

Report of the SC15

(Dec 10-15, 2012)(Seychelles)

T. Nishida (SC Chair)

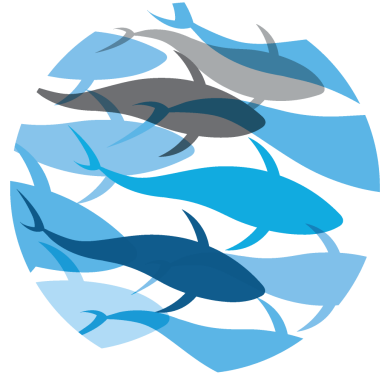


(54 participants)

First of all....

Good morning — سلام — 안녕하세요? — Hamjambo
Hola!

早上好
सुप्रभात



iotc ctoi



Heduneh
|
Bonjour

សំសត្ថី

ආයුබෝවන්

Magandang — Magandang — おはよう
umaga — pagi — ございます
Selamat

...and thanks, beautiful Mauritius..

SC15 report (288 pages !)
40' for presentation and 20' for Q&A

Not time to explain ALL

Focus and Highlight [4 points]

- [1] Piracy and Status of Stocks (5 important species)**
- [2] Background SC INFO: 18 Proposals on CMM**
(Data, Resources managements, Bycatch and FADs)
- [3] Other important issues**
(MSE, Area closures, Gillnet and IOTC-OFCF)
- [4] Budgets and Meetings (2013)**

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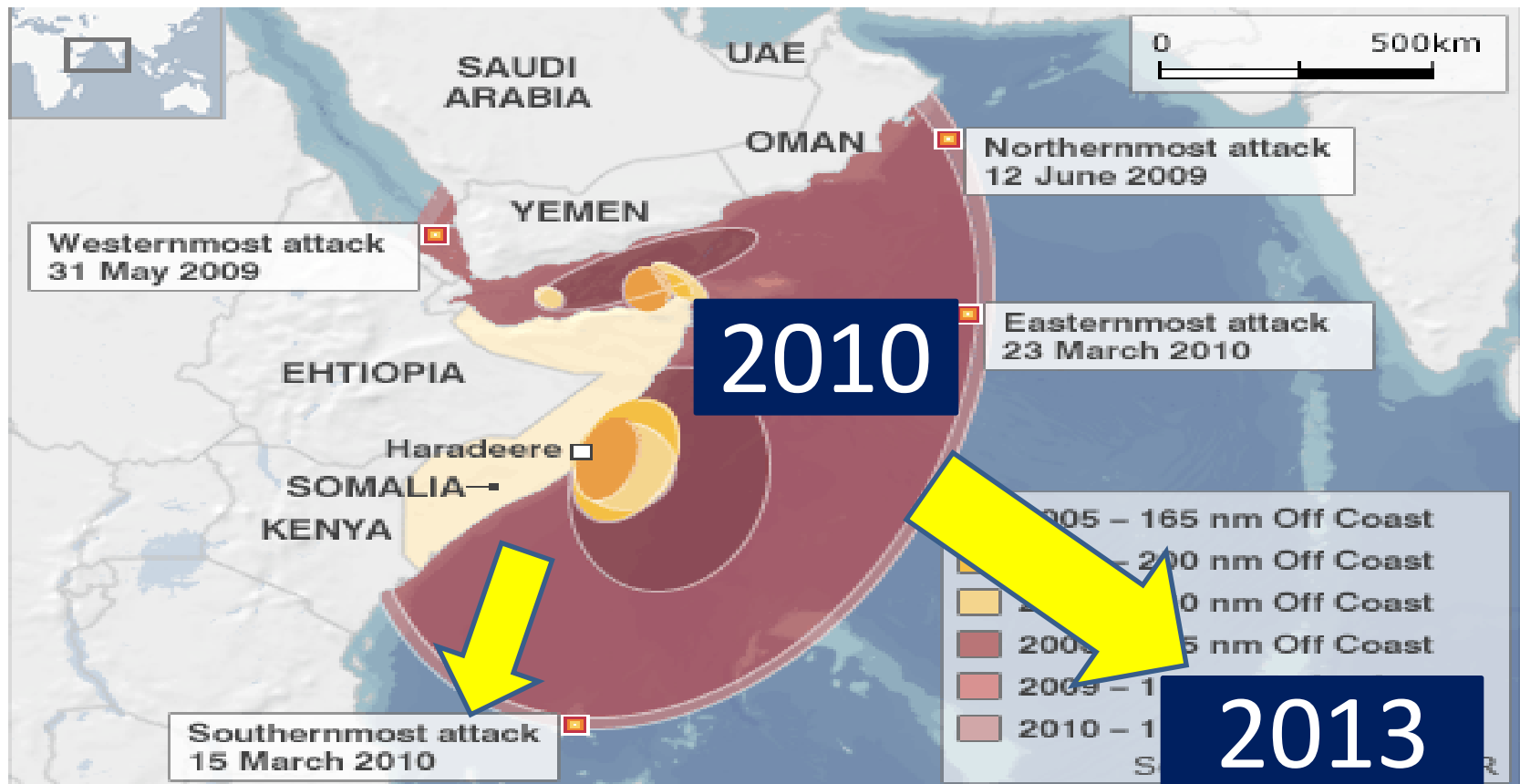
[4] Budgets and Meetings (2013)

***How Piracy impacted
Fisheries (effort+catch)
and stock status?***

Impact on tuna fisheries

***Piracy zone expanded to the Mozambique channel (2010)
and recently to the Central IO (Maldives) (2013)***

→ Decreased fishing activities



Effect of piracy on Longline

Large impact by Piracy

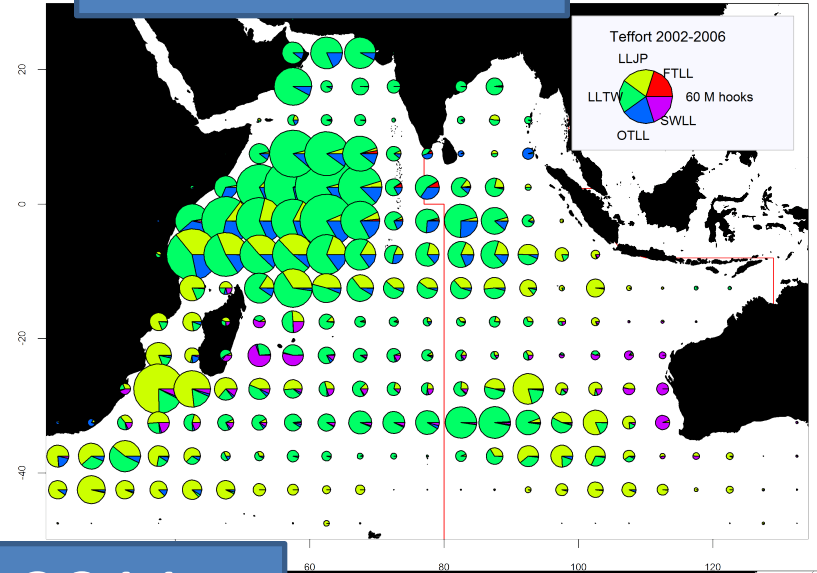
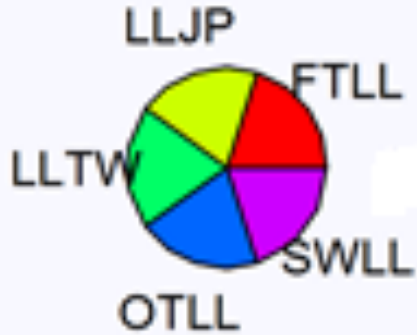
No operation in 2010-2011 (NW IO)

LL shifts to Pacific or Atlantic

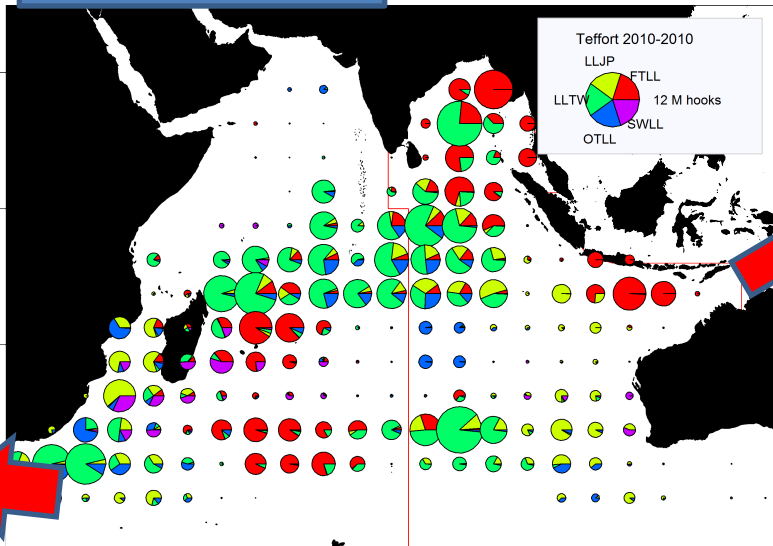
***Remainders : shift to South, SE and E
Target and catch more ALB (good price)***

Change of LL effort
Shifted to E +S IO

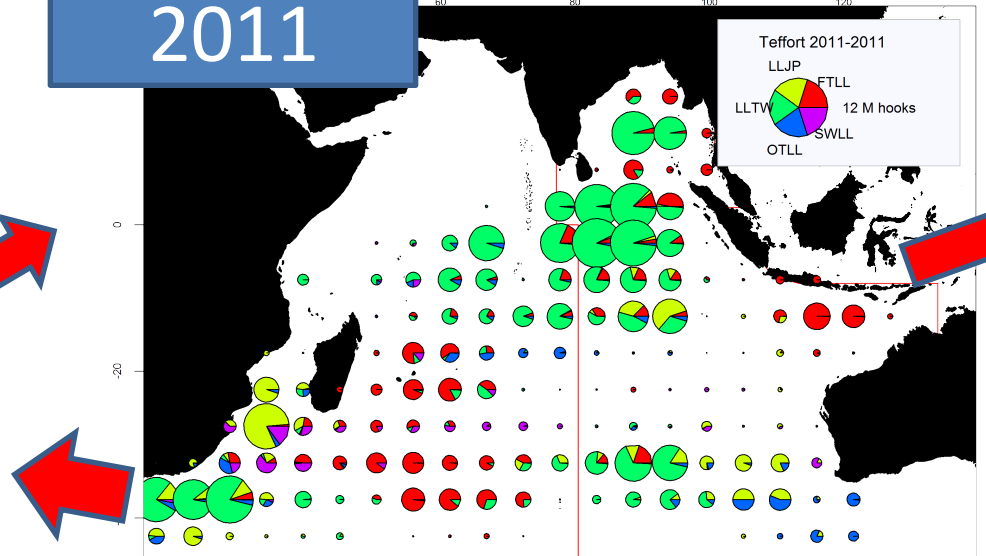
Ave (2002-2006)



