



The 4th Core Expert Meeting on Comparative Studies for Purse Seine Fisheries in the Southeast Asian Region

18-19 September 2018, Kuala Lumpur, Malaysia

**Country Report for
The West Coast of Peninsular
Malaysia (WCPM)**

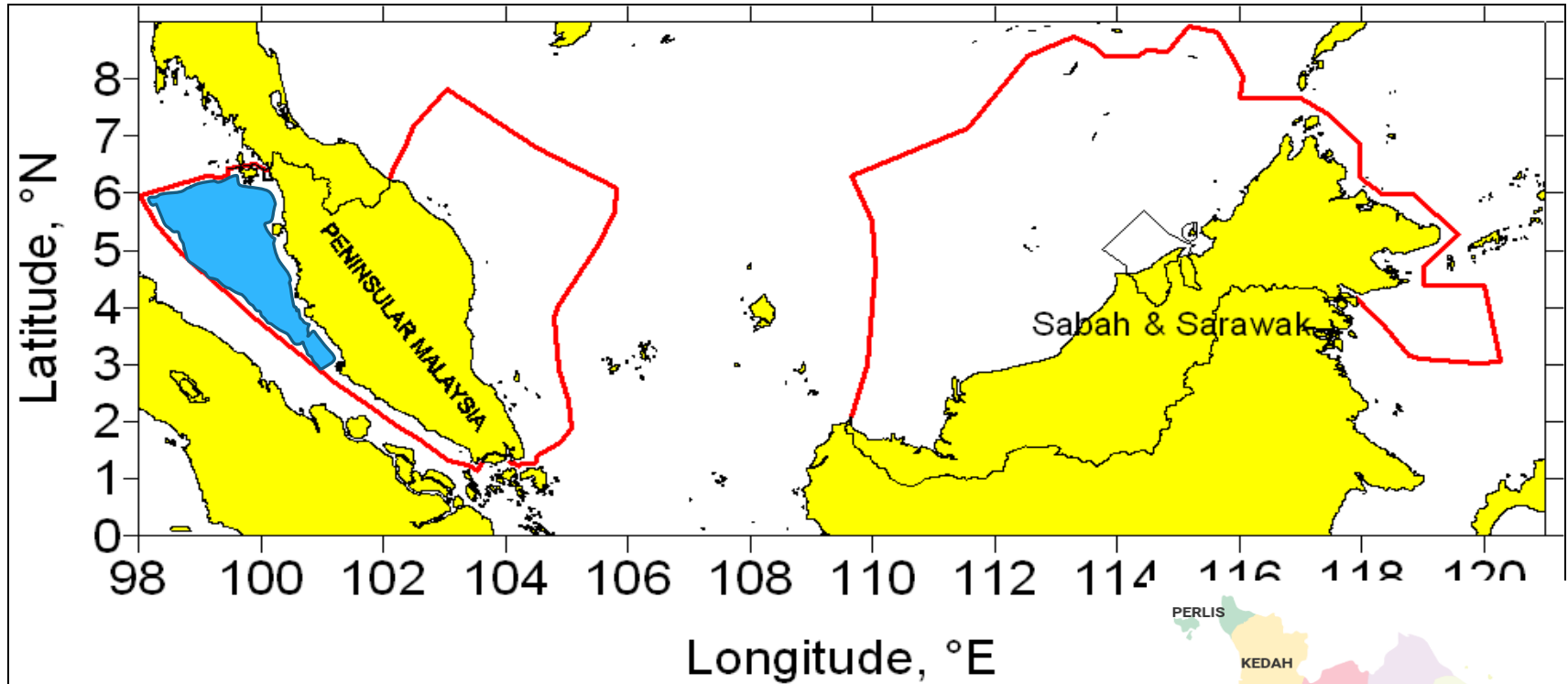


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INTRODUCTION

Overview of PS fisheries in WCPM



- * The total sea area of WCPM which in The Straits of Malacca is about 30,665km²
- * The PS fishing area for WCPM is limited
- * Involved only 5 states out of 8 - Perlis, Kedah, Pulau Pinang, Perak & Selangor



Overview of PS fisheries in WCPM



- * 2 types of PS – Fish and Anchovy PS
- * Purse seines are the second most efficient fishing gear in contributing to the fish landings after trawlers.
- * 21 % from total landing in WCPM contributed by PS fishery (DOFM statistics, 2016)
- * Majority of FPS uses FADs. Only zone C, C2 and C3 are allowed to use support vessel
- * All APS hunting schools of anchovies during daytime only

