Follow-up on requests to SPC

Oceanic Fisheries Programme[1]

Working Group on Tropical Tunas
Mita Conference Centre, Tokyo Japan
27-30 August 2013

[1] Secretariat of the Pacific Community (SPC), Oceanic Fisheries Programme (OFP), Noumea, New Caledonia

Overview

- Summary of data related issues in meeting requests
  - EEZ/High seas summaries
  - VMS/logsheet reconciliation for tropical longline
- Model-based evaluation of trade-offs to reduce fishing mortality for BET (with implications for SKJ and YFT)
- Trends in catch and effort in the longline fishery
  - Interactions between BET/YFT and ALB
  - Where is the BET taken
  - High seas longline closure
- Breakdown of longline vessels by size category
- Distribution of purse seine catch and CPUE for BET
- Evaluation of the Japanese FAD limit proposal
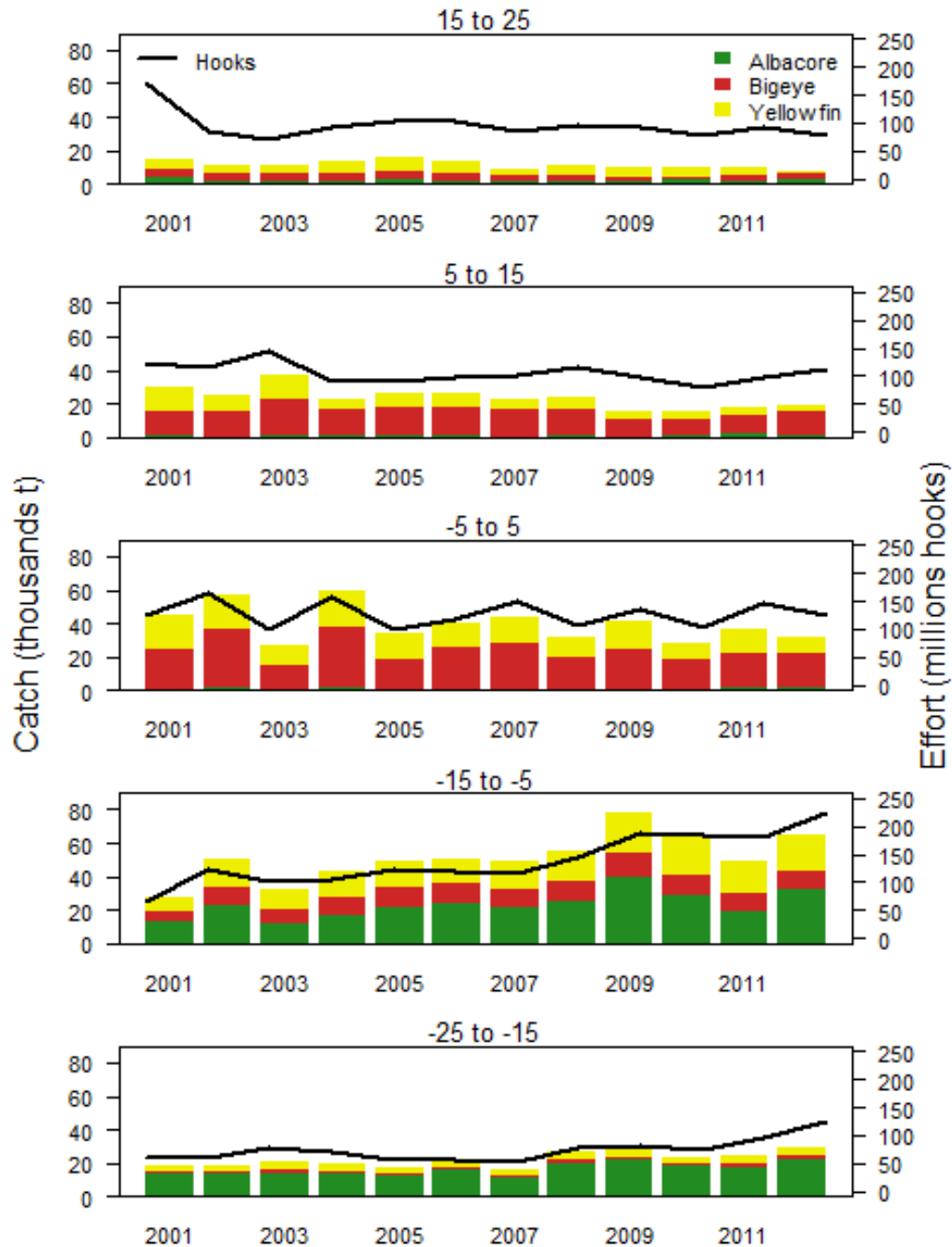- Observer data

Data issues

- Comparing EEZ versus high seas trends for longline if difficult for two main reasons
  - Longline operational data is not available for many fleets and we rely on 5x5 aggregate catch and effort data. This level of aggregation makes it VERY difficult to approximate catch and effort to areas
  - Those CCMs not providing operational data also do not provide a breakdown of their annual catch estimates into EEZ and high seas are required by the WCPFC Data rules
- We cannot confirm that increase in tropical longline VMS effort (and conflict with logsheet effort) relate to increased VMS coverage because we do not have operational logsheet data for many fleets and therefore cannot perform vessel by vessel comparisons.