2010

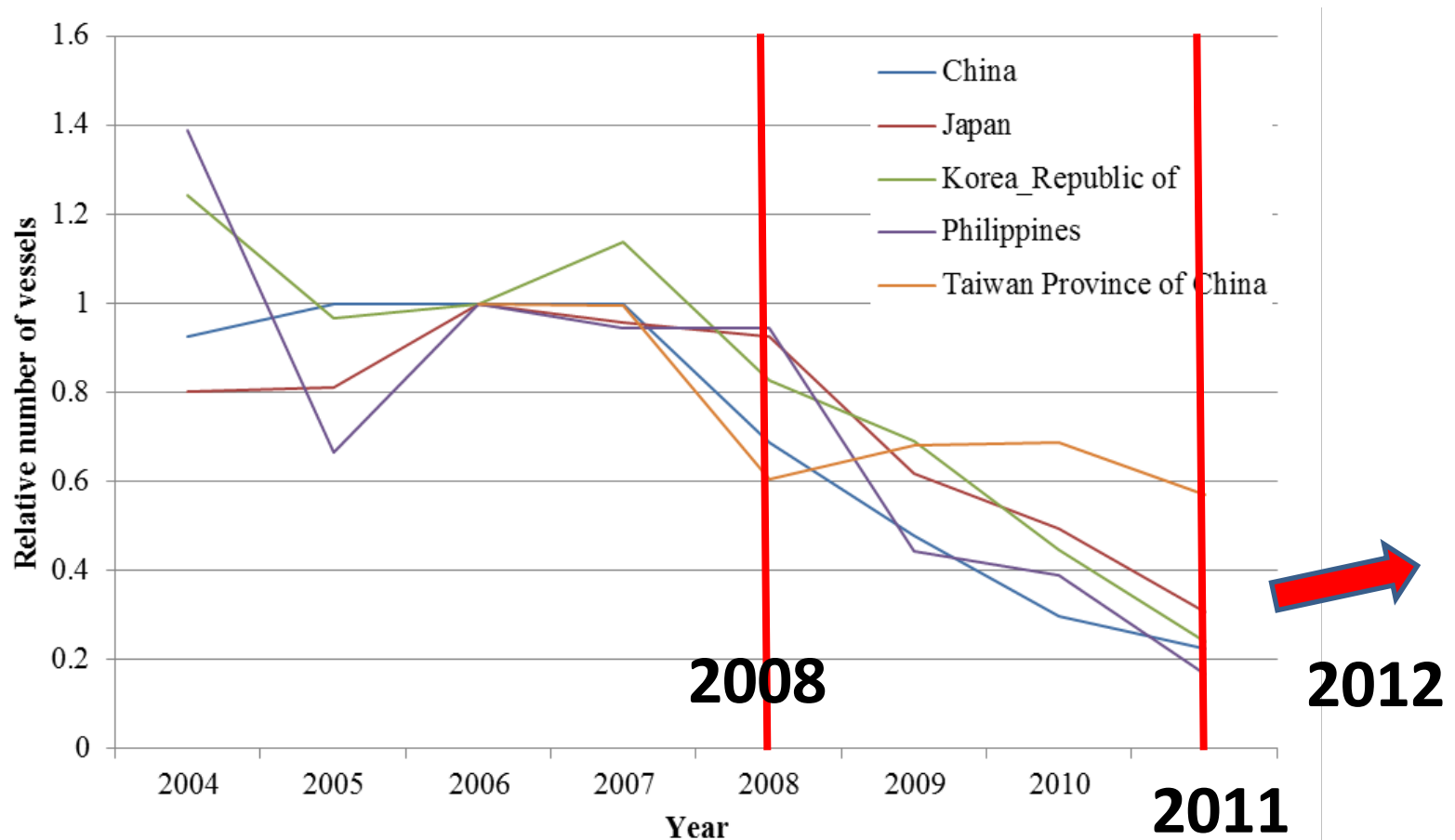


2011



Many LL shifted to Pacific and Atlantic Ocean

No. of LL vessels by country (2004-2011) (20-70% reduction in 4 years 2008-2011)



2012: Number of LL back from Atlantic+Pacific to W+C IO (BET+YFT) (China, Korea and Taiwan,China) (Armed staff)

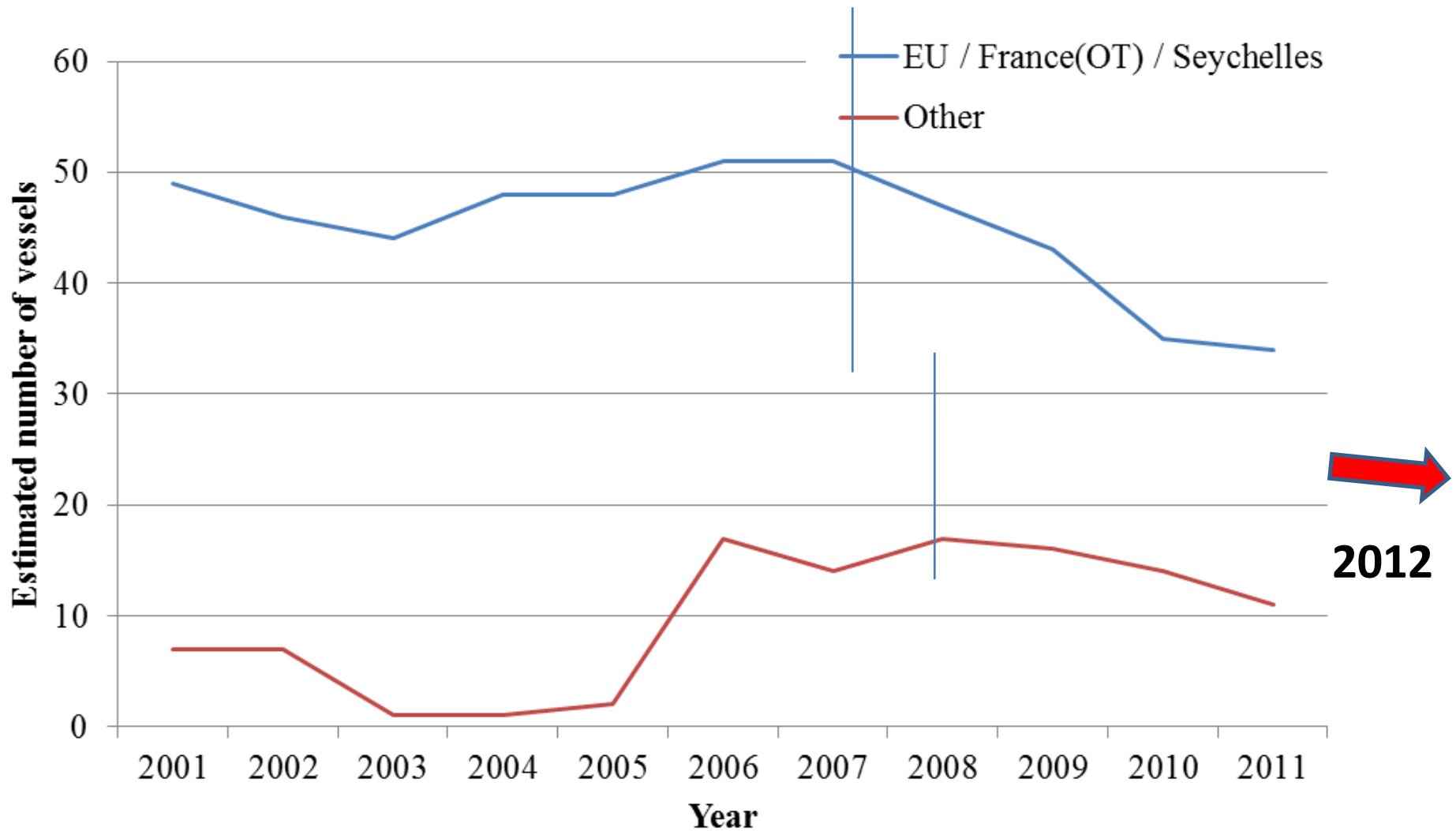
Effect of piracy on PS

PS: moderate impact

shifted to East by **at least 100 miles** compared to the historic distribution of effort

Number of vessels has been decreasing
51 (2006) to **34** (2011) (33% of reduction)
30 (2012) (40%)

No. of PS vessels (2001-2011)



***Effect of piracy on
small-scale fisheries (LL, PS, GILL)***

Piracy



**Effect behaviours of
small-scale fishing vessels**

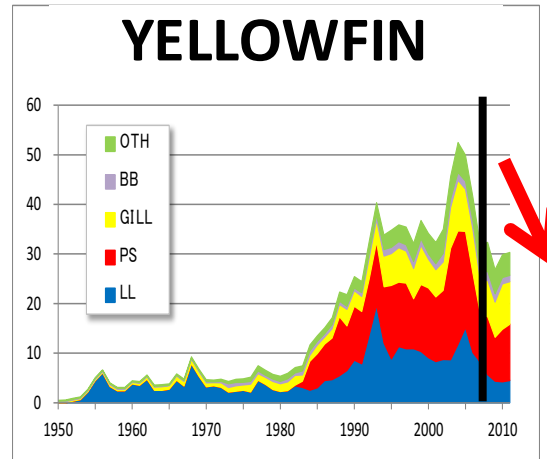
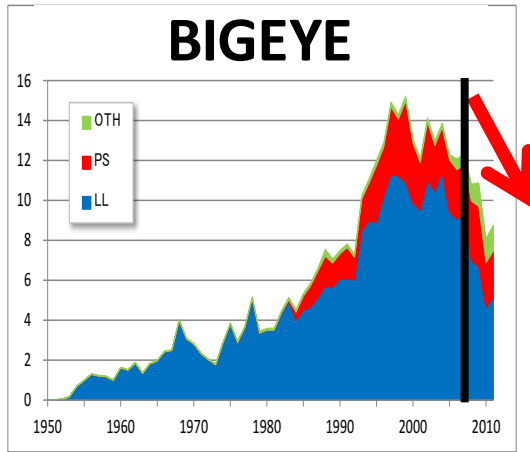


