



Panel 4: Other species

SWO Swordfish
BUM WHM SAI Billfish
SMT Small tuna
SHK Sharks



- Overview of stock status outlook and management recommendations for all species except blue shark which was assessed this year
- Results of the Blue shark assessment
- Workplans for all species group in the panel
- Response to the commission 19.7

Biology Fisheries Stock status Outlook Effects of current regulations Management recommendation SAI

SAI **WHM** **SWO**

BUM

STOCK STRUCTURE

SMK **POR**

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SMT

SMALL TUNAS
Regional stock structure, in most cases undefined

Atlantic bonito (*Sarda sarda*)

Frigate tuna (*Auxis thazard*)

King mackerel (*Scomberomorus cavalla*)

Little tunny (*Euthynnus alletteratus*)

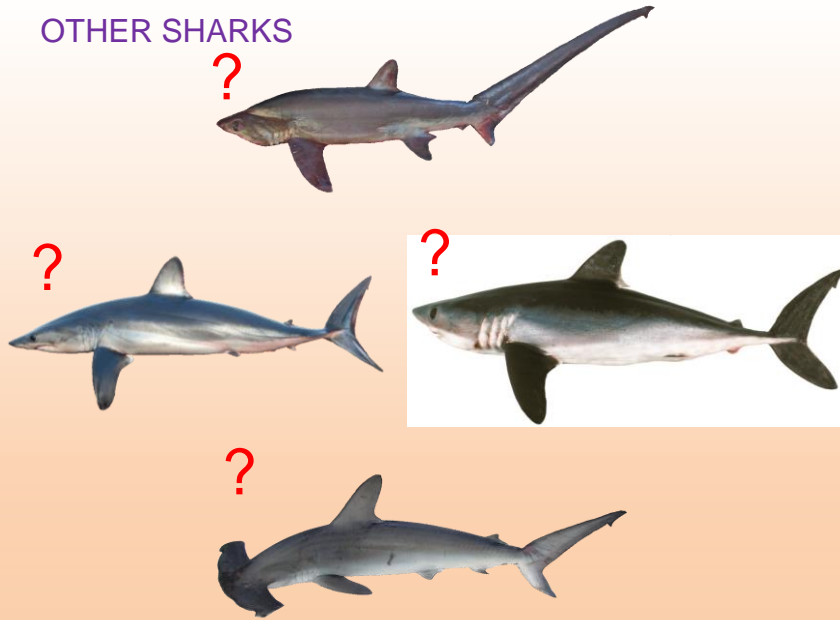
Atlantic Spanish mackerel (*Scomberomorus maculatus*)

Most dominant species in the catches (5 species, more than 80% in weight)

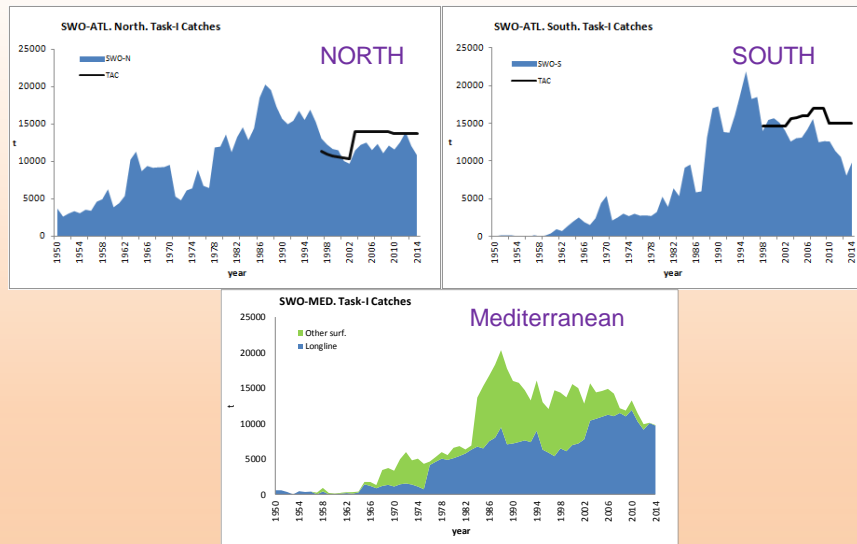
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OTHER SHARKS