PS vessels in WCPM

- * All purse seine vessels are categorized based on their gross tonnage (GRT(Gross Registered Tonnage))
- * For each tonnage, the vessel are allowed to operate within a specified fishing areas such as for the tonnage groups of
 - * Below 39.9 GRT (8 – 15 nm),
 - * 40 – 70 GRT, (15 nm off shore) and
 - * above 70 GRT (above 30 nm off shore).
- * Anchovy PS are allowed to operate within 1-8 nm (Zone A)



PS Fishing gear

- * All PS use surrounding nets with purse line
- * Nylon nets with mesh size between 7.8-100 mm (SEAFDEC, 1989)
- * Support equipment such as radar, GPS, sonar and echosounder and also deck machinery such as power block are mostly used.
- * The use of light raft, fish shelter or “unjam” (FADs) and light boats has increased.
- * Almost all APS has boiling facilities onboard and storage area for boiled anchovies.



Regulations and licensing

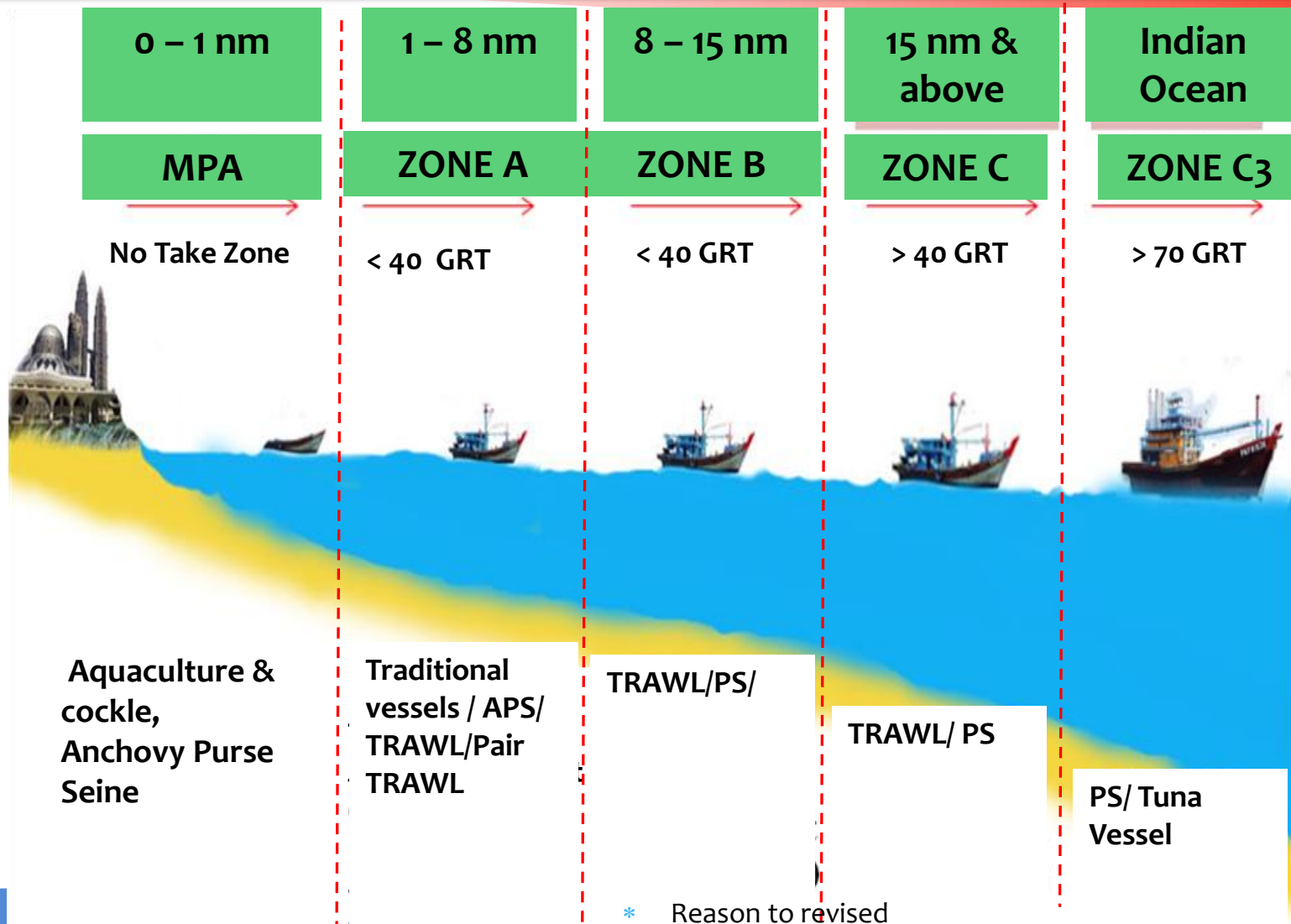
- * Operation zone C and C2 has been combined due to limited area of Straits of Malacca
- * Compulsory use of AIS equipment for B & C zone vessels* and VMS for C2 vessels