declined since 2008

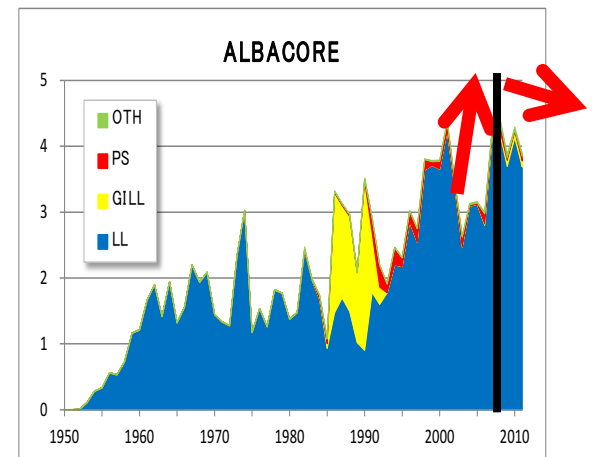
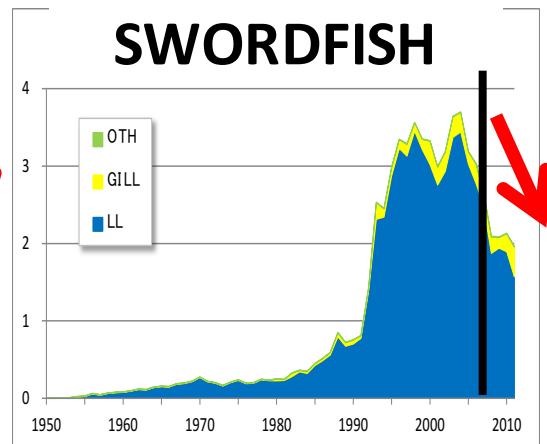
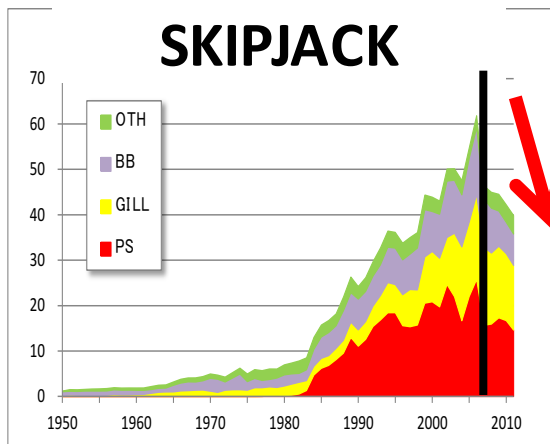
(Kenya, Tanzania, Iran, Oman, Seychelles and others)

Impacts on exploitation by Piracy (after 2008)

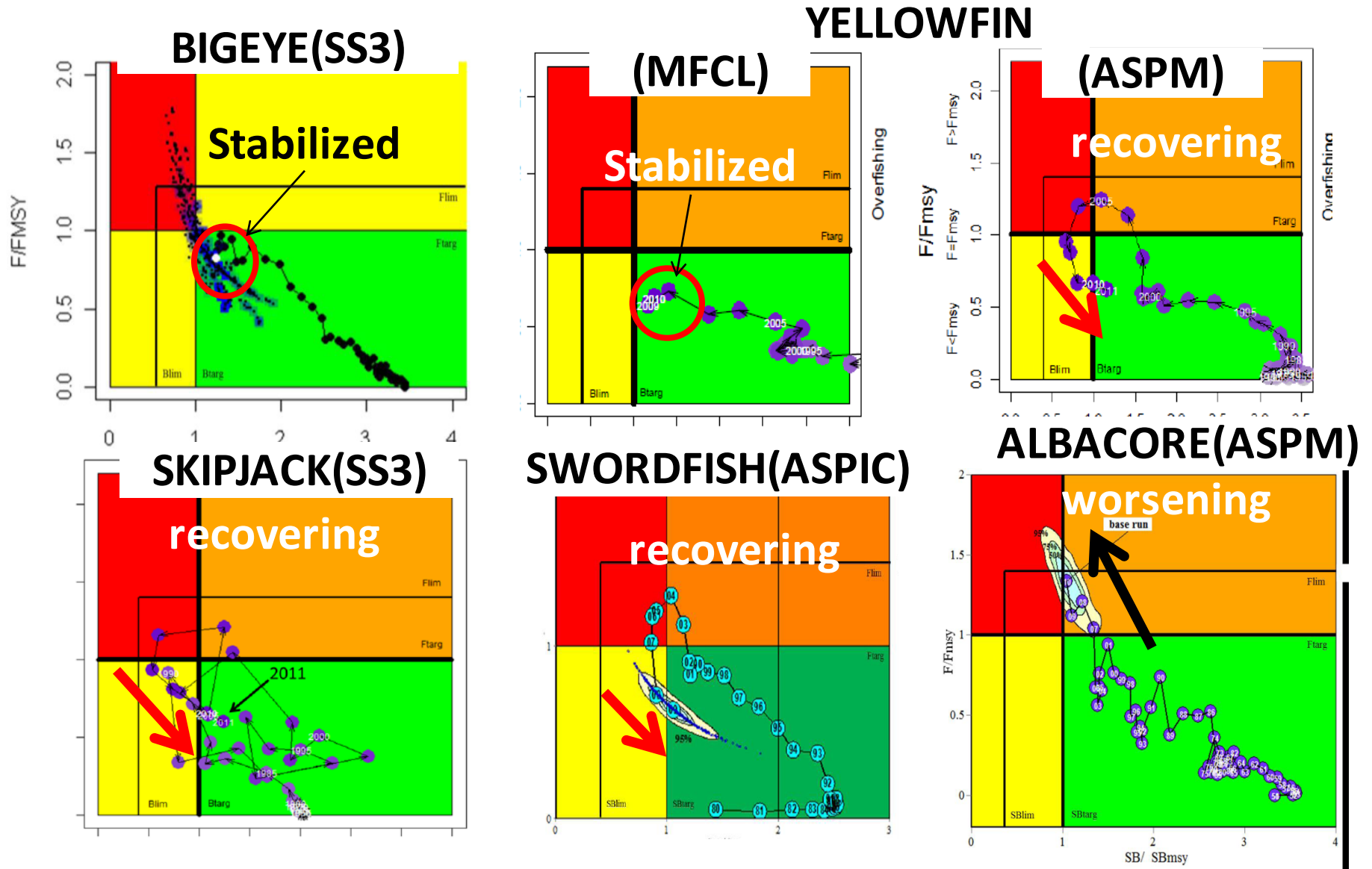
Large **reduction**




ALBACORE Sharp increase in 2008 then gradual decrease 2009-11



Kobe Plots (highlight Piracy effect after 2008)



Summary (Stock Status and Impact of Piracy)

Expansion of Piracy actions					MSY	Ave catch (past)	
	Status of stock					5 yrs	10 yrs
Data up to ==>	2008	2009	2010	2011	(% higher than MSY)		
					10,000 tons		
Yellowfin					34	30	38 (12%)
Bigeye					11	10	12 (9%)
Skipjack					48	44	48
Albacore			F > MSY		3.3	4.2 (27%)	3.6 (9%)
Swordfish					3.2	2.2	2.8

Kobe II (risk assessment): Pr violating MSY in 10 years (2020)

Legend Risk level	LOW	< 30%	MEDIUM	30-60%	HIGH	60% <	
	F				SSB		
Current catch level	-20%	0%	20%		-20%	0%	20%
Yellowfin	uncertain				uncertain		
Bigeye	LOW	LOW	MEDIUM		LOW	LOW	MEDIUM
Skipjack	LOW	MEDIUM	MEDIUM		LOW	LOW	MEDIUM
Albacore	LOW	HIGH	HIGH		LOW	HIGH	HIGH
Swordfish	LOW	LOW	LOW		LOW	LOW	LOW

Focus and Highlight (4 points)

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*(**Data**, Resources managements, Bycatch and FADs)*

[3] Other important issues

(MSE, Area closures, Gillnet and IOTC-OFCF)

[4] Budgets and Meetings (2013)

Data related proposals

[J]+[K]+[L]

Proposal [J]+ [K]+[L] (to revise Res. 10/02+12/03)
Mandatory and minimum statistics

(1) FADs + support vessels information

➔ need to include in Res 12/03

(as in Res 12/08 FADs management plan)

(2) Sharks & rays (9 spp) , Sea birds and sea turtles

➔ need to include in Res 10/02



Based on SC13,14 and 15

Discussion and recommendation

developed logbook (minimum data) (6 gears)

LL, PS, GILL, P&L, HAND and TROLL

(adopted as Res 12/03)

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Recourses managements related proposals

[M] Discards

[N] Reference points

[O] Skipjack

[X] Albacore

Proposal [M]

***On a ban on discards of BET, SKJ, YFT
and non targeted species caught by PS
(to upgrade Recommendation 10/13
to Resolution)***



To manage discards

SC14(2011) recommends..

Precautionary approach (→ Res 12/01)

SC12(2009) : Ecosystem approach

to records discards (→ Res 10/13)


Proposal [N]

***On interim target and limit reference points
(to upgrade Recommendation 12/14 to Resolution)***

SC14 (2011) Uncertainty → Precautionary approach

Table 1. Interim target and limit reference points.

Stock	Target Reference Point	Limit Reference Point
Albacore	$B_{MSY}; F_{MSY}$	40% of B_{MSY} ; 40% above F_{MSY}
Bigeye tuna	$B_{MSY}; F_{MSY}$	50% of B_{MSY} ; 30% above F_{MSY}
Skipjack tuna	$B_{MSY}; F_{MSY}$	40% of B_{MSY} ; 50% above F_{MSY}
Yellowfin tuna	$B_{MSY}; F_{MSY}$	40% of B_{MSY} ; 40% above F_{MSY}
Swordfish	$B_{MSY}; F_{MSY}$	40% of B_{MSY} ; 40% above F_{MSY}

