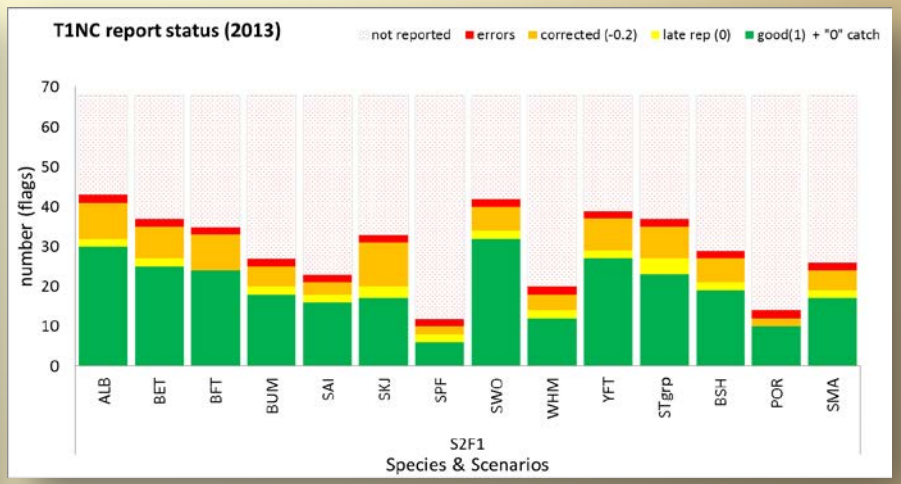
Subcommittee on Statistics

A Burden on the Secretariat: How much data to process?

The Secretariat applied, for the first time, to the 2013 datasets reported, the **SCRS filtering criteria to accept/reject statistical forms** (2013 Report of the Sub-Committee on Statistics, Addendum 2 to Appendix 8, Filters 1 & 2) adopted in 2013.

Example of application of **filtering criterion** [**T1NC** "nominal catch"]





- Only 39 flags (**57%**) did report data for all the species in **good condition** (35 timely and 4 after deadline).
- Data of 16 flags (not in acceptable condition) were corrected by the Secretariat at considerable expense of staff time and effort.
- The T1NC information from 13 flags at the start of the SCRS meeting were still missing.

Subcommittee on Statistics

A Burden on the Secretariat: How much data to process?

Even with the potential increase in efficiency in data quality assurance Filter applications and streamlining, the requirement for **supplementing available resources to support data base** management needs of the SCRS (additional manpower) was again raised and recommended.

How data deficiencies may affect management advice [Rec. 05-09]

- Absence of information leads to increased and, at times, unquantifiable uncertainty in stock status evaluations.
- With increased uncertainty, more conservative (i.e. more constraining) measures need be taken to assure achieving Convention Objectives.
- To the degree possible, SCRS aims to characterize this uncertainty so that the Commission can weigh the relative risks and odds of achieving the objective.

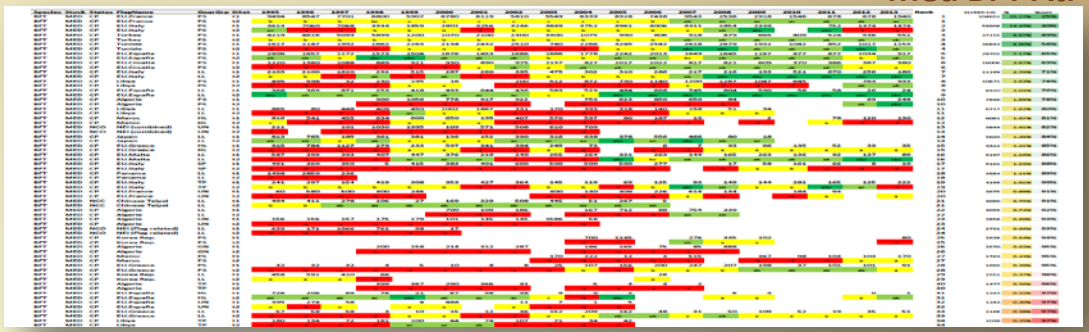
Subcommittee on Statistics

How data deficiencies may affect management advice [Rec. 05-09]