*Source: DOFM (Pekeliling Bil 11/2014)

- * PS license will be re-new based on yearly performance on these criteria:
 - * Landing of fish \geq 350 MT
 - * MTU equipment activation \geq 80% of sea hours

Source: DOFM (Dasar/Pekeliling/SOP, 29 July 2013)

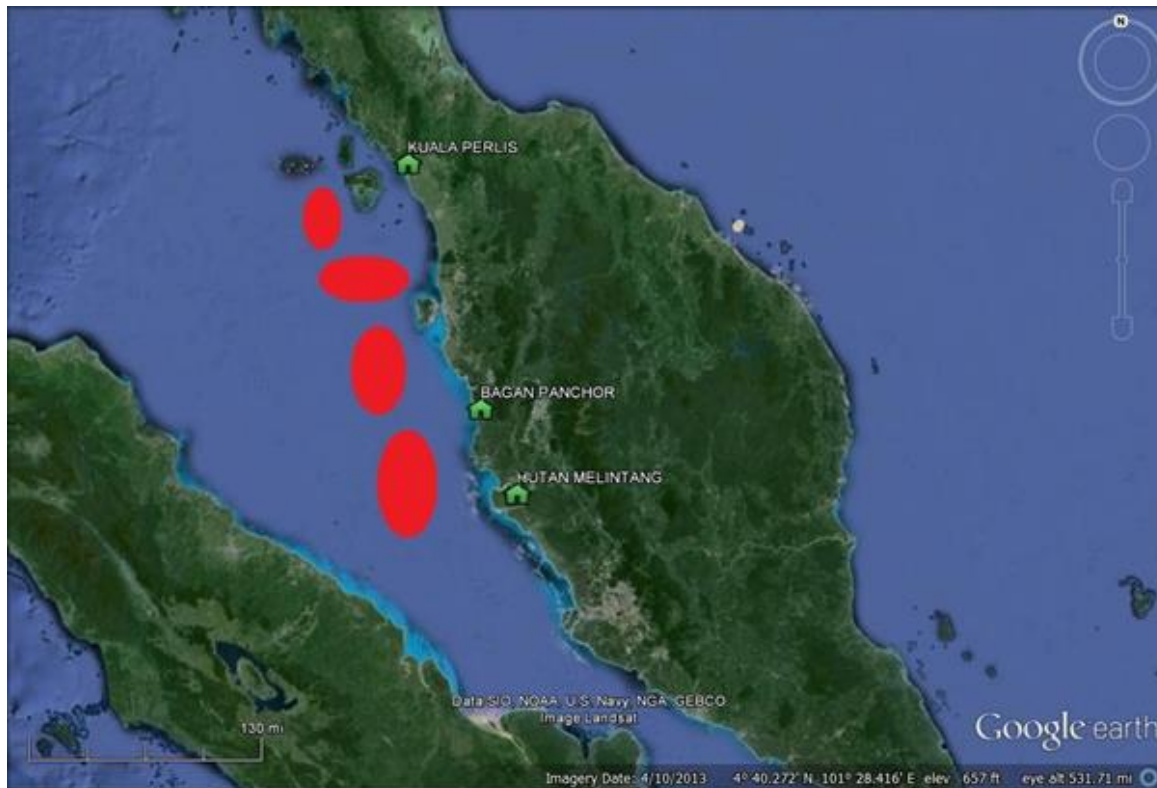
Revised Fishing Zone for WCPM (Perlis, Kedah, P.Pinang, Perak & Selangor) 2014