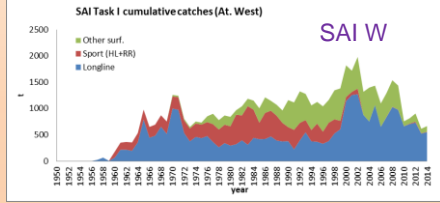
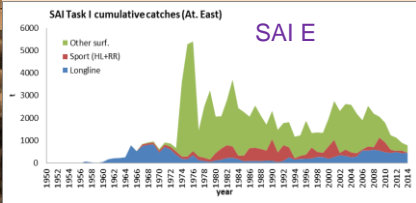
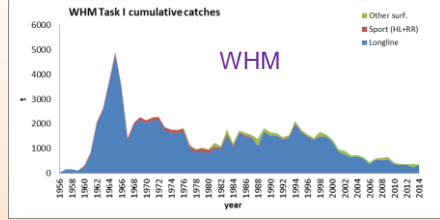
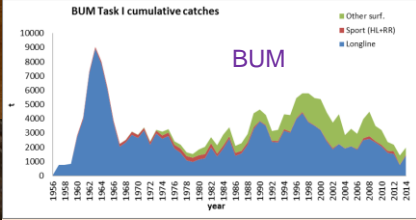
SWO



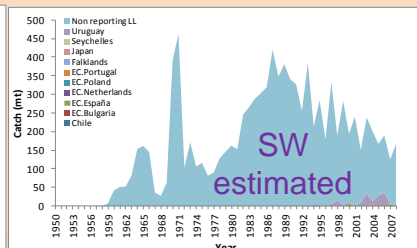
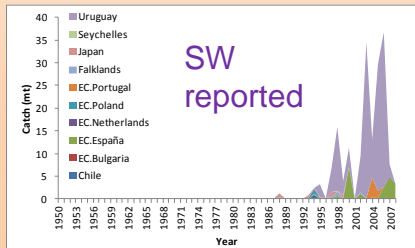
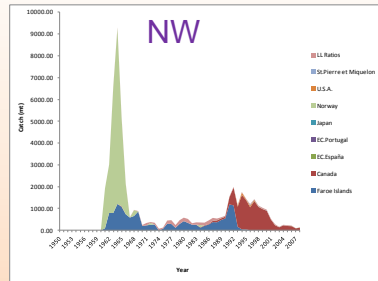
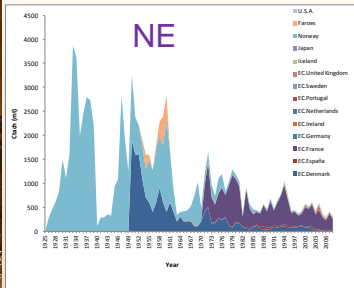
Total reported catch (Task I) and TACs Atlantic swordfish stocks (1950-2013)