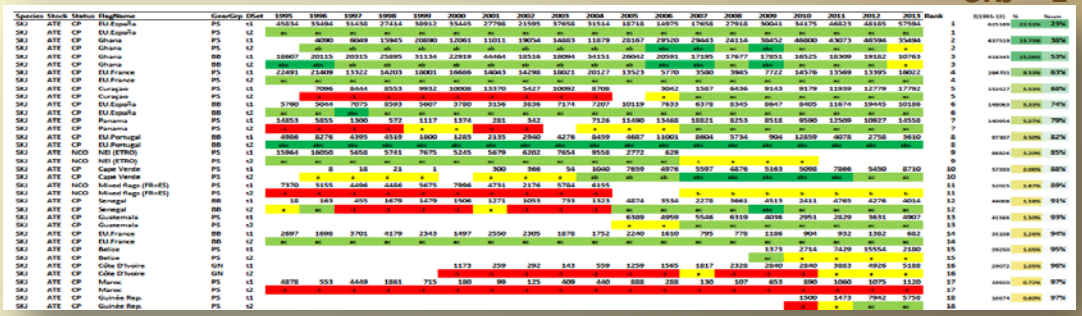
- In support of advising the COM on data deficiencies, it is useful to identify where there are gaps in the current information.

- Deficiencies were mainly discussed by the species group that conducted an assessment this year:
  - Skipjack (E/W),
  - Bluefin (E/W)
  - Swordfish (Med)

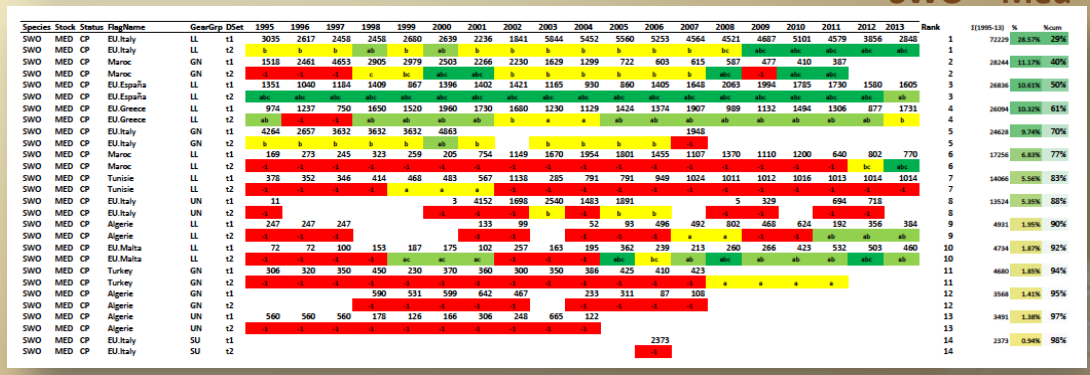
Med BFT Atl



SKJ – E



SWO – Med



Subcommittee on Statistics

- **Use of Data and Other Funds according to protocols adopted by SCRS**
  - The SCRS noted the **support provided through the Data Funds** applications and recommended continued use and refreshing of these funds by the CPCs, since they have become a vital portion of supporting the work of the SCRS.

SCRS meetings	Meetings 9, Countries 16, Scientists 35
Improvement of statistics	Participation of one Ghanaian scientist in the Tropical Tuna coordination meeting on data processing under the IRD-MFRD collaboration project for the improvement of statistics on **tropical tunas in the Gulf of Guinea,** approved by the SCRS in 2011.
Support to the work of the SCRS	Participation of an expert to teach the **training course** on Bayesian Surplus Production (BSP) for stock assessments.
	Hiring of an external expert to carry out an **inventory of strategic investments related to artisanal fisheries** in the western part of Africa. (SCRS/2014/143).
	Participation of an **expert in BSP** in the Mediterranean SWO stock assessment.
	An ad-hoc training on techniques used in tropical tuna fecundity studies, for a scientist from Côte d'Ivoire in the IRD Centre in the Seychelles (SCRS/2014/116)
	Co-financing the participation of an **expert** in the application of assessment methods in **data poor stocks** at the Atlantic Skipjack Stock Assessment meeting.
	Co-financing the **feasibility study** on an **Atlantic Ocean Tropical Tuna Tagging Programme** (SCRS/2014/094).
	Small tuna biological data inventory and recovery for **Côte d'Ivoire** under the SMTYP.