Evaluation of management measures

- WCPFC-2013-WGTT-10: update of paper presented to SC9
- Key things to note:
  - Based on the 2011 assessments using data thru 2010.
  - Projections thru to 2018 (consistent with CMM)
  - Longline catches in particular may not directly line up with CMM table expectations:
    - Historical catches have not been updated
    - Overlap catch included in the IATTC assessment
    - LL catches modelled in numbers of fish not weight
  - FAD PS effort is examined as opposed to total purse seine effort – so scalars may differ from expectations
  - Various 'reference years' calculated
  - Common currency of fishing mortality to reconcile effort and catch reductions

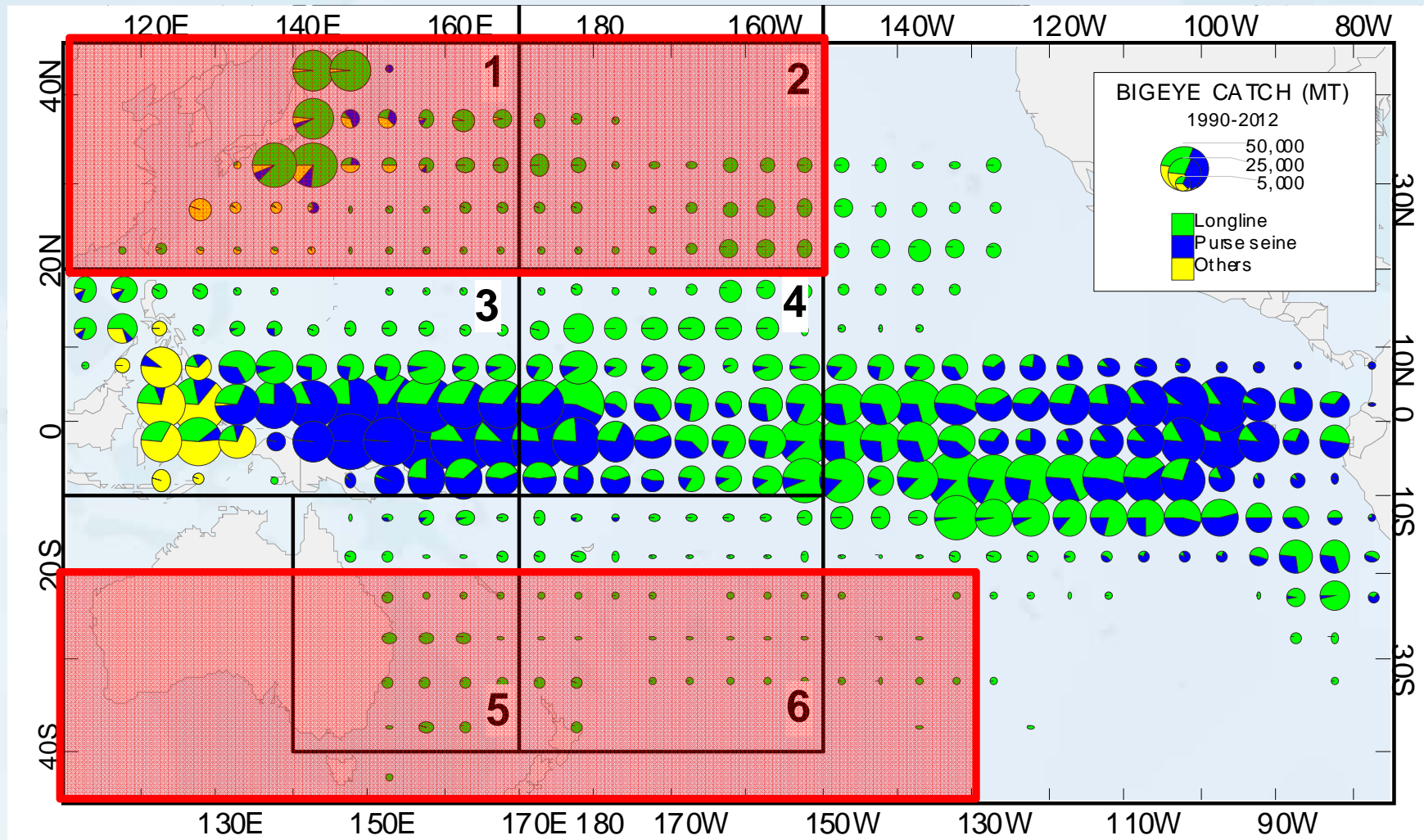- Longline catches of ALB, BET, and YFT, by 10 degree latitude band (2001-12) and effort (hooks)
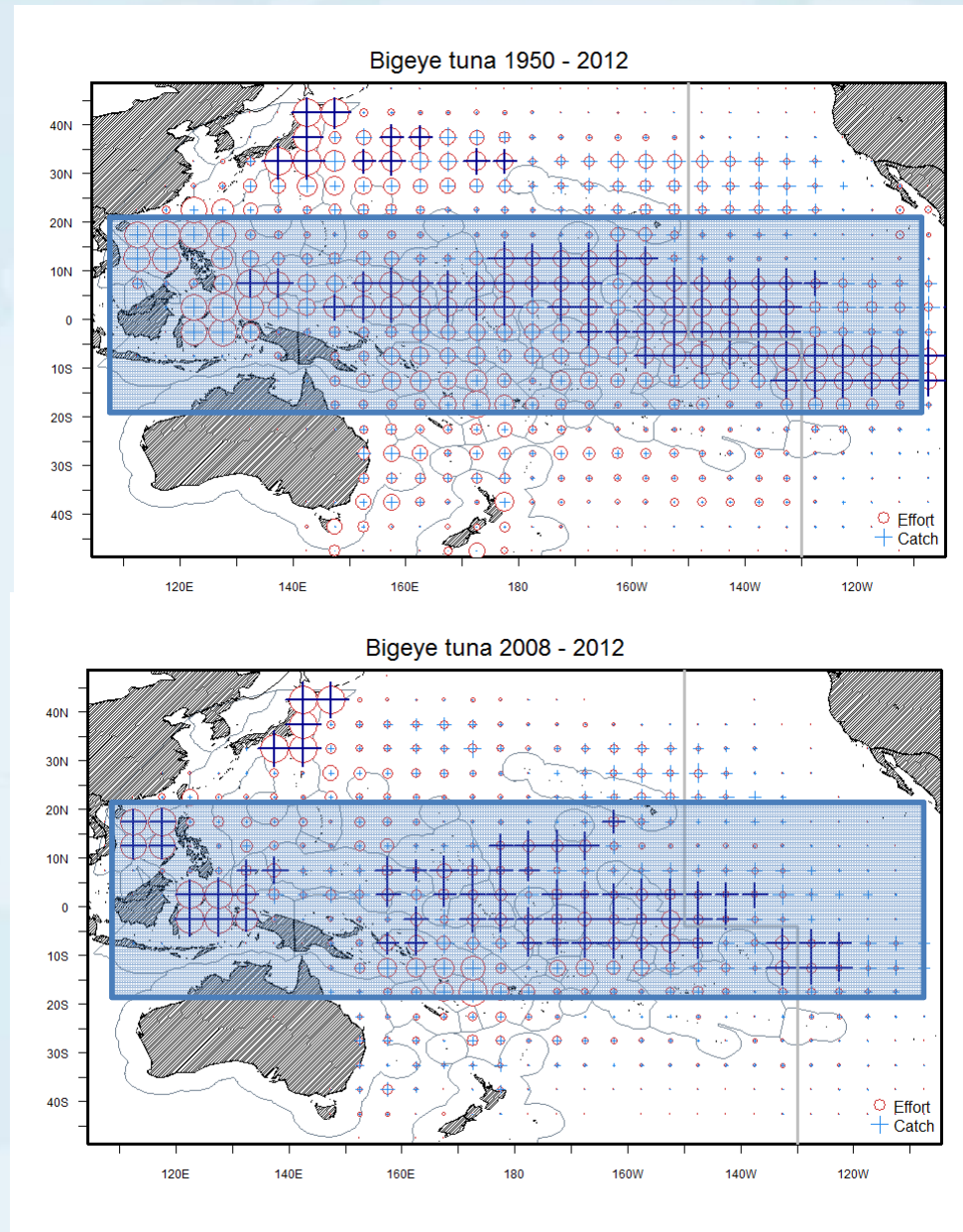
Bigeye tuna