BILLFISH

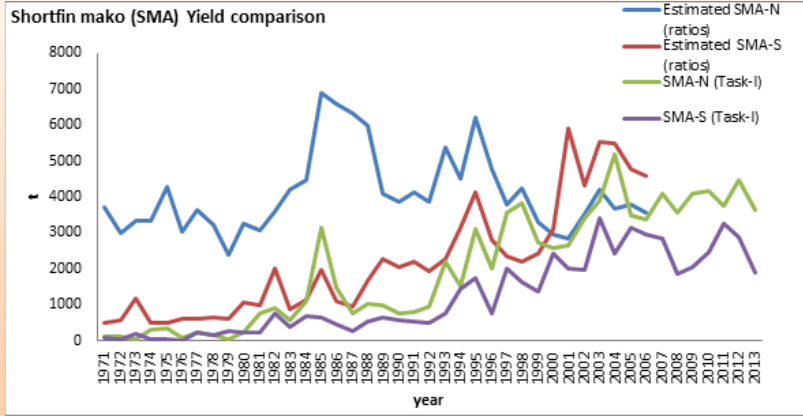


PORBEAGLE





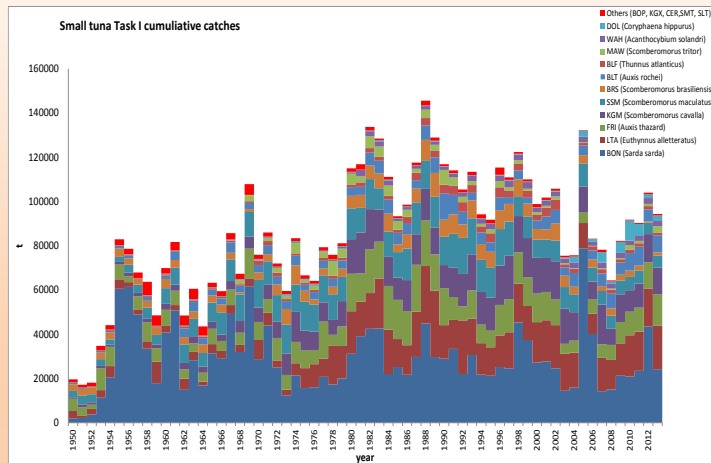
Shortfin mako



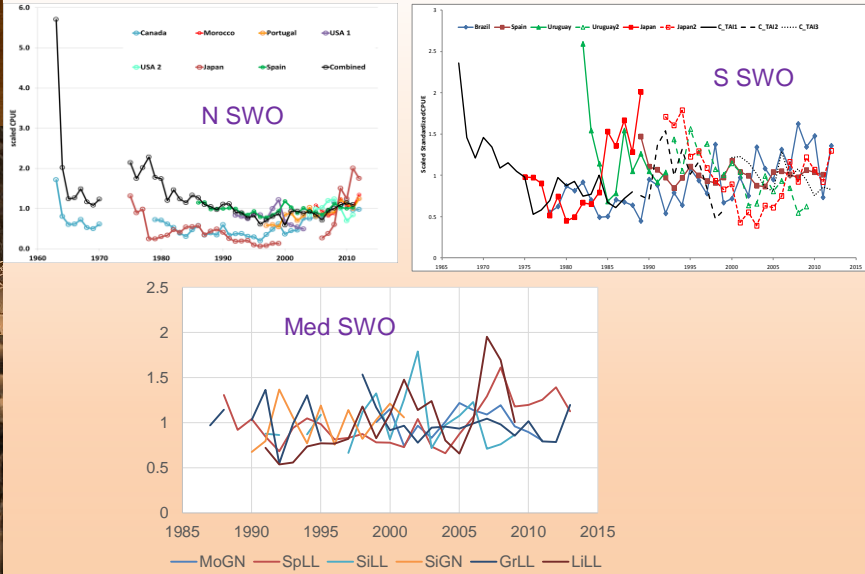
Shark catches are often under-reported and need to be estimated from ratios of the catch of other species



SMALL TUNAS Atlantic and Mediterranean – 12 species



Relative abundance indices SWORDFISH

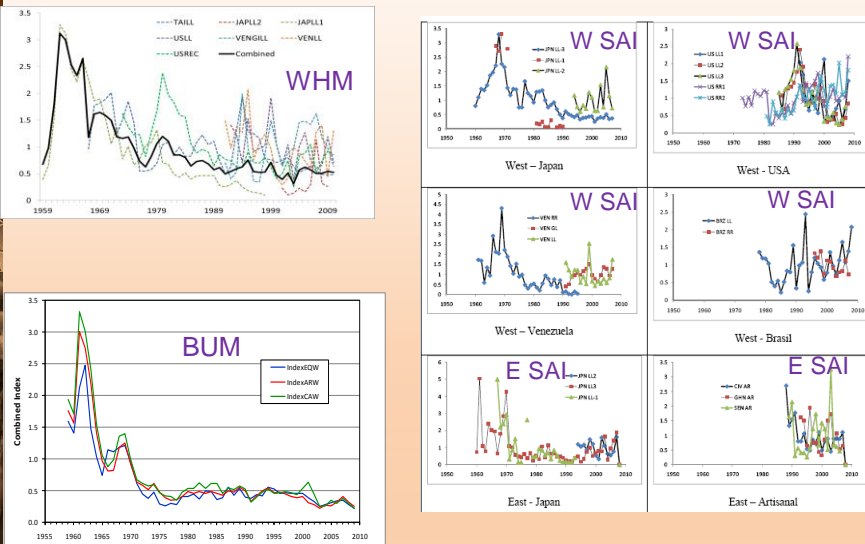


Malta ICCAT 2015

Panel 4: Other species

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Relative abundance indices BILLFISH