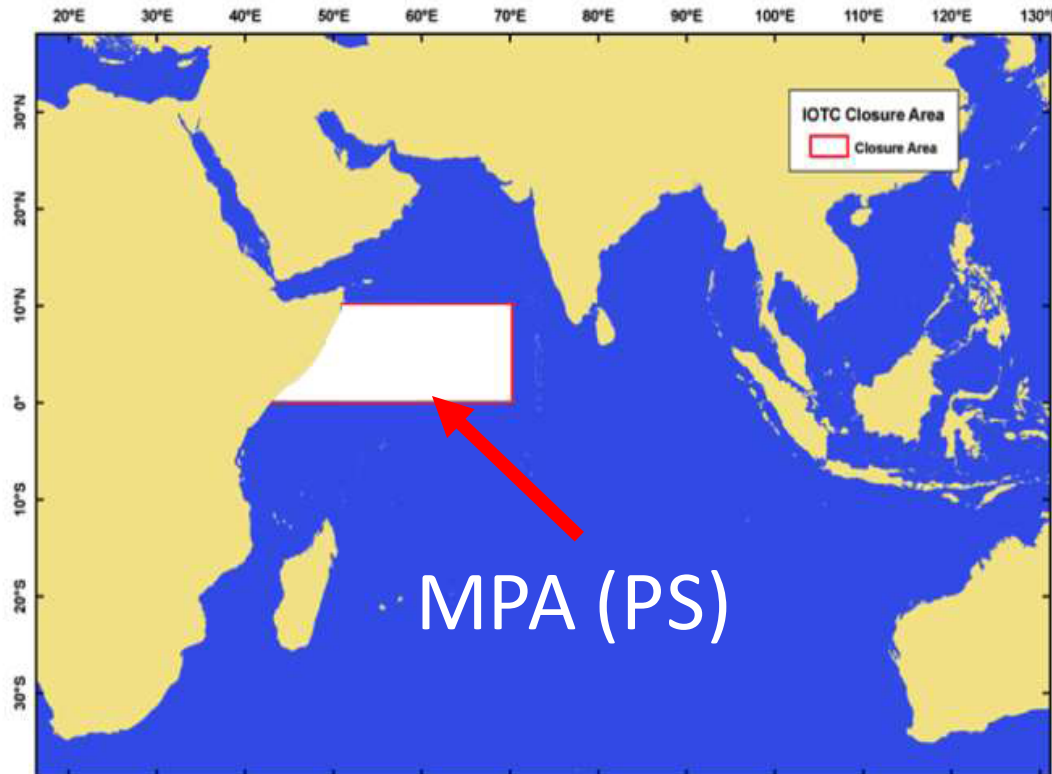
 *Some may be revised later through working parties WPM(MSE), Tropical, Temperate and Billfish...*

[Proposal O]

On the implementation of an interim harvest control rule for SKIPJACK

MPA for PS

***if SSB(msy) or F(msy) violated → 2 months(Oct-Nov)
if SSB(Lim) or F(Lim) violated → 4 months(Aug-Nov)***



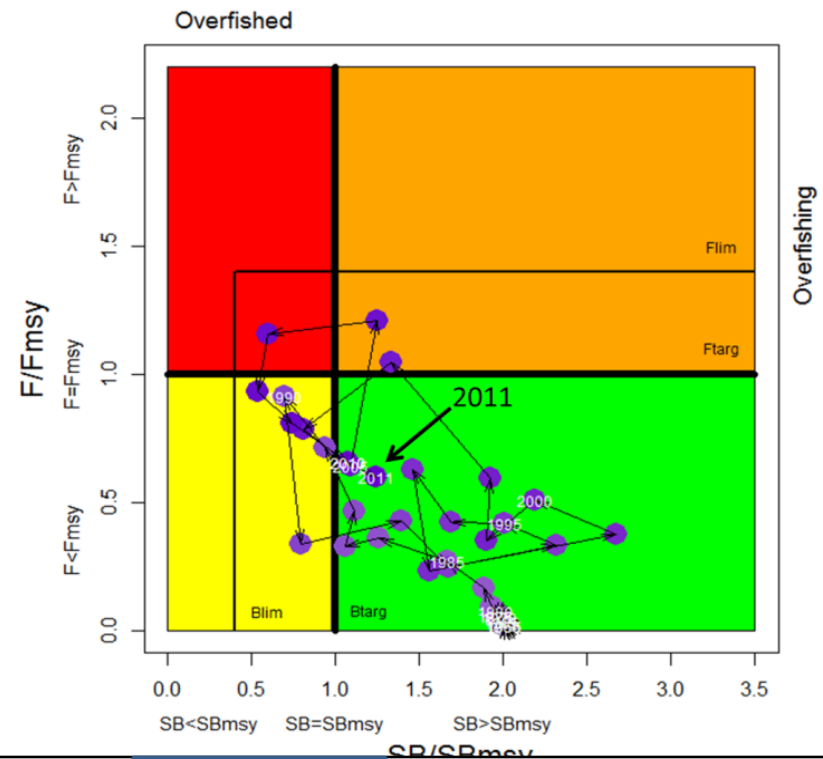
Any possibility (MPA)?

Kobe II (Risk assessment)

if current catch continues..

→ Pr. [violate F(msy)]
31% chance (2013-20)

YES some possibility



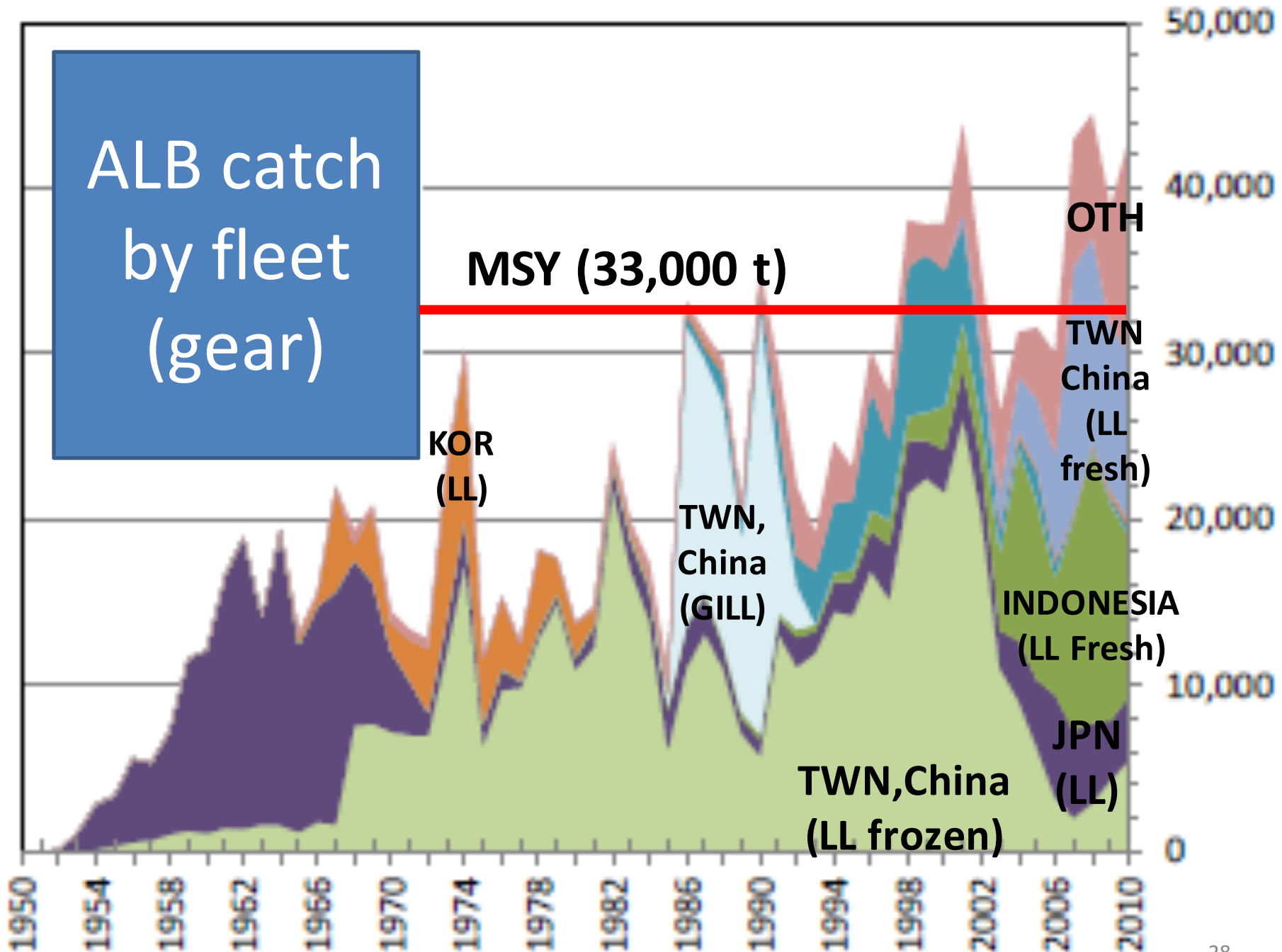
Reference point and projection timeframe	Alternative catch projection probability (%) scenario (to 2009) and weighted late reference point				
	60% (274,000 t)	80% (365,000 t)	100% (456,000 t)	120% (547,000 t)	140% (638,000 t)
$SB_{2013} < SB_{MSY}$	<1	5	5	10	18
$C_{2013} > MSY$ (proxy for F_{2009}/F_{MSY})	<1	<1	31	45	72
$SB_{2020} < SB_{MSY}$	<1	5	19	31	56
$C_{2020} > MSY$ (proxy for F_{2009}/F_{MSY})	<1	<1	31	45	72