Subcommittee on Statistics

Inventory of strategic investments related to artisanal fisheries in the western part of Africa. (SCRS/2014/143).

- Multiple and large investments have and are being made, which seem **not well coordinated**. The SCRS recommends that broader oversight of these programs by groups such as the **FAO** and/or the **ATLAFCO** to improve their efficiency and efficacy.
- **Similar inventories for other regions** in the ICCAT Convention area are lacking and reiterated its prior recommendation to develop such inventories for other regions (e.g. Central and South America, the Caribbean, north African Mediterranean coast).

Electronic Monitoring Systems (EMS)

- **[SCRS/14/132]** & **[SCRS/14/138]:** application of EMS on board tropical tuna PS
- A large number of PS operating in the different tRFMOs, have been equipped with EMS and are being evaluated as a supplement to or even a replacement for human observers.
- The SCRS should develop and **adopt minimum standards for EMS** and determine **best practices for the integration of information** from EMS, human observer, and port sampling programs.

Subcommittee on Statistics

Streamlining ICCAT conservation and management measures and associated reporting requirements for the SCRS

- To simplify the burden of **reporting requirements** on CPCs, the Secretariat presented to the SCRS the list of reporting requirements for statistical and scientific information.
- The SCRS identified the **requirements that are redundant** and prepared a list of reporting requirements that could be eliminated as they are already covered by the usual submission of Task I and Task II data.

Compliance with Requirements of information with SCRS - 2014				NOTES
	Requirement	**Reference**	**Form**	
	GENERAL - all species			
S8	Catches from sport & recreational fisheries in the Mediterranean Sea (all tuna and tuna-like species)	Rec. 04-12 para 3	Include in Task I and Task II data	Redundant

Subcommittee on Statistics

Streamlining ICCAT conservation and management measures and associated reporting requirements for the SCRS

Compliance with Requirements of information with SCRS - 2014				
	Requirement	**Reference**		**Form**
	GENERAL - all species			
S8	Catches from sport & recreational fisheries in the Mediterranean Sea (all tuna and tuna-like species)	Rec. 04-12	para 3	Include in Task I and Task II data
S9	Specific data to determine separately the magnitude of recreational fisheries of each species	Res. 99-07	para 1	Include in Task I and Task II data
	BLUEFIN TUNA			
S14	Sport and Recreational fishing data	Rec. 12-03/ 13-07	paras 35 and 39/ paras 36 and 40	Forms as for Task I and Task II
S19	Report on fishing mortality of all W-BFT, including dead discards	Rec. 12-02 / 13-09	para 20	Include in Task I and Task II data
S20	Information on confiscated bluefin tuna of unauthorised by-catch	Rec. 12-03/ 13-07	para 32	Include in Task I data
	TROPICAL TUNA			
S43	An inventory of all support vessels associated with purse-seine or baitboat fishing vessels	Rec. 13-01	para 2	CP01-VessLsts.xls
	SWORDFISH			
S26	Best available data on SWO, including by sex and discards and effort statistics	Rec. 11-02	para 9	Forms for Task I and Task II

Compliance with Requirements of information with SCRS - 2014				
	Requirement	**Reference**		**Form**
	SHARK			
S29	CPCs shall submit Task I and Task II data for sharks including available historical data	Rec. 04-10 / 07-06	para 1	Include in Task I and Task II data
S30	Task I and Task II of Thresher sharks, including discards and releases	Rec. 09-07	para 4	Include in Task I and Task II data
S31	CPCs shall record through their observer programs the number of discards and releases of silky sharks with indication of status (dead or alive) and report it to ICCAT	Rec. 11-08	para 3	Include in Task I and Task II data
S33	Task I and Task II of silky sharks caught for local consumption	Rec. 11-08	para 4	Include in Task I and Task II data
S34	Task I and Task II of hammerhead sharks caught for local consumption	Rec. 10-08	para 3	Include in Task I and Task II data
S35	Number of discards and releases of hammerhead sharks with indication of status (dead or alive)	Rec. 10-08	para 4	Include in Task I and Task II data
S36	Number of discards and releases of oceanic whitetip with indication of status (dead or alive)	Rec. 10-07	para 2	Include in Task I and Task II data
	OTHER BY-CATCH			
S40	CPCs shall report the bycatch and discard data	Rec. 11-10	para 1d)	Discard data on Task I / Task II forms. By-catch TBD