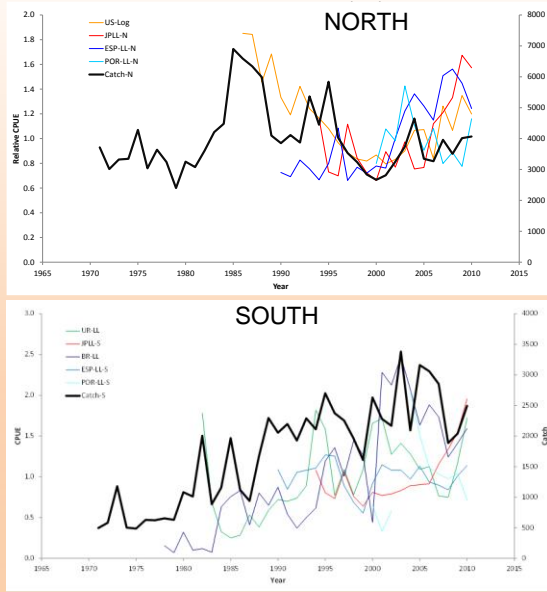
Malta ICCAT 2015

Panel 4: Other species

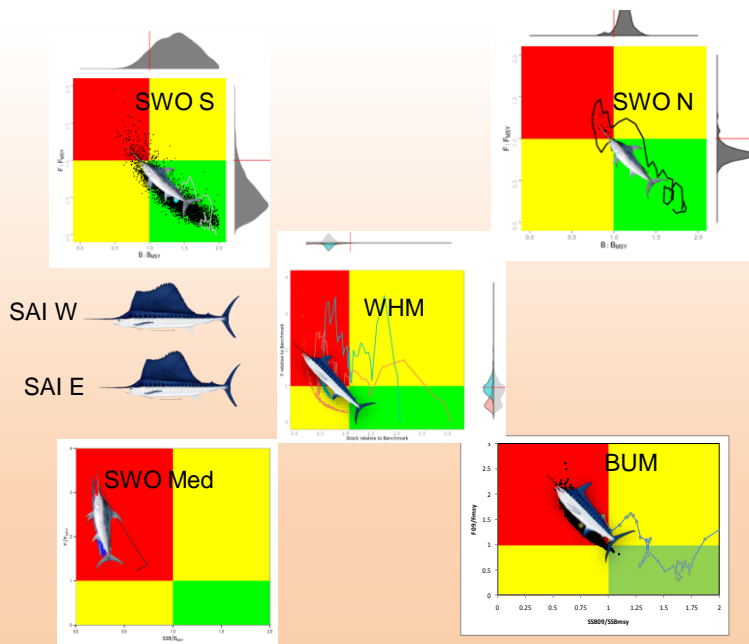
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Relative abundance indices SHORTFIN MAKO



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Malta ICCAT 2015

Panel 4: Other species

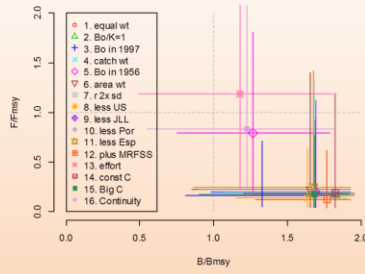
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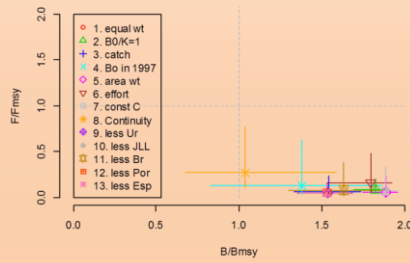
Shortfin mako



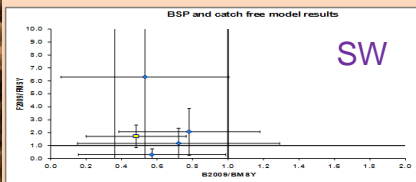
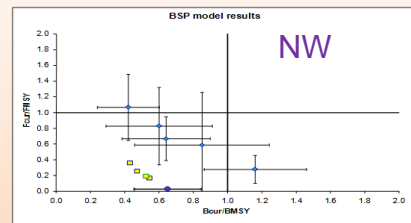
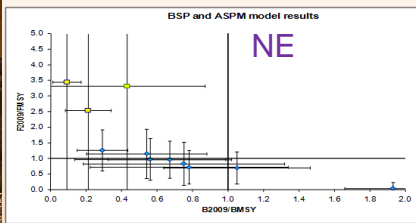
North Atlantic



South Atlantic



Porbeagle: stock status



2012 Ecological Risk Assessment

OTHER SHARKS

Stock	V ₁	V ₂	V ₃
BTH	3	1	1
LMA	5	3	2
SMA	1	8	2
POR	2	7	4
CCS	11	4	5
FAL SA	12	5	6
CCP	15	2	6
OCS	4	13	8
FAL NA	8	11	8
ALV	9	14	11
BSH NA	6	19	10
DUS	17	6	12
SPK	14	10	13
BSH SA	7	20	14
TIG	10	16	15
PLS SA	18	9	16
SPL NA	16	12	16
SPZ	13	17	18
SPL SA	19	15	19
PLS NA	20	18	20