For 2000-2012

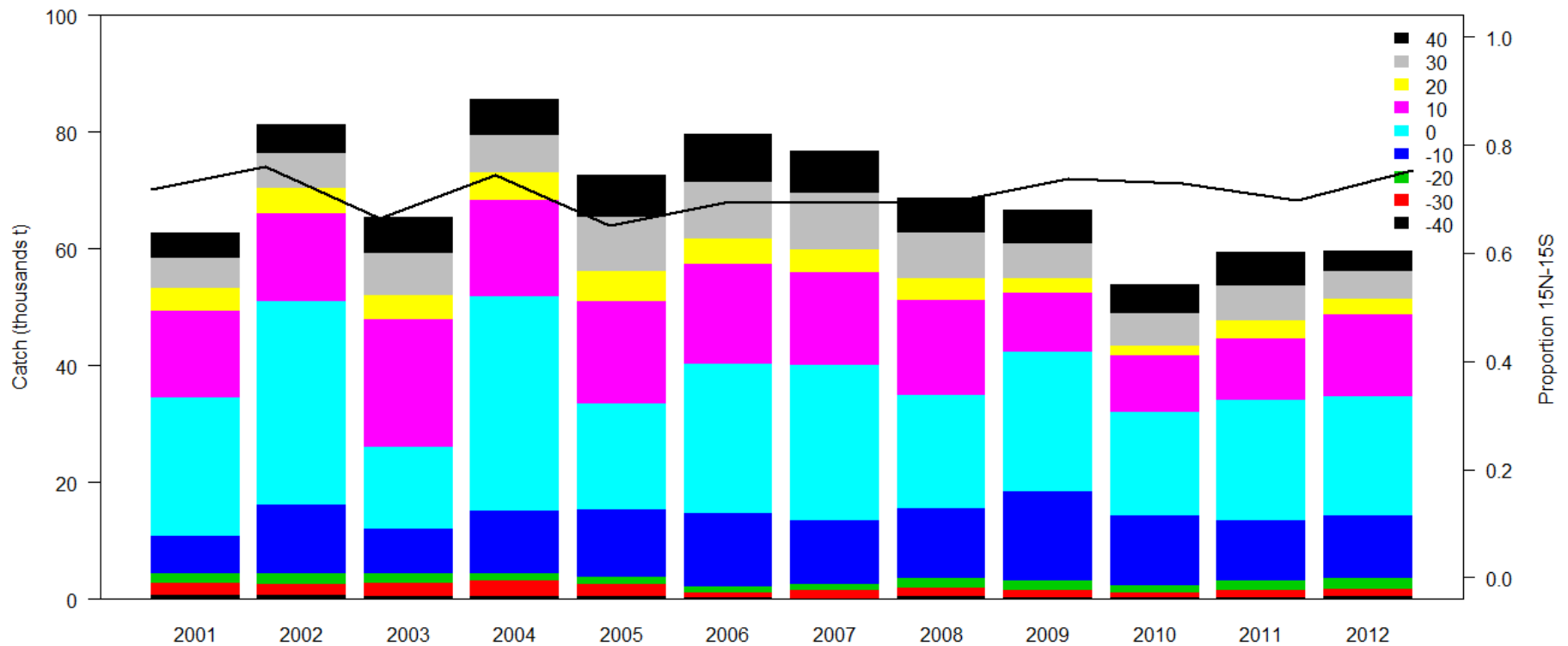**16%** longline catch north of 20N   **4%** longline catch south of 20S

Bigeye tuna – LL catch

Bigeye tuna 1950 - 2012

Bigeye tuna 2008 - 2012

Bigeye tuna – LL catch by latitude

Longline BET catch in WCPO by ten degree latitude band (midpoints)

Bigeye tuna – EEZs vs High Seas

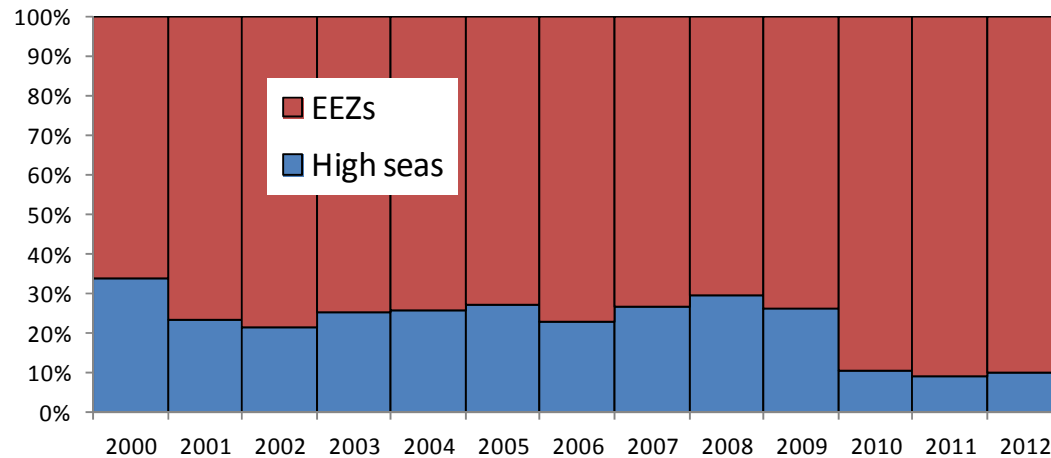**HIGH SEAS Purse seine BIGEYE**

2000-2012 avg = 22%

2010-2012 avg = 11%
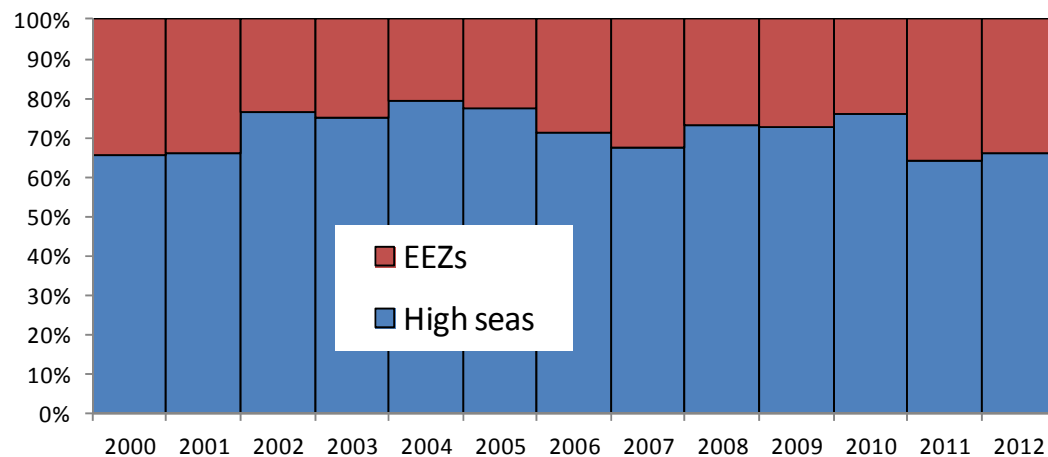
20N-20S
Excludes
Indo/Phil/Viet