Proposal X

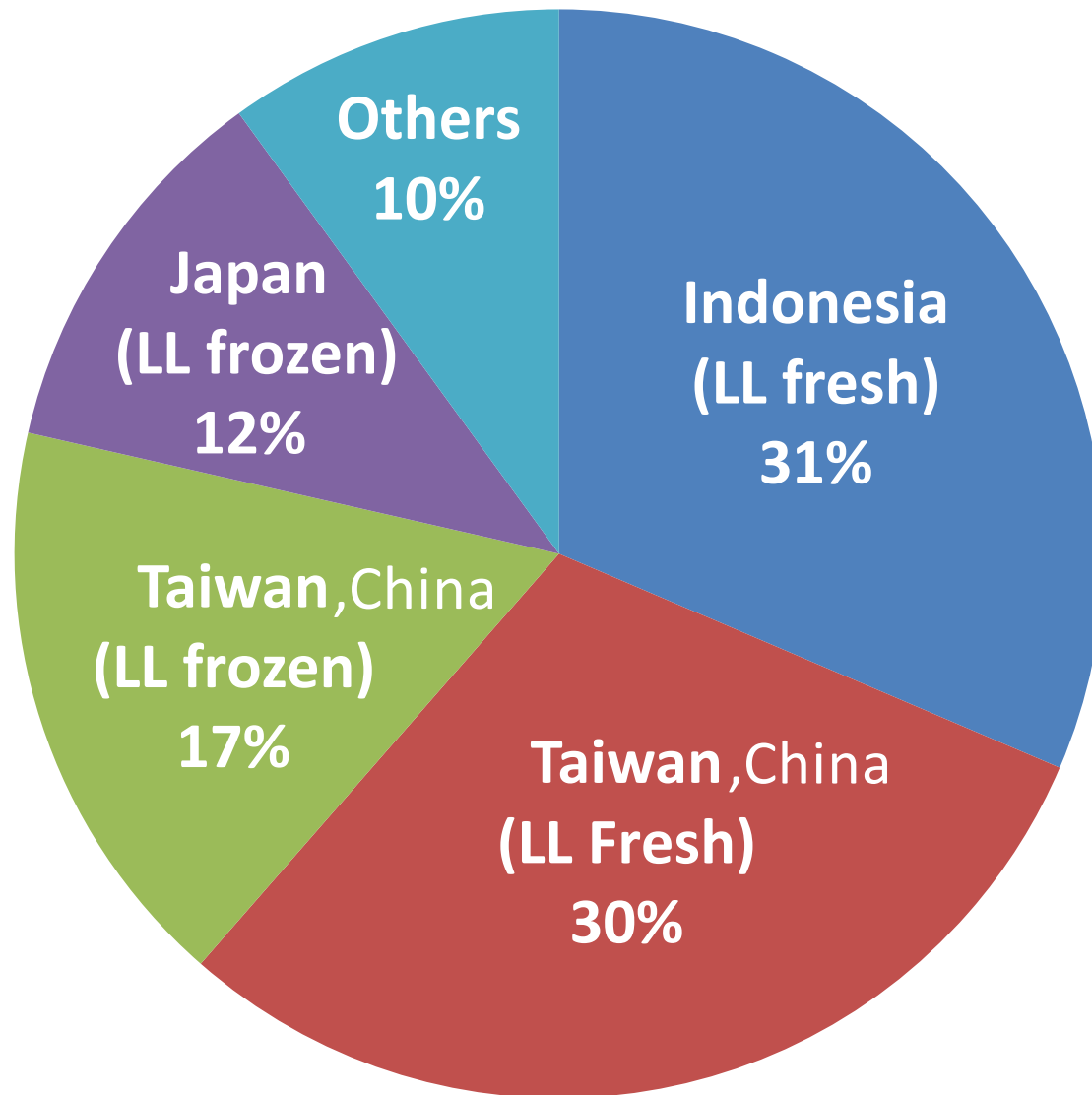
On the conservation of albacore

**Reduce 25% of the 2010 catch
(South of 30°S)**

**Review of ALB
catch, stock status (Kobe I)
and risk assessment (Kobe II)**



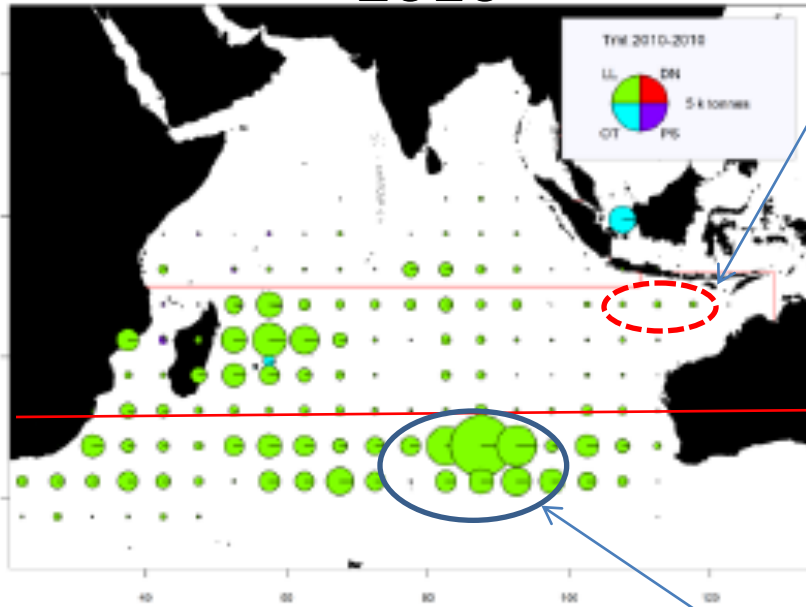
Catch composition by fleet (gear) (2010)



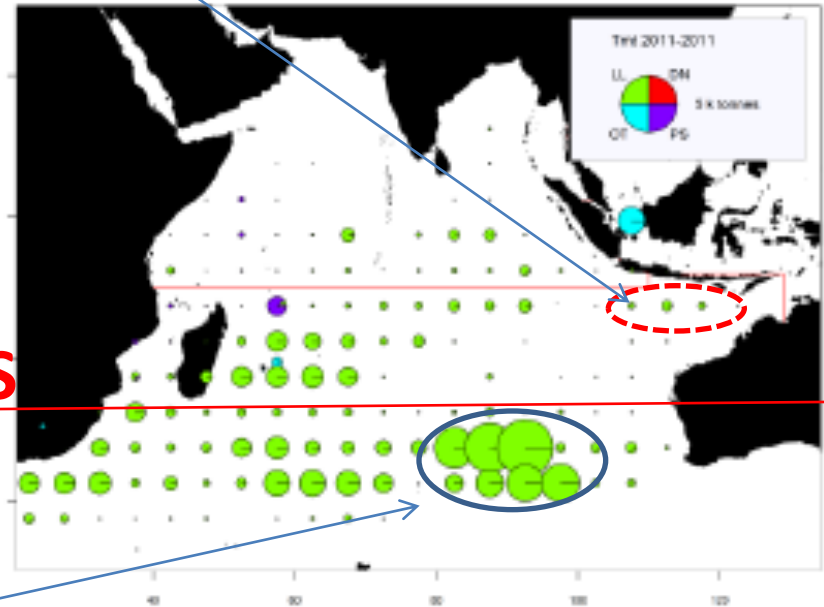
ALB Catch distribution

Indonesian ALB fishing grounds (catch not shown as no lat*long info)

2010



2011

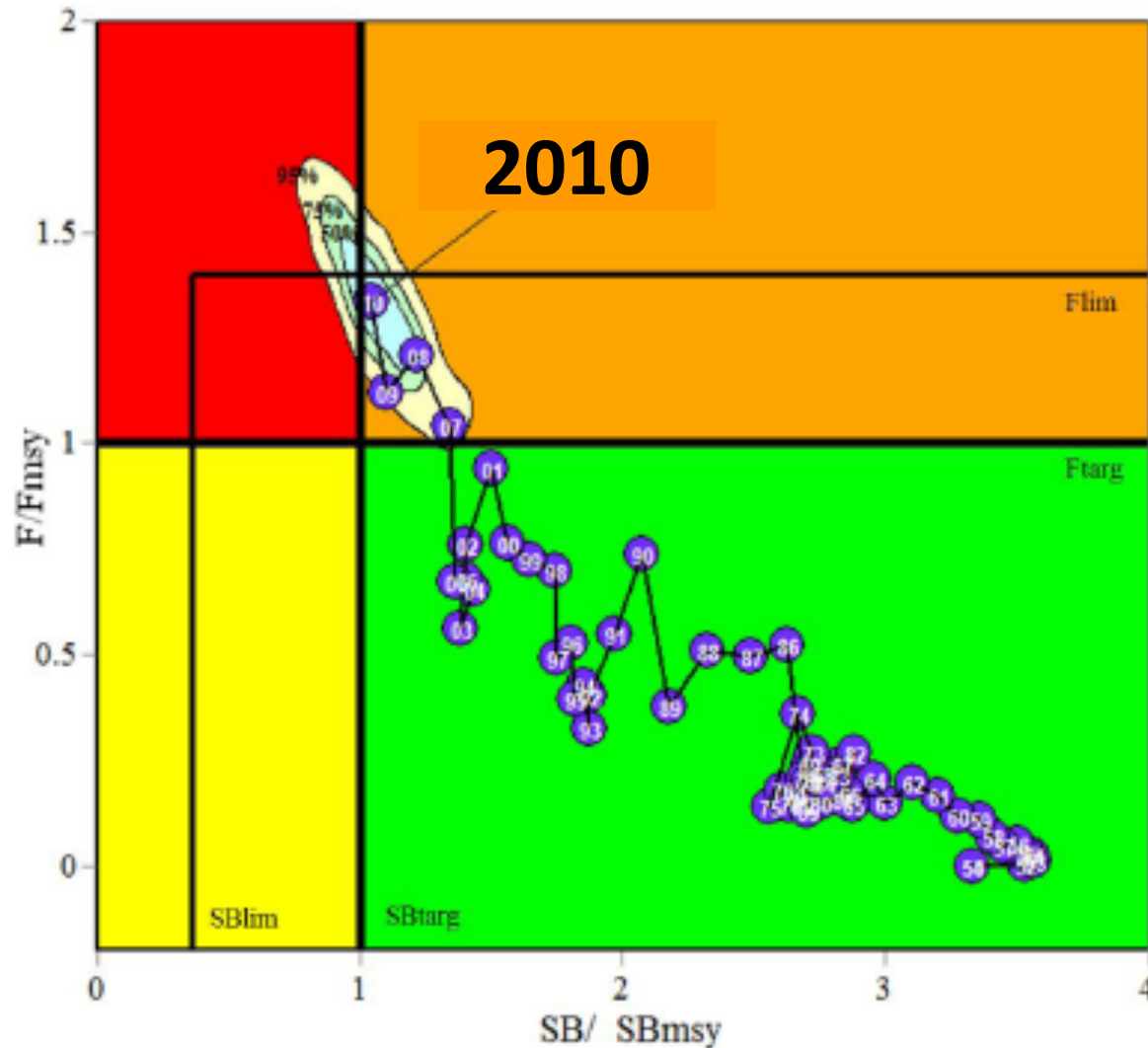


30°S

Majority catch Taiwan, China

Stock status of ALB : Kobe Plot

high F(effort) and SSB close to MSY



SC15 recommended

Kobe II (risk assessment)

Probability (violating MSY)

[A] Current catch(2010) → F : 26%(2013)-69%(2020)

[B] 20% reduction of [A] → F+SSB : < 1% (2013 -20)

[B] -20%
of [A] [A] Catch
(2010)

	60%	70%	80%	90%	100%	110%	120%	130%	140%
	(25,749 t)	(30,041 t)	(33,332 t)	(38,624 t)	(42,915 t)	(47,207 t)	(51,498 t)	(55,790 t)	(60,081 t)
$SB_{2013} < SB_{LIM}$	<1	<1	<1	<1	<1	<1	<1	<1	<1
$F_{2013} > F_{LIM}$	<1	<1	<1	7	26	53	75	89	97
$SB_{2020} < SB_{LIM}$	<1	<1	<1	<1	5	28	51	70	83
$F_{2020} > F_{LIM}$	<1	<1	<1	30	69	94	>99	>99	>99

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Bycatch related Proposals (7)

Conservation of Sharks and Whales

[B]+[C]+[D]+[E]+[F]+[G]+[H]

Proposal [B]

Sharks – Wire leaders/traces

SC RECOGNISED

wire leaders/traces (LL) →

may imply targeting of sharks

SC RECOMMENDED to COM

If COM wishes to reduce shark CPUE,

→ *COM should prohibit to use wire leader/traces*

Proposal [B] and [C]

Sharks - Fin (I)

SC ADVISED COM to consider..