Outlook and management recommendations



WHM

- [Rec. 12-04], intended to reduce the total harvest to 400 t in 2013, 2014, and 2015 to allow the rebuilding of the white marlin stock from the overfished condition. The Committee expressed its concern on the effectiveness of such measure in light of the misidentification of spearfishes in the white marlin catches, which causes uncertainty in stock assessment results and enforcement related problems.
- One approach to reduce fishing mortality could be the use of non-offset circle hooks as terminal gear



Outlook and management recommendations



BUM

- Concerns on the effectiveness of [Rec. 12-04], intended to reduce the total harvest to 2,000 t in light of severe under reporting currently occurring in some fisheries. Therefore, the Committee alerts the Commission that unless such non-compliance issues are properly addressed the adoption of additional measures might be rendered ineffective.
- The adoption of measures such as, but not limited to the mandated use of non-offset circle hooks as terminal gear to reduce marlin mortality.
- Actions to reduce fishing mortality of blue marlin from non-industrial fisheries.

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Outlook and management recommendations



SAI

- Catches for the eastern stock should be reduced from current levels. It should be noted, however, that artisanal fishermen harvest a large part of the sailfin catch along the African coast.
- Catches of the western stock of sailfin should not exceed current levels. It should be noted, however, that artisanal fishermen harvest a large part of the sailfin catch of the western sailfin stock.
- One approach to reduce fishing mortality could be the use of non-offset circle hooks as terminal gear.
- The Committee recommends all countries landing or having dead discards of sailfin, report these data to the ICCAT Secretariat.

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Outlook and management recommendations

SWO South

The committee did not have sufficient confidence in the assessment results to change the previous recommendation to limit catches to no more than 15,000 t



SWO North

- current TAC of 13,700 t has an 83% probability of maintaining the North Atlantic swordfish stock in a rebuilt condition by 2021 while maintaining biomass
- without better direction from the Commission with regard to what constitutes a 'high probability', it cannot provide more specific advice. TACs up to 14,300 t would still have a higher than 50% probability of maintaining the stock in a rebuilt condition by 2021 but would be expected to lead to greater biomass declines

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Outlook and management recommendations



SWO Mediterranean:

- Maintain the current management measures of Mediterranean swordfish as adopted in [Rec. 13-04] until additional data permits a conclusion as to whether or not they are sufficient to allow the stock to rebuild to a level in line with the Convention objectives.
- However, it has been noted that the recently adopted management measures may have increased discard levels of undersized swordfish; therefore it is recommended to closely monitor the fishery and that every component of the Mediterranean swordfish mortality be adequately reported to ICCAT by the CPCs.
- Moreover, as it has been noted that the number of vessels in the ICCAT records of vessels authorized to catch Mediterranean swordfish is generally higher than the vessels that are active in each CPC, the Committee recommends that the implications of this potential excess capacity should be considered by the Commission.

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Outlook and management recommendations: Sharks



GENERAL

- Precautionary management measures should be considered particularly for stocks where there is the greatest biological vulnerability and conservation concern, and for which there are very few data. Management measures should ideally be species-specific whenever possible.
- Committee strongly urges the CPCs to provide the corresponding statistics, including discards (dead or alive), of all ICCAT fisheries, including recreational and artisanal fisheries, and to the extent possible non-ICCAT fisheries capturing these species.
- Methods for mitigating shark by-catch by purse seines, gillnets, and artisanal fisheries need to be investigated and applied.

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Outlook and management recommendations: Sharks



SHORTFIN MAKO

Taking into consideration the continued high vulnerability ranking in the ERA, results from the modelling approaches used in the assessment, the associated uncertainty, and the relatively low productivity of shortfin mako sharks, the Committee reiterates, as a precautionary approach, that catches of shortfin mako sharks should not be increased with respect to the 2006-2010 levels until more reliable stock assessment results are available for both the Northern and Southern stocks.

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Outlook and management recommendations: Sharks



PORBEAGLE

- The Committee recommends that the Commission work with countries catching porbeagle and relevant RFMOs to ensure recovery of North Atlantic porbeagle stocks (e.g. NAFO) and cooperate with the current Areas Beyond National Jurisdiction (ABNJ) to conduct a coordinated South Atlantic stock assessment).
- Porbeagle fishing mortality should be kept to levels in line with scientific advice and with catches not exceeding the current level. New targeted porbeagle fisheries should be prevented, porbeagles retrieved alive should be released alive.
- Management measures and data collection should be harmonized as much as possible among all relevant RFMOs dealing with these stocks, ICCAT should facilitate appropriate communication.

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Outlook



SMT

The provision of management advice by the SCRS relies on accurate reporting of Task I and II data.