Subcommittee on Statistics

Streamlining ICCAT conservation and management measures and associated reporting requirements for the SCRS

For those requirements that need further analysis, the SCRS will carry out a **more thorough review** during the year in order to **provide the Commission in 2015 with specific proposals** for improvement.

The review will include:

- Proposals for the **format** to be used **when requiring specific data**.
- Ensuring that the request is **clear and unambiguous**. It should be obvious what data should be submitted and by whom.
- Whether the **purpose of the information required** is indicated in the text of the measure.
- Ensuring that the data requested would be **sufficient for the analysis** required.

Subcommittee on Statistics

Merge forms [ST01-T1FC] & [CP38_VessAuth]

Reporting both forms, with the same data but structured differently is a duplication of effort for the ICCAT CPCs

- **[ST01-T1FC] (fleet characteristics):**
  - Number of fishing vessels per fleet, categorized by size (LOA), tonnage (GRT) classes and list of major targeted species.
  - [Article IX (Annex II) of the Convention]

- **[CP38_VessAuth] (authorized vessels):**
  - Individual vessel authorizations for BFT, Tropical tuna & SWO-M in the previous year.
  - Three Recommendations(*)

(*) Recommendations (CP38_VessAuth)

Rec.	Deadline	Species	Description	Applies to:
[12-03] / [13-07], para 62	April 1	BFT	Bluefin tuna catches (previous year)	CPCs whose vessels caught E-BFT in 2013
[11-01], para 8/27	July 1	TRO	List of authorized vessels which fished bigeye and/or yellowfin tunas (previous year)	CPCs whose vessels fished for bigeye/yellowfin tuna in 2013 or supported this fishing activity.
[11-03], para 4	June 30	SWO	List of special fishing permits for harpoons or longline for highly-migratory pelagic stocks in the Mediterranean for the previous year	CPCs fishing for highly-migratory pelagic stocks in the Mediterranean with harpoons or longliners in 2013

Subcommittee on Statistics

Merge forms [ST01-T1FC] & [CP38_VessAuth]

- The SCRS approved the draft **format presented by the Secretariat** which consolidates the Task I Fleet characteristics (form T1FC) with the information on the ICCAT Record of vessels, principally from the current CP38 forms.

CP38-VessPYr — **VESSELS WHICH OPERATED IN THE PREVIOUS YEAR** — Version: v2014a — Language: ENG

Header

Reporting Flag
Reporting agency — Phone
Address — Fax
Person in charge — Email

Secretariat use only
Date reg.
Ref.

Report for year (previous)