Best way to encourage full utilization of sharks

(1) for accurate catch statistics

(2) to collect biological information



Res 05/05 → All sharks landed with fins attached
(naturally or by other means)

Proposal [B] and [C]

Sharks – Fin (II)

However SC **NOTED....**

All sharks landed with fins attached will affect

→ Safety and Quality

SC RECOMMENDED

Consider to the best way to IMPROVE

→ Species ID

→ Accurate catch data

Proposal [B] and [C]

Sharks – Fin (III)

Shark fin to body weight ratio (5% rule)

In the past SC, 2 opinions on the 5% rule:

- (1) No clear scientific base;
- (2) Well established amongst tuna RFMOs
 - ➔ 5% : lower limit in the scientifically evaluated range (4-21%).

Proposal [D] and [H]

On the Conservation of whale sharks + cetaceans

SC+ COM discussion and suggestion

To develop the Guideline for best practice PS setting nets methods, in order to avoid whale sharks and cetaceans (refer to WCPFC)

SC15 (2012)

recommended to include whale shark

➔ Res 10/02 Mandatory statistics

Proposal [E], [F] and [G]: On the conservation of [E] Silky, [F] Ocean Whitetip & [G] Hammerhead sharks

Ecological Risk Assessments (Vulnerable species)

LL

PS

1. Shortfin mako
2. Bigeye thresher
3. Pelagic thresher
4. Silky
5. Ocean whitetip

Ocean whitetip

Silky

Shortfin mako

Great hammerhead

Pelagic stingray

→ SC recognized as Valuable information

Proposal [D]+[E]+[F]+[G]+[H]

On the conservation of sharks, rays and whale shark

SC15 recommended 9 common sharks + rays
to include Res 10/02 (mandatory data)

(incl. 3 ERA species and Whale shark)

COM17 proposal	Species	[SC15]		[Current]				
		[ERA]	[10/02]	[12/03]				
				LL	PS	GILL	P&L	HAND
	Manta + devil rays		Recom- mended					
[D]	Whale shark							
	Thresher sharks							
	Mako sharks							
[E]	Silky shark	recog- nized						
[F]	Oceanic whitetip							
[G]	Hammerhead							
	Blue shark							
	Other Sharks and rays							
	Porbeagle							
	Sharks and Rays							

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FADs related proposals
[S]+[T]+[U]

Proposal [S]

Prohibiting the abandonment of FADs (nets) on the high seas

SC 15 and WPEB09 (2012)

Discussion and concerns

Ghost fishing (nets) problems from drifting FADs



Increase bycatch of silky sharks

by abandoned drifting FADs

Proposal [T] +[U]
FADs management plan (to revise Res 12/08)
(Part I) To report detail catch information
(as in Res 12/03)



SC14+15 recommended.....

to provide important FADs information
as minimum data (logbook) (as in Res. 12/03)

Proposal [T] +[U]
FADs management plan (to revise Res 12/08)
(part 2) Improved FAD (drift + anchor) designs
to reduce entanglement (sharks, turtles....)

SC15 recommends...

- USE non-entangling FADs.
- Do not use NET to cover FADs
 - ➔ USE non-entangling materials
- Sub-surface: Don't use net. USE ropes/canvas sheets.
- (Drifting) FADs: Natural or biodegradable materials
(Hessian canvas, hemp ropes, etc.)

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*(**MSE**, Area closures, Gillnet and IOTC-OFCF)*

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Management Strategy Evaluation (MSE)

Mandated by COM as a part of
Res 12/01 Precautionary Approach

[MSE]

**In order to achieve the management goal (*),
MSE is used to evaluate the best management
strategy from various options (**)
by simulations.**

() (e.g.) SSB_{msy}, SSB(500,000 tons) etc.*

*(**) (e.g.) [Harvest control rule] x [socio-economics] etc.
(to be decided by 3 parties)*

MSE process *(example)*

1. Specify management goal (*Reference Point : SSBmsy*)
2. Develop measures of performance (*Pr. >80% to achieve the goal*)
3. Develop **Operating (simulation)** models (*SS3*)
4. Identify management procedures (**MP**)
(6 diff. MPs = HCR [3 options] x Socio-economics [2 options])
5. **Simulate** data and apply MPs to evaluate their performance.
6. Performance will be evaluated by Probability to achieve the Goal.
7. Recommend the best **performed MP** (highest probability)

Progress

1st WPM- MSE Workshop (Italy) (April 16-19)

Albacore

- Completed initial set-ups and tests

- Operating Model + its robustness (using SS3)
- Management goal (Reference Point)

Tropical tuna (BET, YFT and SKJ)

- Agreed initial design of OM
- First run: completed by 2014

Specific plan : ALB MSE (2013 - 2014)

Oct 28, 2013 : 2nd WPM-MSE Workshop (Spain)

- Progress report
- First runs
- Discuss future steps (Reference Points etc.)

Dec 2-6, 2013 : SC16

Progress report, **Demo** and Reviews

May, 2014: COM18

Progress report

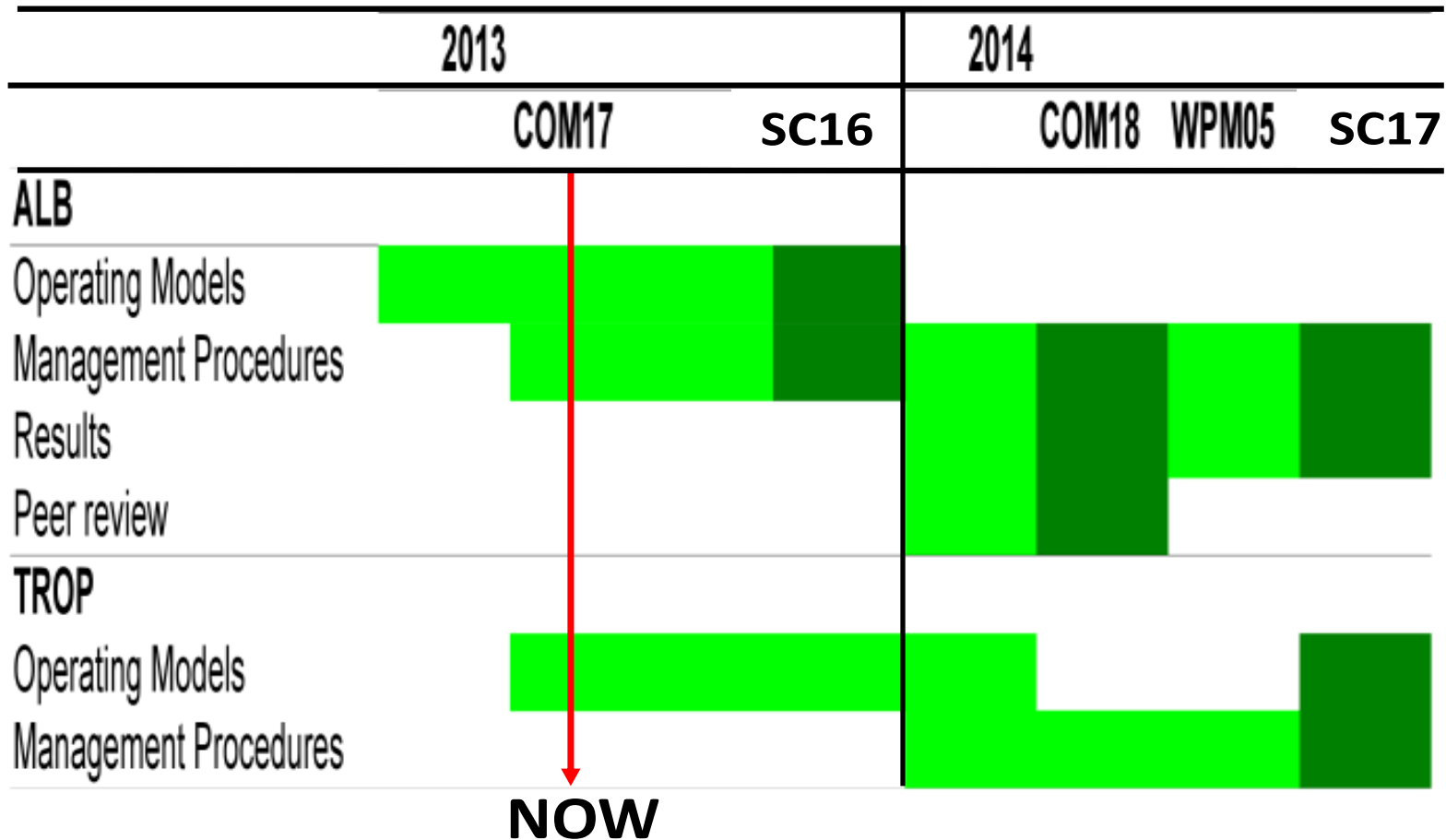
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Preparation