However, due to the nature of small tuna fisheries (i.e. multi-gear, multi-species, artisanal fisheries, etc.), information on fisheries data is difficult to collect.

Therefore, the Committee hasn't been able to conduct any quantitative stock assessment for any species.

However, work is currently being conducted on developing indicators that in the future could be used to provide management advice to the Commission.

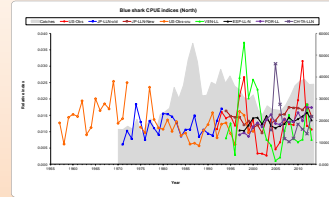
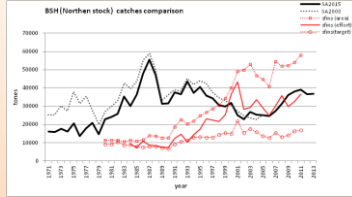
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2015 Assessment of Blue shark

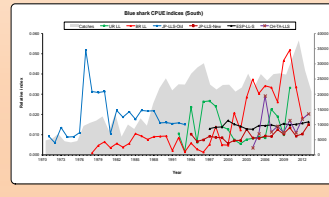
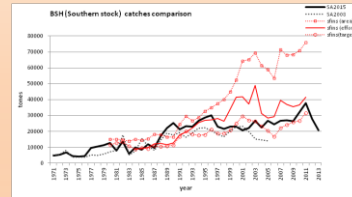
CATCH ESTIMATES

RELATIVE ABUNDANCE (CPUE)

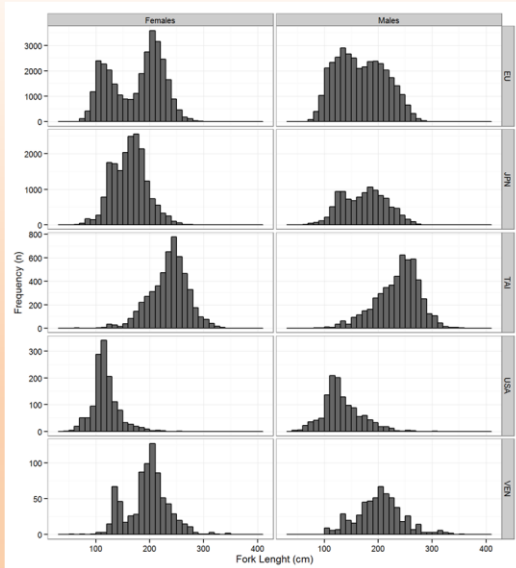
NORTH



SOUTH



Length compositions

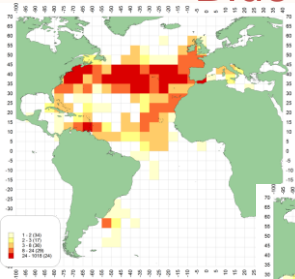


Biological parameters

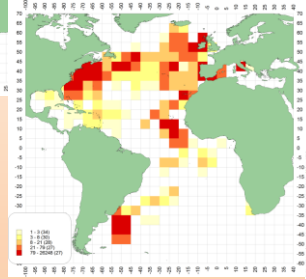
Growth
Maturity
Reproduction



Blue shark tagging

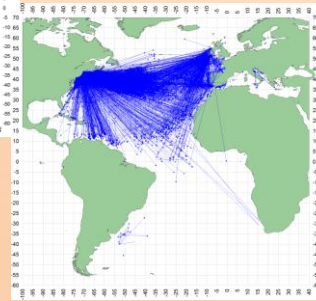


Releases



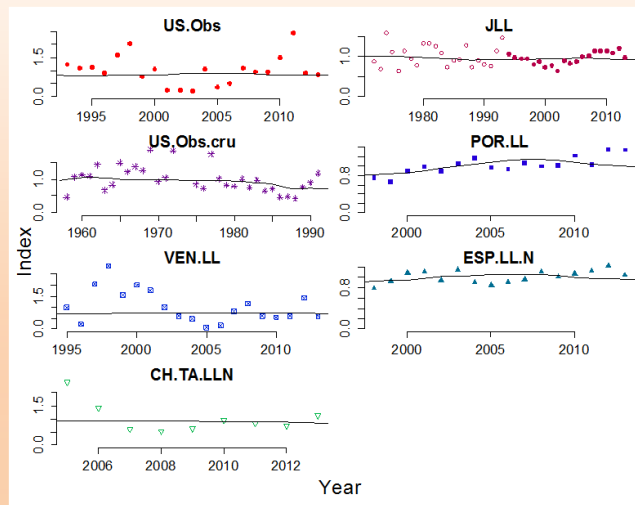
Recaptures
(6.6%)