HIGH SEAS Longline BIGEYE

2000-2012 avg = 72%

2010-2012 avg = 69%

PURSE SEINE -- BIGEYE TUNA

Legend: EEZs, High seas

X-axis years: 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012

LONGLINE -- BIGEYE TUNA

Legend: EEZs, High seas

X-axis years: 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012
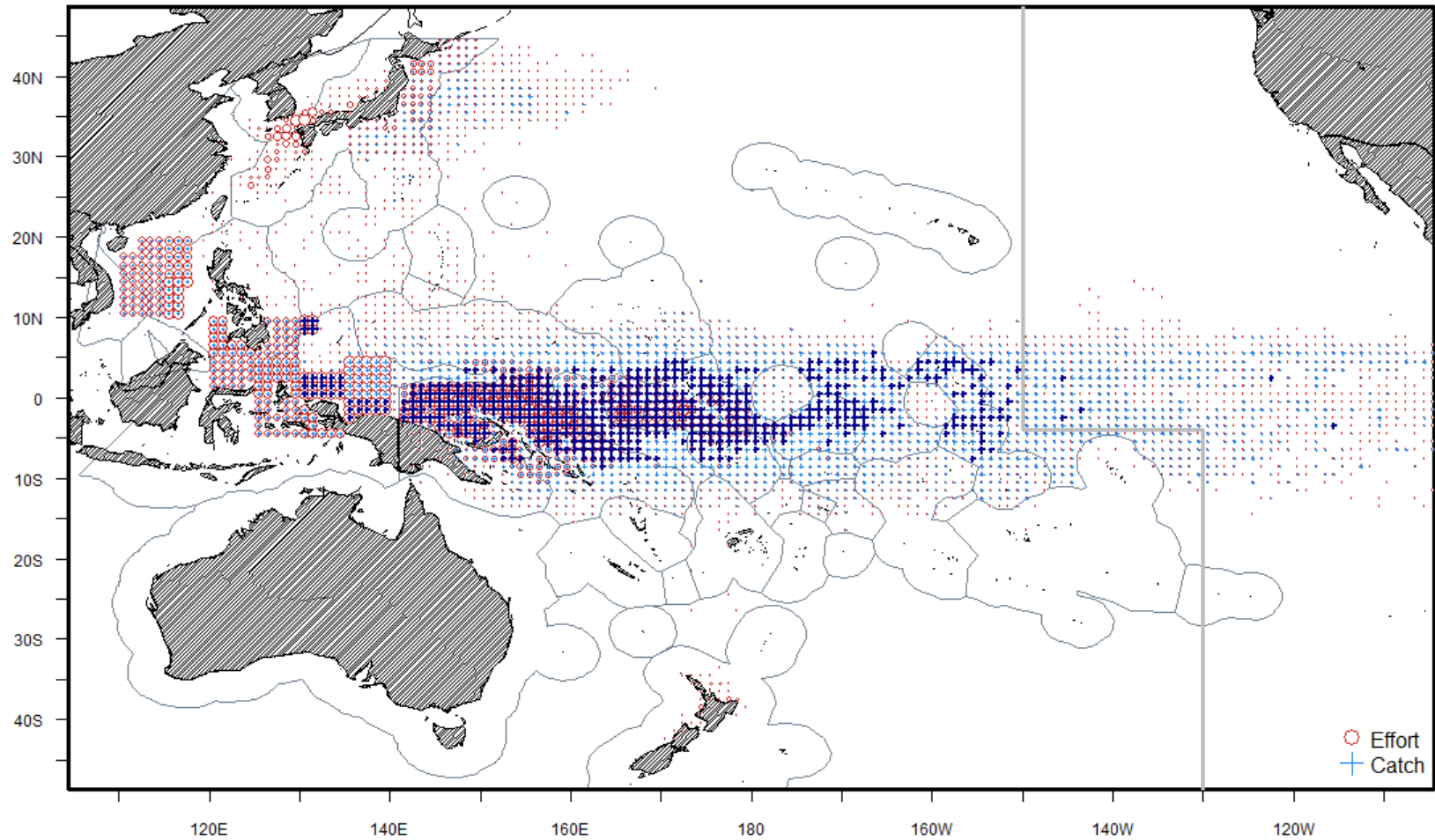
High seas longline closure