Notes: EXAMPLE - fictitious values

			Vessel identification				Effort (fishing days)		Target species list	Fisheries	Detailed information on BFT-E catches by vessel			
ICCAT Serial Number	Registry Number (NRN)	IRCS	Vessel name	IssCflgID	LOA(m)	GRT(t)	ATL	MED	(e.g.: BET YFT ALB)		Total catch (kg)	Authorised from (dd/mm/yyyy)	Authorised to (dd/mm/yyyy)	Total number of days fishing
ICCATSerialNo	NatRegNo	IRCS	VesselName	IssfcflgID	LOA	GRT	FDaysAT	FDaysMD	TargSpcLst	Fishery	CatchBFT	DateAuthFrom	DateAuthTo	FishingDays
ATOOOPHL00001	MNLD009329	DUQZ8	Boada No. 5	LL	48	582	62	81	BET YFT ALB	ETRO				
ATOOOPHL00002	MNLD010688	DUSA8	Castro No. 168	LL	43	620	24	8	BET YFT ALB	ETRO				
ATOOOPHL00003	MNLD010689	DUSA7	Castro No. 668	LL	43	482	20	110	BET YFT ALB	ETRO				
ATOOOPHL00004	MNLD010539	DYFN	Eunis No. 828	LL	52	680	104	82	BET YFT ALB	ETRO				
ATOOOPHL00005	MNLD010291	DUTZ5	Jetmark No. 726	LL	51	533	57	71	BET YFT ALB	ETRO				
ATOOOPHL00006	MNLD010670	DUSA4	Jetmark No. 101	LL	51	680	40	3	BET YFT ALB	ETRO				
ATOOOPHL00007	MNLD010671	DUSA3	Jetmark No. 102	LL	46	467	48	94	BET YFT ALB	ETRO				
ATOOOPHL00008	MNLD010669	DUSA9	Selnes	LL	56	930	51	16	BET YFT ALB	ETRO				
ATOOOPHL00012	MNLD010667	DUSA6	Sun Warm No. 6	LL	49	595	80	11	BET YFT ALB	ETRO				
ATOOOPHL00013	MNLD010119	DUXZ8	Sun Warm No. 627	LL	52	561	78	46	BET YFT ALB	ETRO				
ATOOOPHL00014	MNLD010559	DUQA4	Sun Warm No. 1	LL	48	708	44	52	BET YFT ALB	ETRO				
ATOOOPHL00015	00-0001742	DUTZ4	Jetmark No. 31	LL	47	554	89	57	BET YFT ALB	ETRO				
ATOOOPHL00016	00-0001741	DUTZ2	Jetmark No. 36	LL	45	528	5	7	BET YFT ALB	ETRO				
ATOOOPHL00017	MNLD010832	DUD6037	Sunny Sky No. 888	LL	44	561	92	34	BET YFT ALB	ETRO				
ATOOOPHL00018	MNLD010668	DUSA5	Sun Warm No. 8	LL	49	595	90	52	BET YFT ALB	ETRO				
ATOOOPHL00019	MNLD010874	DUTG6	Jetmark No. 8	LL	55	735	83	53	BET YFT ALB	ETRO				
ATOOOPHL00020	NCR0000095	DUTK4	San Carlos No. 3	LL	44	587	18	96	BET YFT ALB	ETRO				
ATOOOPHL00021	NCR0000096	DUTK3	San Carlos No. 18	LL	46	688	94	18	BET YFT ALB	ETRO				
ATOOOPHL00022	MNLD000643	DVNN	Blue Star 05	LL	41	284	9	105	BET YFT ALB	ETRO				
ATOOOPHL00023	MNLD002177	DXAP	China Rose 2	LL	48	480	115	25	BET YFT ALB	ETRO				

Responses to Commission's requests

18.1	Evaluate the efficacy of the area/time closure referred to in paragraph 20 for the reduction of catches of juvenile bigeye and yellowfin Rec. [11-01] paragraphs 22.	P1
18.2	Review the technical specifications of the use of stereoscopic cameras systems as defined in Rec. [13-08]	P2
18.3	Continue to explore operationally viable technologies and methodologies for determining the size and biomass at the points of capture and caging and evaluate the BFT pilot studies to estimate both the number and weight of bluefin tuna at the point of capture and caging using stereoscopical systems, Rec.[13-07] paragraph 88.	P2
18.4	Evaluate the BFT national observer programmes conducted by CPCs to report the Commission and to provide advice on future improvements, Rec.[13-07] paragraph 90.	P2
18.5	Provide updated BFT growth rates tables based in the information from BCDs and other submitted data, Rec.[13-07], paragraph. 98.	P2
18.6	Provide answer to the requests from the 2nd WG WBFT Fisheries Managers and Scientists.	P2
18.7	Evaluation of data deficiencies pursuant to [Rec. 05-09].	P1,2,4
18.8	**Provide an update on the progress of the work on Sargasso Sea. Res. [12-12] paragraphs 1 and 2**	**PLE**
18.9	Definition of the SCRS plan for future sea turtle impact analyses Rec. [13-11] paragraph 4.	P4
18.10	**Provide answer to the requests from the 1st Meeting of the WG on Convention Amendment**	**PLE**

18.8 Response to Resolution 12-12 regarding the ecological importance of the **Sargasso Sea** to tuna and tuna-like species and ecologically associated species

[Res. 12-12]: to examine the available data and information concerning the Sargasso Sea and its ecological importance.