Straight movement



North Atlantic stock Production model

Fits to relative abundance indices

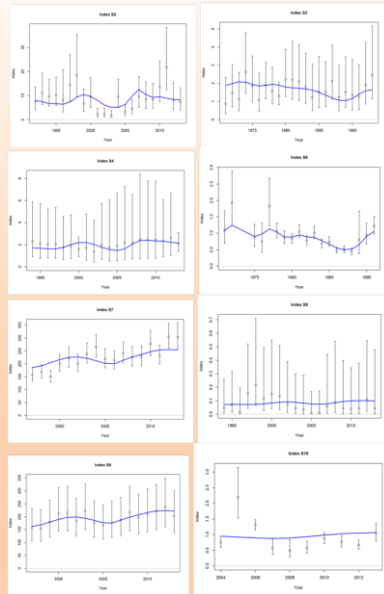




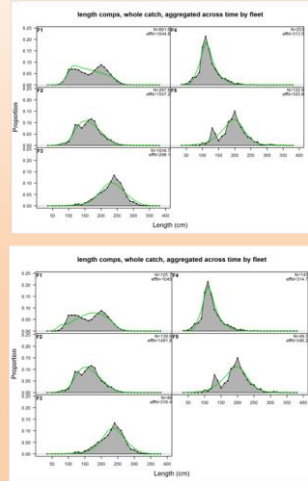
North Atlantic stock

Statistically integrated age-structured model

Fits to relative abundance indices

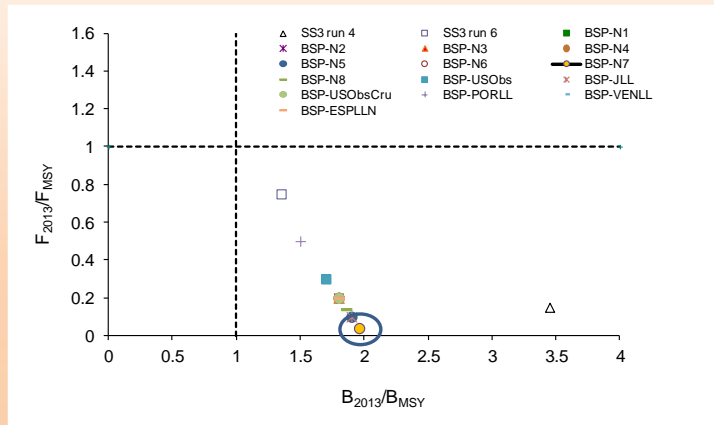


Fits to length composition



North Atlantic stock

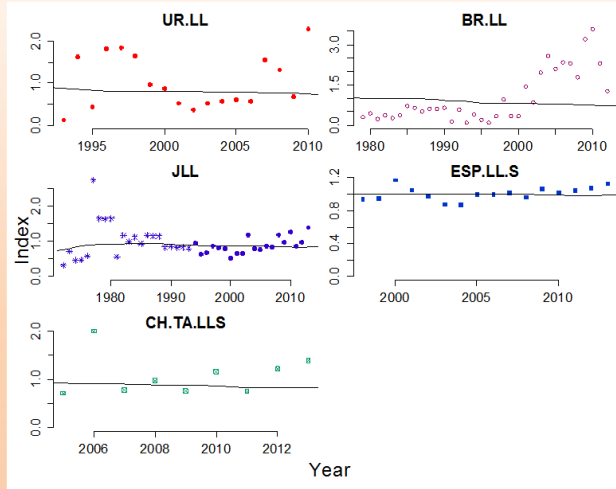
STOCK STATUS from combined results (production model and statistically integrated model)