**Report, Demo
+ Review**

**Plan MSE process :
ALB+TROPICAL TUNA (2013-2014)**



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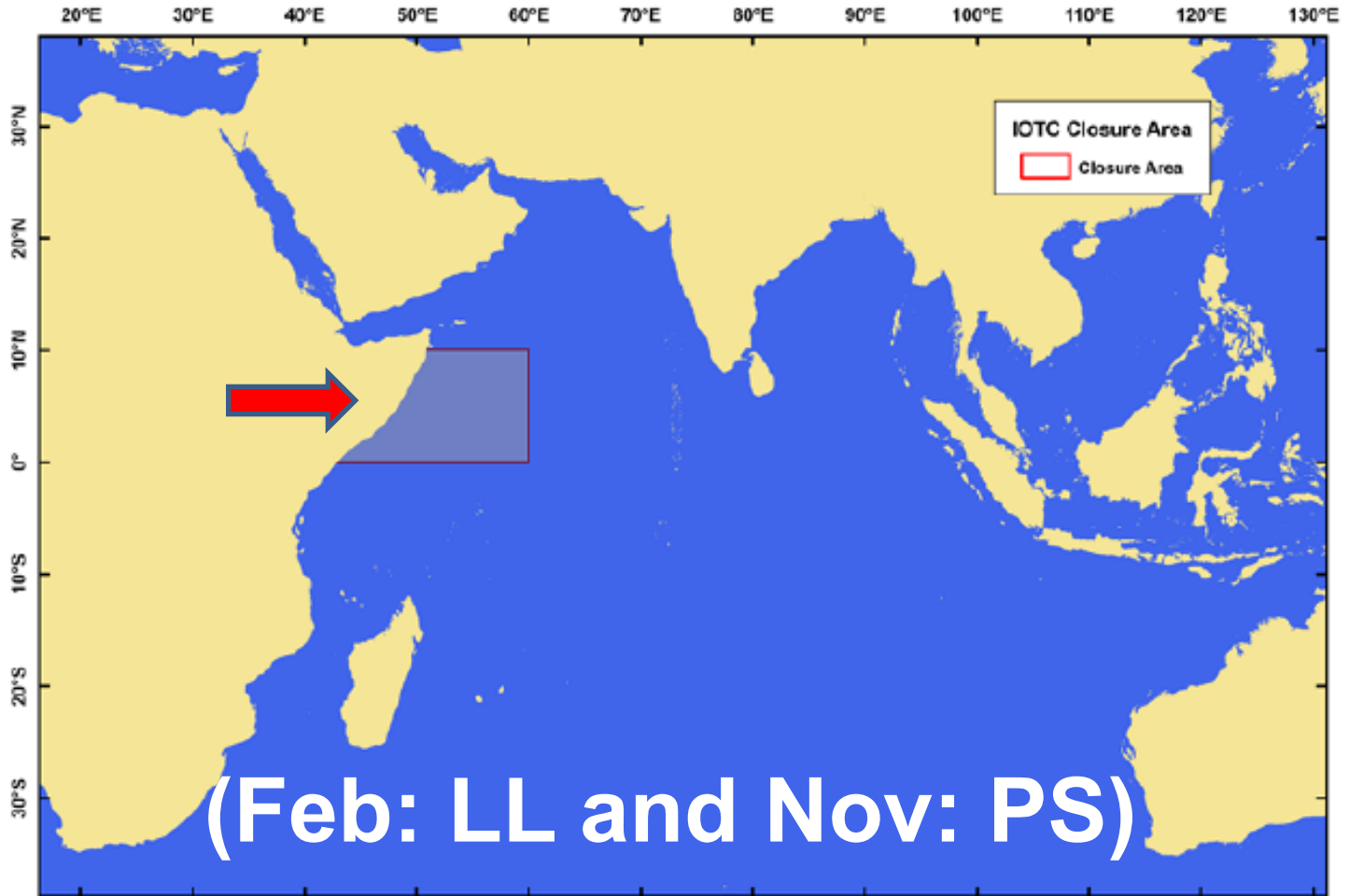
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Current time-area closure



COM has asked SC...

**Does this “Area closure” work
to conserve YFT and BET stocks ?
*(juveniles by PS and spawners by LL)***

If not, are there any other options ?

IOTC–2011–SC14–39 (Murua et al)

***Evaluated how much “area closures”
can reduce YFT and BET catch.***

Assuming...

(a) Average fishing conditions in the past

(b) No effort reallocations

(c) No Piracy

Results

***Catch (no.) reduction (%) of YFT+BET
(current closed area in 1 month)***

	YFT	BET
1 mo.	6%	3%



negligible

(Even no effort reallocation nor piracy)

IOTC–2011–SC14–39 (Murua et al)

other area-time options

		YFT	BET
(Current area)	3 mo.	6%	3%
	1 year	13%	6%
(Larger area)	3 mo.	20%	11%
	1 year	71%	64%

Considering Effort allocation + Piracy affect

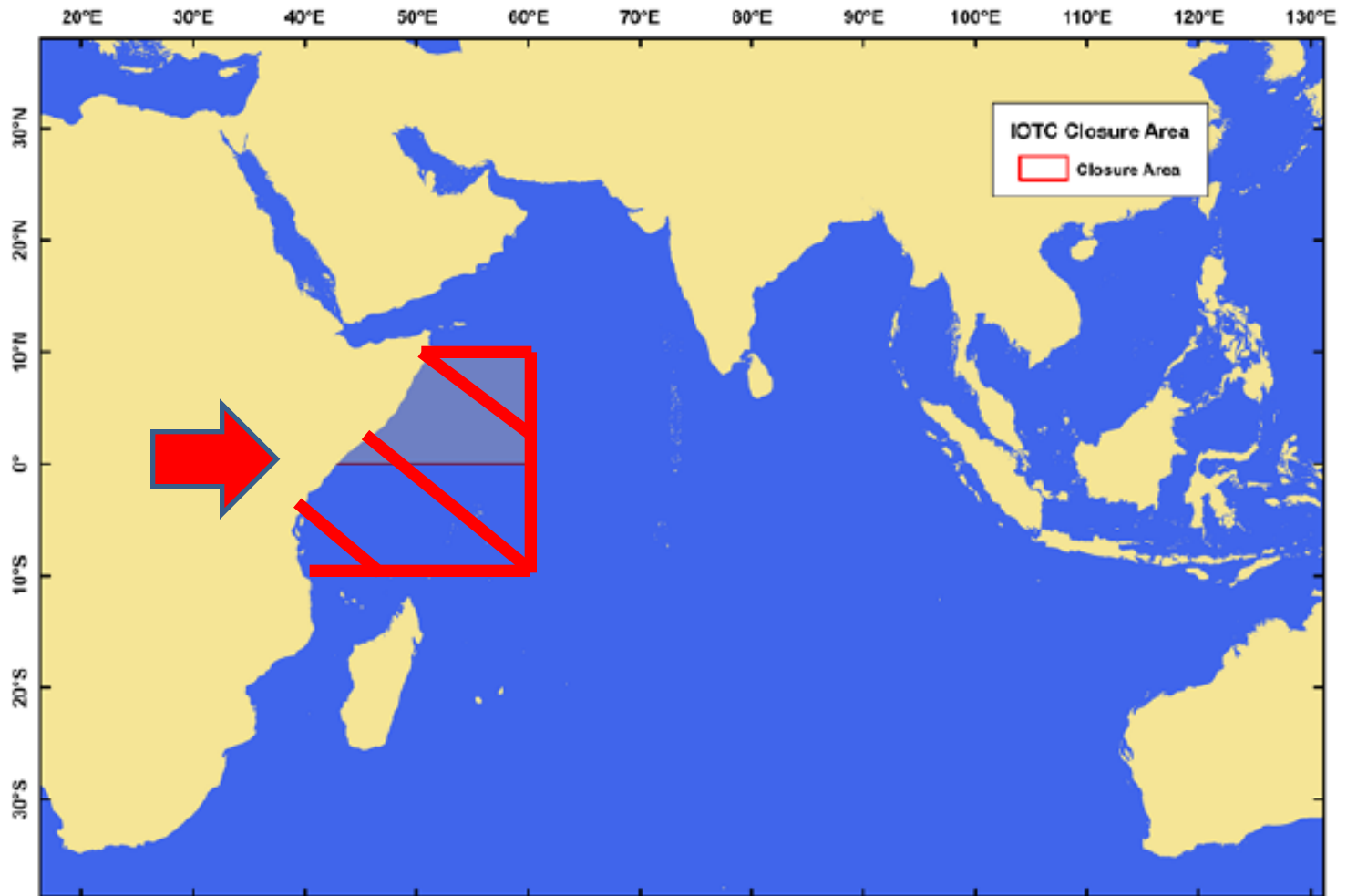


Current area closure (even 1 year): not effective

Larger area +longer (1 year): likely effective

➔ *But not realistic (too large + too long)*

Larger area closure



Conclusion

Current Area-time Closures → Not effective

*Larger area and longer MPA → likely effective
but not realistic nor practical*

SC15(2012) recommends to COM17 (2013)



To provide clear guidance,
management objectives on
current or any alternative closure.



So that, SC can re-evaluate.

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*(MSE, Area closures, **Gillnet** and IOTC-OFCF)*

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Gillnet fisheries: Bycatch issue

(Discussion in WPEB and SC in the past)

Substantial impact on marine ecosystems



Relevant data are limited to evaluate the impact



SC (majority) : freeze catch + effort (near future)

until sufficient information available



SC notes : implementation may be difficult.

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IOTC-OFCF project ended (11 years) (2002-2013)
*20 countries (sampling, training, data base/process,
frame survey, workshop, country report...)*

SC14(2011) and SC15(2012)
Commission (2012)



Strong recommendation for extension
(hope extended from 2013 and beyond !)

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Budgets (2013) requested by SC15

- **MPF** : Meeting Participation Fund. *including.....*
WP (vise) Chairs (developing nation + self fund)
- **IOTC staff** : One Fisheries Officer (science)
- **Gillnet(CPC)**: Training for bycatch
(data collection, species ID and mitigation)
- **ID cards** : billfish, tuna + neritic tuna and bycatch (reprints)
- **Consultants** : MSE, stock assessments (MFCL and SS3) and
ERA (Marine turtles)
- **Sharks** : To search references and relevant data

2013 meetings schedule : WP, WS and SC

Month	Day	Meetings	Venue
7	2- 5	Neritic tuna	Indonesia
9	12-16	Ecosytem+bycatch	La Réunion
	18-22	Billfish	
10	19-21	CPUE WS?	Spain
	22-27	Tropical tuna	
	28	Methods- MSE	
11	29-30	Data + Statistics	Seychelles
12	2- 6	Scientific Committee	

Sea bird WS (to be arranged later)

*Thank you for your attention
and now time for Q&A.....*

*For some (**difficult, complex, crazy....?**) questions..*



*Replies will be made later (this afternoon)
after full investigations,
in order to provide accurate and succinct
information.*

Reserved for further explanation
for some particular Qs

Proposal [O]