- Has not been examined before using our stock assessment models, but has been done using the SEAPODYM model
- The equatorial high seas take the majority of the LL catch and these areas have the highest CPUE – essentially these are the best fishing grounds
- Outcomes will depend on displacement of effort, but unlikely that catches could be maintained without increases in effort
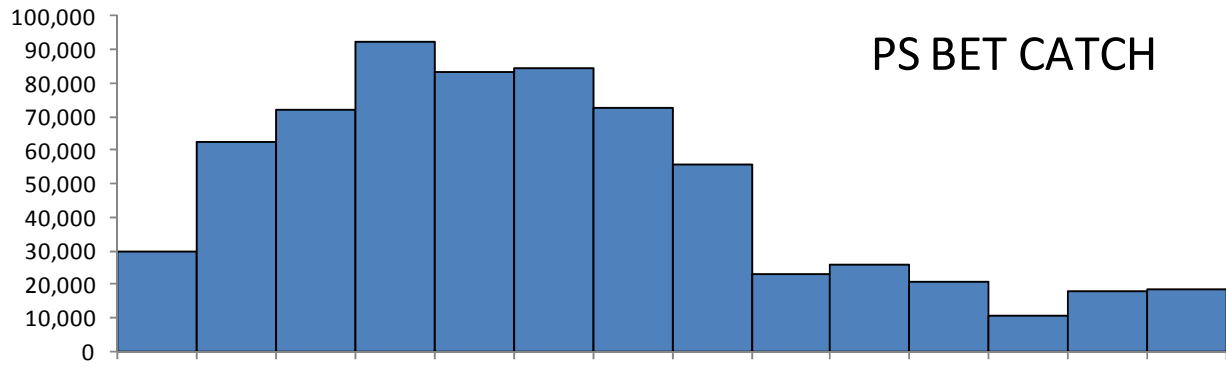
Bigeye purse seine catch

Bigeye tuna 2008 - 2012
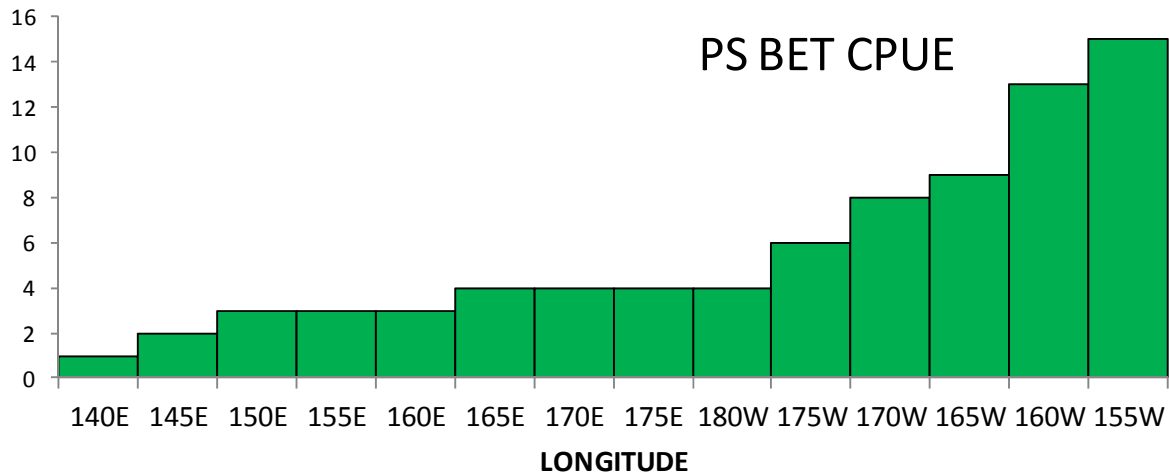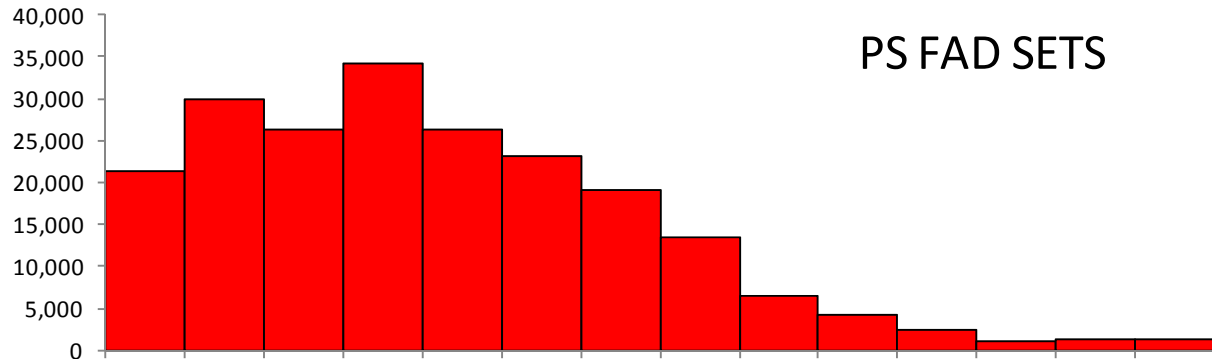
Bigeye Purse seine catch and CPUE