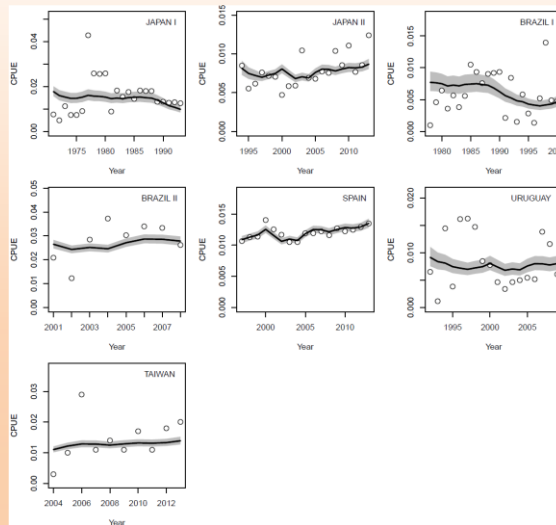
South Atlantic stock

BSP: Fits to indices



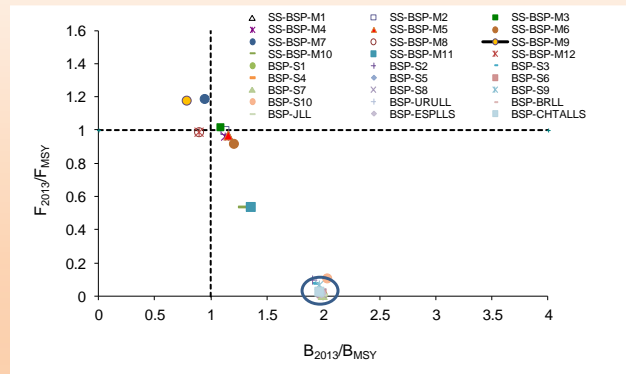
South Atlantic stock

SS-BSP: Fits to indices



South Atlantic stock

STOCK STATUS from combined results (two different production models)



Outlook and management recommendations



- No projections of future stock conditions undertaken due to still high uncertainty in current stock status
- Given the uncertainty in stock status results for the South Atlantic stock of blue shark, the Committee recommends that recent catch levels (e.g. in the past five years, 2009-2013) not be increased.
- For the North Atlantic stock, while all model formulations explored predicted that the stock was not overfished and that overfishing was not occurring, there still remained enough uncertainty in the data inputs and model structural assumptions to allow the Committee to reach a consensus on a specific management recommendation.



Shark Species Group Work Plan

In preparation for a planned stock assessment of Shortfin mako in 2017, the Group will conduct the following activities:

Hold an intersessional meeting to:

- Review progress on the SRDCP (Shark Research and Data Collection Program) projects on shortfin mako age and growth dynamics, genetics, post-release survival, movements, and trophic dynamics
- Provide stock status indicators of shortfin mako (nominal CPUE and catch from task II)
- Start review of historical catches and available CPUE indices for SMA
- Start review of spatial length composition data to help define fleets for SS3
- Finalize activities of the SRDCP for SMA



Swordfish Working Group Work Plan

- swordfish were last assessed in 2013.
- During 2016 the working group will prepare the information required for an Assessments in 2017 of Mediterranean, North and South Atlantic stocks. In addition to regular data preparation activities the group will require:
 - Support from a South Atlantic Swordfish Research Plan
 - Furthers studies on Environmental effects on populations and how to best determine how to include environmental covariates into the overall assessment process.
 - Develop spatially explicit CPUE. Possibility to assess the north Atlantic swordfish stock using area specific CPUEs, incorporating effects of oceanographic and climatological processes.



Billfish Working Group Work Plan

Proposes to conduct a stock assessment of the two stocks of sailfish in 2016. In preparation for the sailfish assessment the and in addition of the regular preparation of data for the assessment the group will:

- Require financial assistance to support a workshop to help West African countries to standardize their CPUE data april 2016;
- Complete work on comprehensive sailfish stock structure.



Small tunas Working Group Work Plan

Intersessional meeting of the Small Tunas Species Group in 2016. At such meeting national scientists should provide:

- analysis historical fisheries indicators on small tunas (e.g. CPUE; development of simple indicators of stock sustainability such as: mean size, proportion of juveniles, etc.),
- Improvements to the Task II data (under SMTYP program);
- Contributions to a meta-database for small tunas in order to identify and apply the appropriate stock assessment methods for each species/stock identified as a priority;

The group will also:

- Encourage studies on stock structure and species distribution
- Collaborate, as much as possible through joint working groups, with other RFMOs to improve and exchange basic fisheries data on small tunas.

RESPONSE TO THE COMMISSIONS

19.7 Evaluation of data deficiencies pursuant to [Rec. 05-09]

The Commission expressed in [Rec. 05-09] for the SCRS to evaluate: *“the effect of the data deficiency(ies) on the Commission’s ability to determine the status of the stock(s) and on the effectiveness of the ICCAT conservation and management measures”*.

- Data deficiencies are present for many of the basic information used to support ICCAT assessments
- Data deficiencies are more common for by-catch species than for target stocks.
- Data deficiencies are also common for small tunas and species of sharks that are now clearly targeted by some fishing fleets.
- Data deficiencies remain for data on catches of billfish on moored FAD fisheries in several Caribbean countries over the last two decades