- **[SCRS/2013/132]**: inventory and ecology of 16 fish species of interest to ICCAT in the Sargasso Sea and their dependence on the Sargasso Sea ecosystem.
- **[SCRS/2014/120]**: preliminary pelagic food web illustrating the dependencies of the ICCAT species on common preys (squid, flying fishes,…) which use Sargassum as a reproductive habitat.
- **[SCRS/2014/119]**: annual removals by species from the Sargasso Sea relative to total removals from the relevant stock of each species.

Based on these contributions, the SCRS prepared a **work plan** to continue assessing the importance of the Sargasso Sea in response to Resolution 12-12.

18.10	Provide answer to the requests from the 1st Meeting of the WG on Convention Amendment
18.10.1	*What constituted tuna and **tuna-like species** when the Convention was adopted in 1969 and how is this list of species **best characterized today,** given that taxonomic categories and names can change from time to time and the Convention cannot be modified frequently?*

- **Table 18.10.1.1** of the 2014 SCRS report.
- These species are classified as **Scombroidei** and **Xiphioidei.**

Phylum : Chordata
└ Subphylum Vertebrata
└ Superclass Gnathostomata
└ Class Osteichthyes
└ Subclass Actinopterygii
└ Infraclass Teleostei
└ Superorder Acanthopterygii
└ Order Perciformes
├ **Suborder Scombroidei**
│ └ Family Scombridae
└ **Suborder Xiphioidei**
├ Family Istiophoridae
└ Family Xiphiidae

- Alternatives to update the text of the ICCAT Convention:
  - *"In order to carry out the objectives of this Convention the Commission shall be responsible for the study of the populations of tuna and tuna-like fishes (the Scombroidei and Xiphioidei) and such other species of fishes exploited in tuna fishing in the Convention area and are not under investigation by another international fishery organization."*
  - The species could be defined explicitly by adopting a list of covered species. Table 18.10.1.1 can serve as the list of tuna and tuna-like species, and the other species known to be impacted during fishing for tuna and tuna-like species are included in the updated ICCAT list (http://www.iccat.int/en/Stat_Codes.htm).

18.10	Provide answer to the requests from the 1st Meeting of the WG on Convention Amendment
18.10.1	*Which species should be covered by the term "**oceanic, pelagic and highly migratory elasmobranchs**?*

- **Oceanic** species: those usually occurring in the open ocean, beyond the continental shelf (in contrast to the neritic zone)
- **Pelagic** species: those not generally associated with the bottom (in contrast to demersal)
- **Highly migratory** species: those that in the course of their life cycle migrate over great distances of the ocean

- The SCRS prepared a preliminary **list of species** that meet the three criteria (based on the list of species developed during the inter-sessional meeting that summarized their ecological niche) [item 18.10.2 of the 2014 SCRS report, pages 239-240]

General recommendations & Work Plans

- Recommendations that are of a general nature and may carry substantial financial implications for CPCs and Commission

[Species-specific recommendations which also may carry substantial financial implications for CPCs and Commission will be presented during the appropriate panel discussion]

Sub-Committee on Ecosystems

- The Sub-Committee on Ecosystems will develop a work plan for a potential **workshop on by-catch species** to be submitted to the FAO-GEF **ABNJ Tuna Project** as a candidate proposal for a funded workshop.

- In accordance with the provisions of the proposed 2015-2020 SCRS Strategic Plan the Sub-Committee on Ecosystems recommends to **enhance the Ecosystem Approach to Fisheries Management (EAFM) advice** using the opportunity provided by the FAO-GEF **ABNJ Tuna Project**.

- Propose the definition of the **conceptual management objectives on the EBFM** as one of the elements for the 2015 meeting of the Standing Working Group to Enhance the **Dialogue between Science and Fisheries Managers** (SWGSM).

Working Group on Stock Assessment Methods (WGSAM)

- **EFFDis estimations:** the SCRS recommends that a technical expert be hired to assist the Secretariat on a short term basis as soon as possible. This update of the EFFDis dataset is critical, especially with regard to by-catch evaluations. [≈ 50,000 €]

- The SCRS again encourages **CPCs to provide access to CPUE set-by-set data** according to the needs and priorities identified by the different species groups and the sub-committees in accordance with the ICCAT confidentiality protocols.