PS BET CATCH

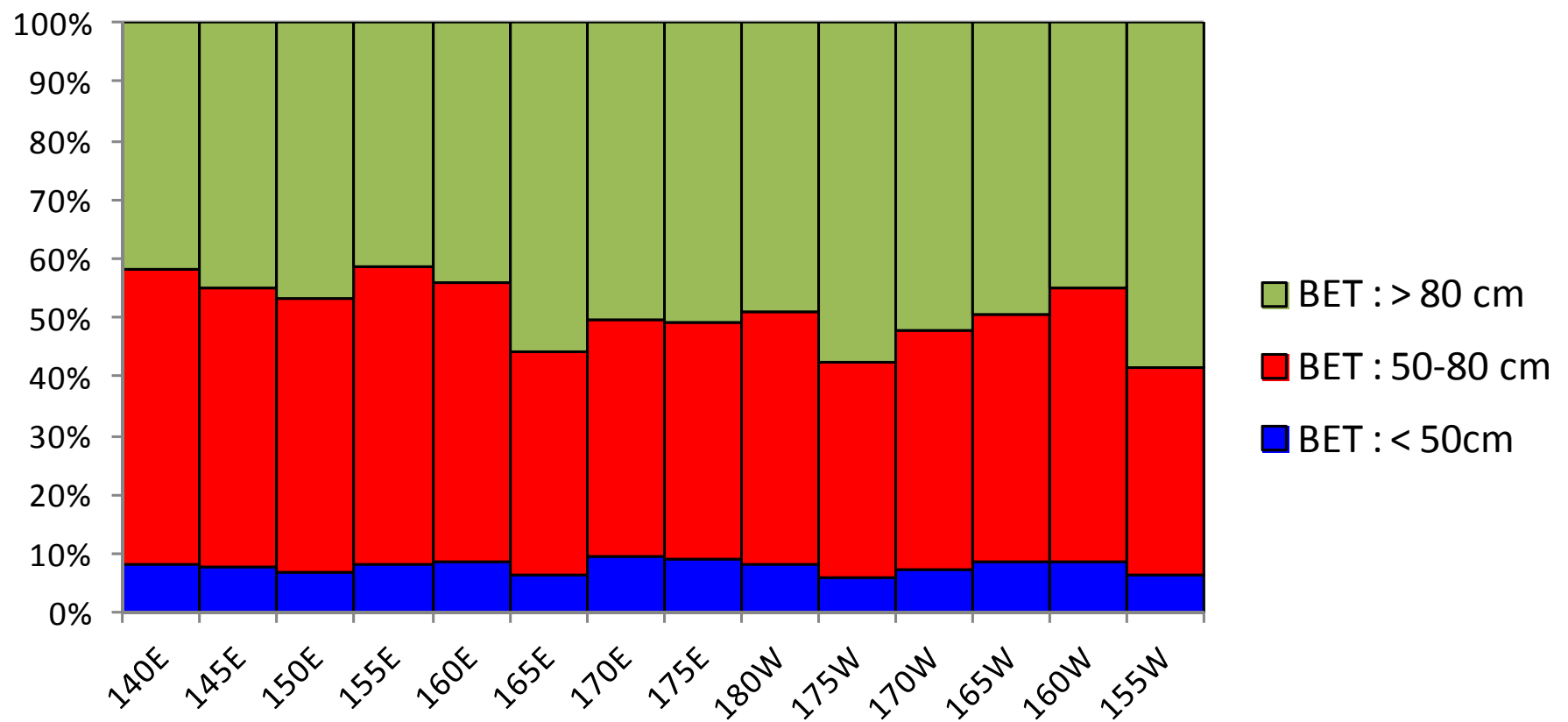PS FAD SETS

PS BET CPUE

LONGITUDE
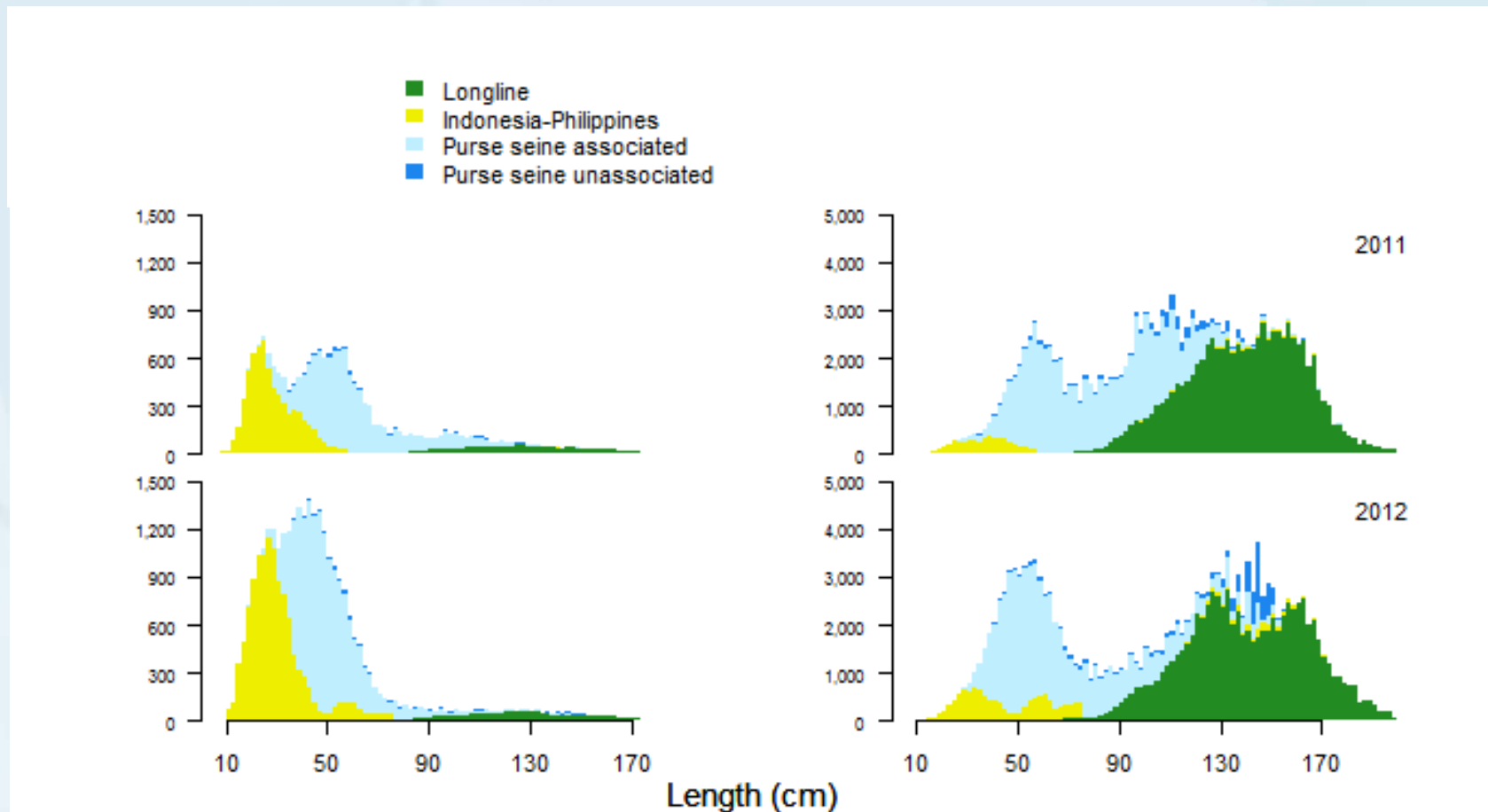
- See also

WCPFC-SC6-2010-ST-IP-02

Bigeye sizes in the purse seine fishery by longitude

Bigeye sizes by fishery

Numbers of fish

Weight of fish

Considering Japan Proposal for setting FAD limit
based on 30% (non-SIDS) and 35% (SIDs) of TOTAL SETS (2010-2012 avg)

CCM	Japan Proposal (% of total sets) 30% non-SIDs 35% SIDS	+ve = actual FAD sets GREATER THAN proposed limit -ve = actual FAD sets LESS THAN proposed limit					
		Avg. 2010-2012		2010		2012	
		Difference to Japan Proposed limit	%	Difference to Japan Proposed limit	%	Difference to Japan Proposed limit	%
CHINA	805	467	37%	-117	-17%	321	29%
ECUADOR	113	235	68%	43	27%	352	76%
EL SALVADOR	51	117	69%	86	62%	131	72%
FEDERATED STATES OF MICRONESIA	423	256	38%	8	2%	391	48%
INDONESIA				0			
JAPAN	2,037	-781	-62%	-1,208	-146%	-419	-26%
KIRIBATI	473	-52	-12%	-252	-114%	22	4%
MARSHALL ISLANDS	705	451	39%	-73	-12%	575	45%
NEW ZEALAND	136	37	22%	54	28%	9	6%
PAPUA NEW GUINEA	2,124	-401	-23%	-1,058	-99%	268	11%
PHILIPPINES (distant-water)	440	-117	-36%	-79	-22%	-24	-6%
PHILIPPINES (domestic)				0			