On the implementation of an interim harvest control rule for SKIPJACK

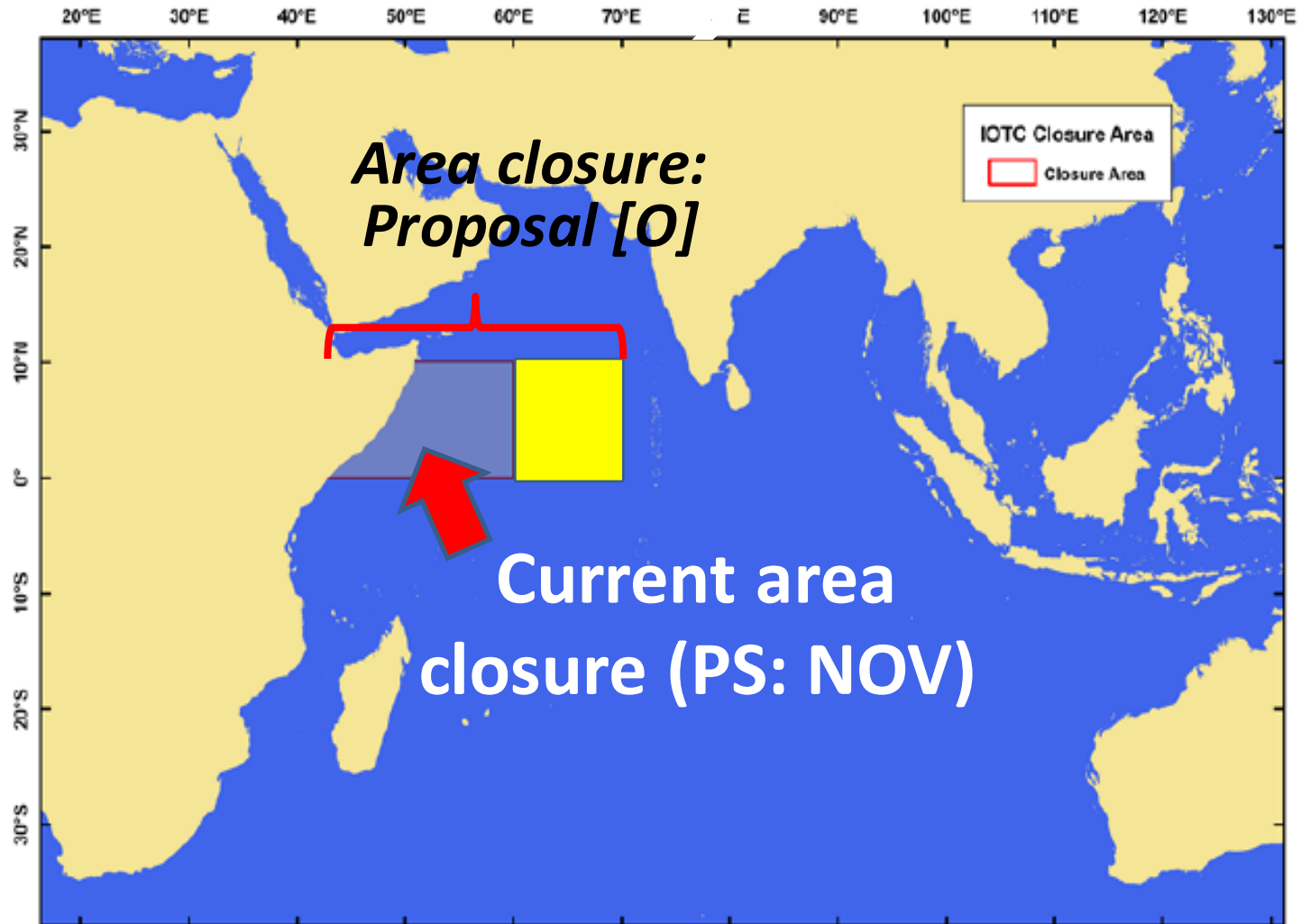
***how much proposed MPA
can reduce SKJ catch?***

IOTC–2011–SC14–39 (Murua et al)

Assuming...

- (a) Average fishing conditions in the past**
- (b) No effort reallocations**
- (c) No Piracy**

Proposed area not available in Murua(2011)
Current closed area is available and substituted



Reduction of SKJ catch (%) (current closed area)

Catch	2003-06	2009	2010
(million tons)	0.54	0.45	0.44
1 month (Nov)	7%	2%	6%
3 months (Oct-Dec)	21%	10%	13%
1 year	49%	39%	36%

Effort allocation likely occur + piracy continues

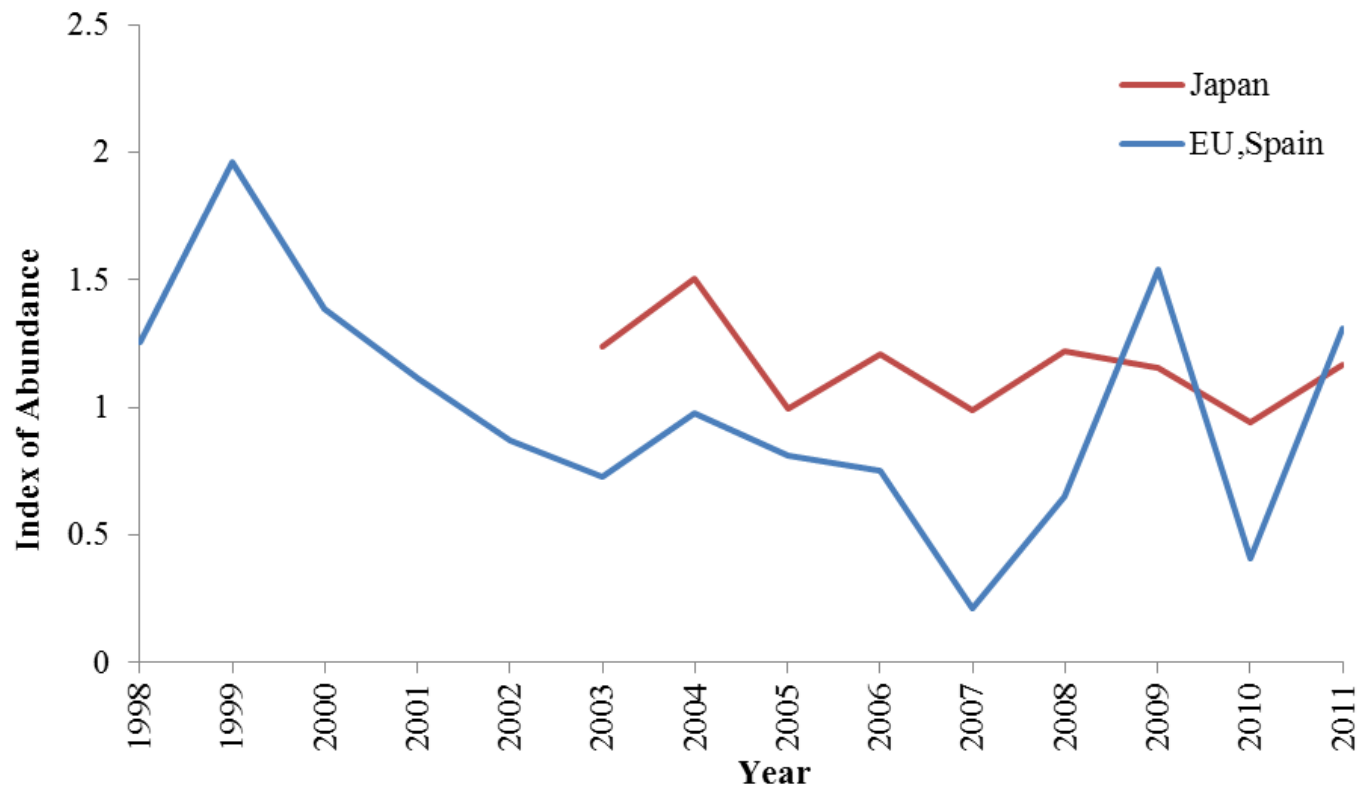
➔ 3 months : less effective even the area is larger

➔ 1 year : likely **EFFECTIVE to some extent**

Proposal [E], [F] and [G] : On the conservation of Silky, Ocean Whitetip and Hammerhead sharks

Status of stock : highly uncertain

Ocean Whitetip: standardized CPUE



Scientific reason to recommend prohibition
of use of wire leader/trace ?

All shark status of stock: uncertain



precautionary approach

このような措置をした場合、サメの漁獲データにバイアスが掛かって、更にサメの資源評価を困難にするのではないか

Good Q である

この件は WPEBでも議論していいので、今年検討する。

議長としては、資源評価に影響があると思う。

IOTC水域において、はえ縄漁業の漁船数及び努力量ともに著しく減少していると認識しているが、その他のまき網漁業及び流し網漁業の漁船数及び努力量の傾向はどうなっているのか。

GILL などは 数は PS LLのように減らないが
遠洋域へはいかず、EEZ中で操業

例えば イランの場合には、EEZの中で操業するようになえい、より 小型マグロをとるようになっている。

セーシエル GILLでないが 減少した。

科学委員会のサメ類に関する一連の決議は、主にサメ類の資源状況を把握するためにデータ報告を改善することを求めていると認識している。

特に、科学委員会は、パラ107～110においてクロトガリザメとヨゴレを取り上げて、決議12/03の延縄漁業のデータ収集対象魚種に追加することを勧告しているが、なぜ、クロトガリザメとヨゴレだけに魚種が限定されているのか、また、なぜ延縄漁業だけに漁法が限定されているか。

確かにこの2種はPSがERAでも高いので考慮考すすべき WPEBで検討するようにsるまた LL

現在12/03で のPSLLで2種は OPTION となっており ERAの上位5種にうちで 義務となっていないため。

- ここではLLだけ言っているが、パラ99では
- 全漁法で これら2種を含む9種を 義務づけるようにしている。ログブックではないが。。

● (質問)ヒレ切りの問題は、委員会で長年議論している管理上の問題であり、科学の問題ではないと認識しているが、科学委員会がヒレ切りの問題を勧告する科学的な根拠は何か。

- (1) for accurate catch statistics
 - (2) to collect biological information

（更問：（魚種の特定を容易にするためと回答する場合）
ヒレ切りが魚種の特定を阻害する大きな原因とは考えられない
。ヒレを切らないで魚体に付ければ、魚種の特定が可能となる
のか。）

- WPEBの議論のよると ヒレがあったほうが
種判定が確実となる

更問: (魚体全体利用及び漁獲データの正確の把握のためと回答する場合)
既に勧告05/05において規定されているとおり、他のRFMOsでも採用されているヒレと魚体の5%ルールを実施することで十分ではないか。)

Proposal [B] and [C]
Sharks – Fin (III)

Shark fin to body weight ratio (5% rule)

In the past SC, 2 opinions on the 5% rule:

- (1) No clear scientific base;
- (2) Well established amongst tuna RFMOs
→ 5% : lower limit in the scientifically evaluated range (4-21%).

Kobe II (risk assessment): Pr violating MSY in 10 years (2020)

Legend Risk level	LOW	< 30%	MEDIUM	30-60%	HIGH	60% <	
	F				SSB		
Current catch level	-20%	0%	20%		-20%	0%	20%
Yellowfin	uncertain				uncertain		
Bigeye	LOW	LOW	MEDIUM		LOW	LOW	MEDIUM
Skipjack	LOW	MEDIUM	MEDIUM		LOW	LOW	MEDIUM
Albacore	LOW	HIGH	HIGH		LOW	HIGH	HIGH
Swordfish (IO)	LOW	LOW	LOW		LOW	LOW	LOW
Swordfish (SW)	LOW	LOW	LOW		LOW	LOW	MEDIUM