- The implementation of the Management Strategy Evaluation approach (**MSE**) and promotion of the **dialogue** between scientists and fisheries managers on the Harvest Control Rules and MSE should be encouraged to improve the scientific advice given to the Commission. [GEF-FAO ABNJ Tuna project]

Sub-Committee on Statistics

- Financial support for **training on data reporting** obligations:
  - web-based training videos, in the three official and other languages (e.g. Arabic).
  - A series of regional workshops be implemented starting in early 2015. [≈ 60,000 €]

- In light of the limited man power and time required for completion of the Work Plan of the Sub-Committee (SCI-054), choices will obviously have to be made with regard to how to prioritize the activities. The current rate of tasks is unsustainable and the SCRS reiterates prior recommendations to **increase staff** to conduct this work so as not to further reduce the required support of the SCRS. [≈ 75,000 €]

- **ICCAT-DB system code migration**: Started in 2014; urgent and important to ensure the full operation of the ICCAT-DB system. This work must be outsourced since staff are already severely overburdened [≈ 150,000 €]

- Following the work initiated in 2013 reviewing the various sources of investments to **improve information from artisanal fisheries** of West Africa, the SCRS reiterates its prior recommendation to develop such **inventories** for other regions (e.g. Central and South America, the Caribbean, north African Mediterranean coast) [≈ 60,000 €]

Working Group of Tropical Tunas

Atlantic tropical tagging program & small tuna, capacity building, …

- The SCRS reiterates the **importance** of the implementation of a large-scale tagging program for tropical tuna species (AOTTP) to improve Stock Status determination.
- **EU has expressed interest in funding 80% of AOTTP budget !!!**
- **CONDITIONAL** of the co-funding of remaining 20% by other CPCs or other sources ["in kind": no more than half of the co-funding]
- This is a unique opportunity!

Year	1	2	3	4	5	Total
Total (x1,000€)	**6,401 €**	**5,425 €**	**2,983 €**	**895 €**	**1,171 €**	**16,876 €**

	Total	
Total (x1,000€)	**16,876 €**	
EU funding	13,500 €	
Co-Funding total	3,375 €	0.675 €/year
Cash	1,688 €	0.338 €/year
In kind	1,688 €	0.338 €/year

Examples of possible co-funded activities:

- Specific projects within AOTTP implemented by ICCAT:
  - tagging in specific areas (e.g. central, western AO)
  - tagging specific species (e.g. neritic tunas)
- Provision of pole-and-line vessel(s) time
- Provision of tags and equipment

Proposed calendar of ICCAT scientific meetings in 2015

	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sat	Mon	Tue
Jan						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
Feb									1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28			
Mar									1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
										BFT DATA PREP.																									BSH DATA PREP.						
Apr					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30					
																								WGSAM															
May							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
										BET DATA PREP.							FADs																						
Jun										1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	30	
										SC-ECOSYSTEMS																									BSH ASSESSMENT						
											SMT DATA REVISION																															
Jul					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
																	BET ASSESSMENT																							
Aug								1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Sep				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30						
																								SPECIES GROUPS							SCRS								
Oct						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
Nov									1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	30			
Dec				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					

2015: BET, BSH

Working Group on Stock Assessment Methods (WGSAM)

- Formalize a **generalized framework** from which to conduct future **MSE**s.
- **Ways to facilitate the dialogue** with the Commission about MSE, HCR, RP
- Simulation study on how best to bring **spatially changing oceanographic and environmental conditions** into the assessment process.
- Development of **spatially explicit indices of abundance**.
- Review the **CPUE protocol** for inclusion criteria
- Cooperation with **EFFdis** re-estimation effort
- Cooperation, and interaction with **other tuna RMFO** Methods Working Groups and the Strategic Initiative on Stock Assessment Methods (**SISAM**).
- ICCAT glossary.