REPUBLIC OF KOREA	2,177	-698	-47%	-1,092	-101%	-938	-76%
SOLOMON ISLANDS	72	91	56%	114	61%	81	53%
SPAIN	157	327	67%	349	69%	302	66%
CHINESE TAIPEI	2,301	312	12%	-466	-25%	731	24%
TUVALU	110	-54	-96%	-70	-175%	-37	-51%
UNITED STATES OF AMERICA	2,402	659	22%	-17	-1%	1,019	30%
VANUATU	212	64	23%	-20	-10%	30	13%
TOTAL	14,739	912	6%	-3,799	-35%	2,813	16%

Issues with low Observer coverage in FAD months ?

➢ There is some BACKLOG in both provisions of data and data processing at SPC...

- Work-in-progress to improve this situation ...
- ... Noting that low coverage is not restricted to OBSERVER DATA -- e.g. Provision of LONGLINE OPERATIONAL DATA to WCPFC is < 40% coverage...

➢ Coverage of FAD CLOSURE months is not the only objective...

- Important for COMPLIANCE ...
- For SCIENCE, coverage may be adequate (e.g. as low as 20% representative coverage may be adequate for most tasks)...
- REPRESENTATIVE time/area strata are required so data entry scheduling attempts to get representative coverage over entire year/broad areas

➢ Some of the observer data rejected, so won't be 100% coverage in early years in any event...

- Could be as high as 10-15% rejection rate in early years...