See details of the Plans in Apendix 4 of the 2014 SCRS Report

Sub-Committee on Ecosystems

- **Ecosystems**
  - Assess the importance of the **Sargasso Sea** ecosystem [Res. 12-12].
  - **EBFM**: list of **potential ecosystem objectives** that are practical and measureable to present to the Commission so that they can guide the SCRS as to which objectives are of highest priority.
  - **EBFM**: Request **feedback** from the SCRS working groups and the Commission with regard to the implementation of EBFM.
- **By-catch**
  - **Map sea turtle by-catch rates against EFFDIS** effort estimates
  - Review and compile **indirect by-catch mortality estimates** for sea turtles, and the estimation methodologies.
  - Review the **efficacy of seabird by-catch mitigation measures** [Rec. 11-09].
  - Review data received by CPCs **reporting by-catch**. Make recommendations to revise the data collection forms as needed

See details of the Plans in Apendix 4 of the 2014 SCRS Report

Sub-Committee on Statistics

Tipo	*Orden de prioridad*	*Tareas principales*	*Estado actual*	*Porción (%) realizada*	*Tiempo para su finalización (aprox.)*
Proyectos	1	Rediseño integral de la base datos de Tarea 1 (módulos T1NC y T1FC que incluyen histórico y manuales). "stTask1"	En curso	90%	2 meses
	2	Marco de documentación de BD de ICCAT (escribir manuales de referencia y guías de usuario de cada base de datos).	En curso (congelado en 2014)	20%	Plan de trabajo (tres años)
	3	Perfeccionar las bases de datos de Tarea II (T2CE y T2SZ) para sincronizar con el trabajo del proyecto nº1 (nueva DB "stTask1").	En curso (congelado en 2014)	40%	1 mes
	4	Configurar la base de datos CAS (archivar las estimaciones de 2013 y 2014) y adaptarla para las publicaciones anuales (SCRS):	En curso (congelado en 2014)	50%	1 mes
	5	Desarrollar bases de datos para las muestras de atún rojo en granjas.	Pospuesto	20%	1 mes
	6	Sustituir t2ce.mdb y t2sz.mdb (MS-ACCESS) con MySQL (publicación de las bases de datos en la nube de ICCAT).	Pospuesto	10%	4 meses
	7	Rediseñar/actualizar la base de datos de marcado (nuevo módulo para marcado elect. integración de los cuatro últimos años, comprobaciones, etc.).	Pospuesto (tercer año)	0%	5 meses
	8	Diseño de la base de datos GIS (lo que incluye shapefiles)	Pospuesto	10%	2 meses
	9	Revisión de la lista de especies y de la taxonomía.	En curso	80%	1/2 meses
	10	Diseño de la nueva base de datos para captura fortuita (datos del programa de observadores).	¿Externalizado?	0%	5 meses
	11	Diseño de la nueva base de datos para los datos estereoscópicos de atún rojo.	Nuevo	0%	?
	12	Diseño de la nueva base de datos para descargas de ISSF (enlatado)	¿Externalizado?	0%	2 meses
	13	Migrar todas las aplicaciones VBA (30 aplicaciones, ~100.000 líneas de código) a NET	¿Externalizado parcialmente?	10%	6 meses
	14	Actualización EFFDis (1950-2013)	¿Externalizado?	0%	2 meses
Tareas continuas	15	Actualización anual de Tarea I y Tarea II (incluye publicación y varios resultados).	Trabajo anual	No aplicable	No aplicable
	16	Respaldo a las bases de datos ICCAT de otros departamentos (desarrollo, formación, etc.)	Trabajo anual	No aplicable	No aplicable
	17	Actualización de las bases de datos relacionadas con el cumplimiento (lo que incluye la publicación y varios resultados).	Trabajo anual	No aplicable	No aplicable
	18	Mantenimiento de la base de datos (actualizaciones, correcciones de errores, backup, adaptación de códigos, etc.).	Trabajo anual	No aplicable	No aplicable
	19	Actualización CATDIS (1950-2013) - lo que incluye todas las revisiones realizadas a la T1 y los nuevos datos de T2CE.	Trabajo anual	No aplicable	No aplicable
	20	Creación de capacidad del personal del Departamento de estadísticas (programación de tecnologías nuevas y actuales).	Trabajo anual	No aplicable	No aplicable
	21	Mejoras en el sitio web de ICCAT	Trabajo anual	No aplicable	No aplicable

See details of the Plans in Apendix 4 of the 2014 SCRS Report

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