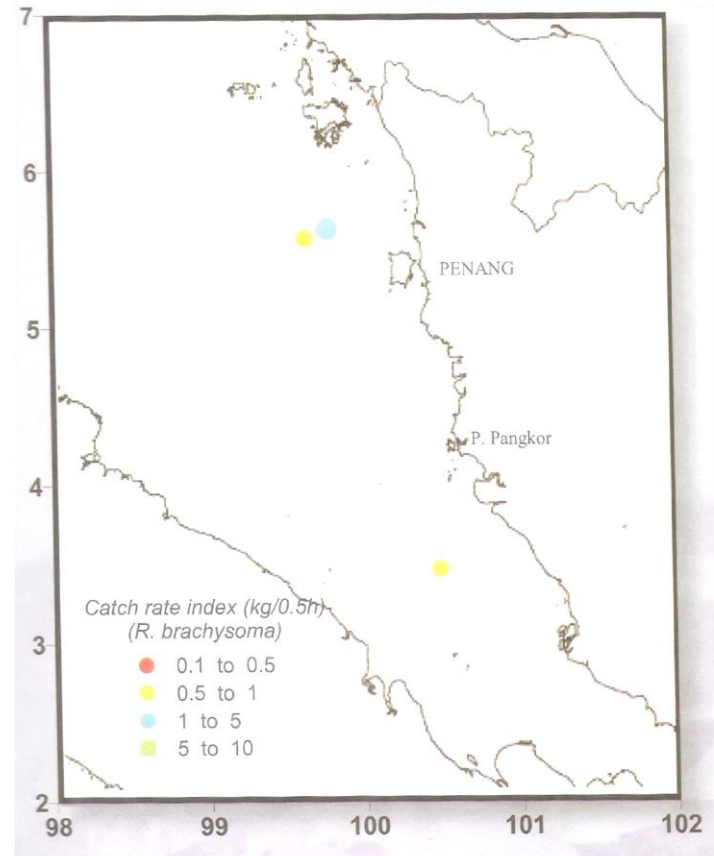
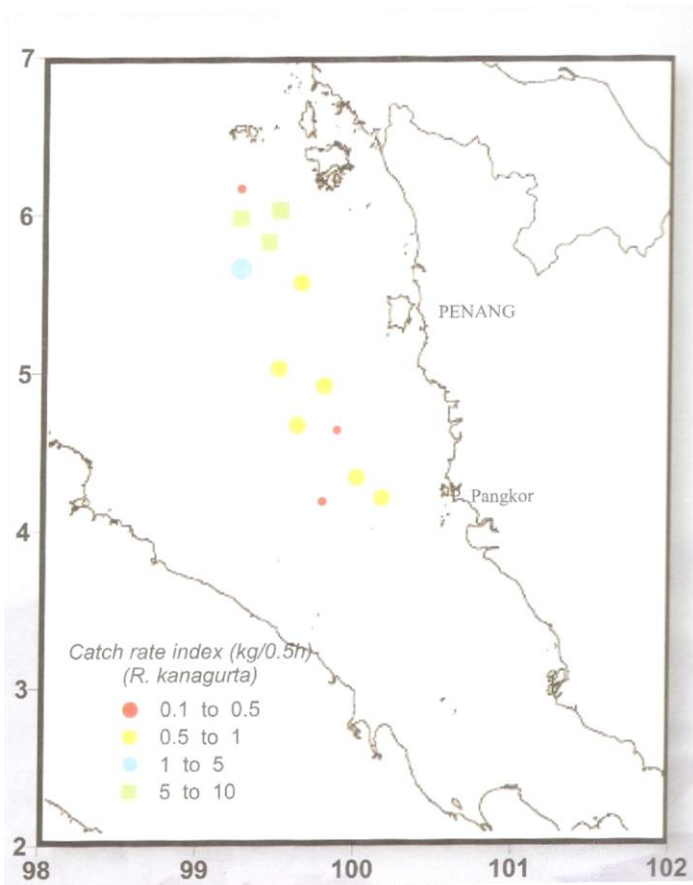
* Reason to revised

- * Average size of fish in catch has reduced
- * Hours at sea has increased, fishermen spent more time at sea to fish

Main fishing area for FPS

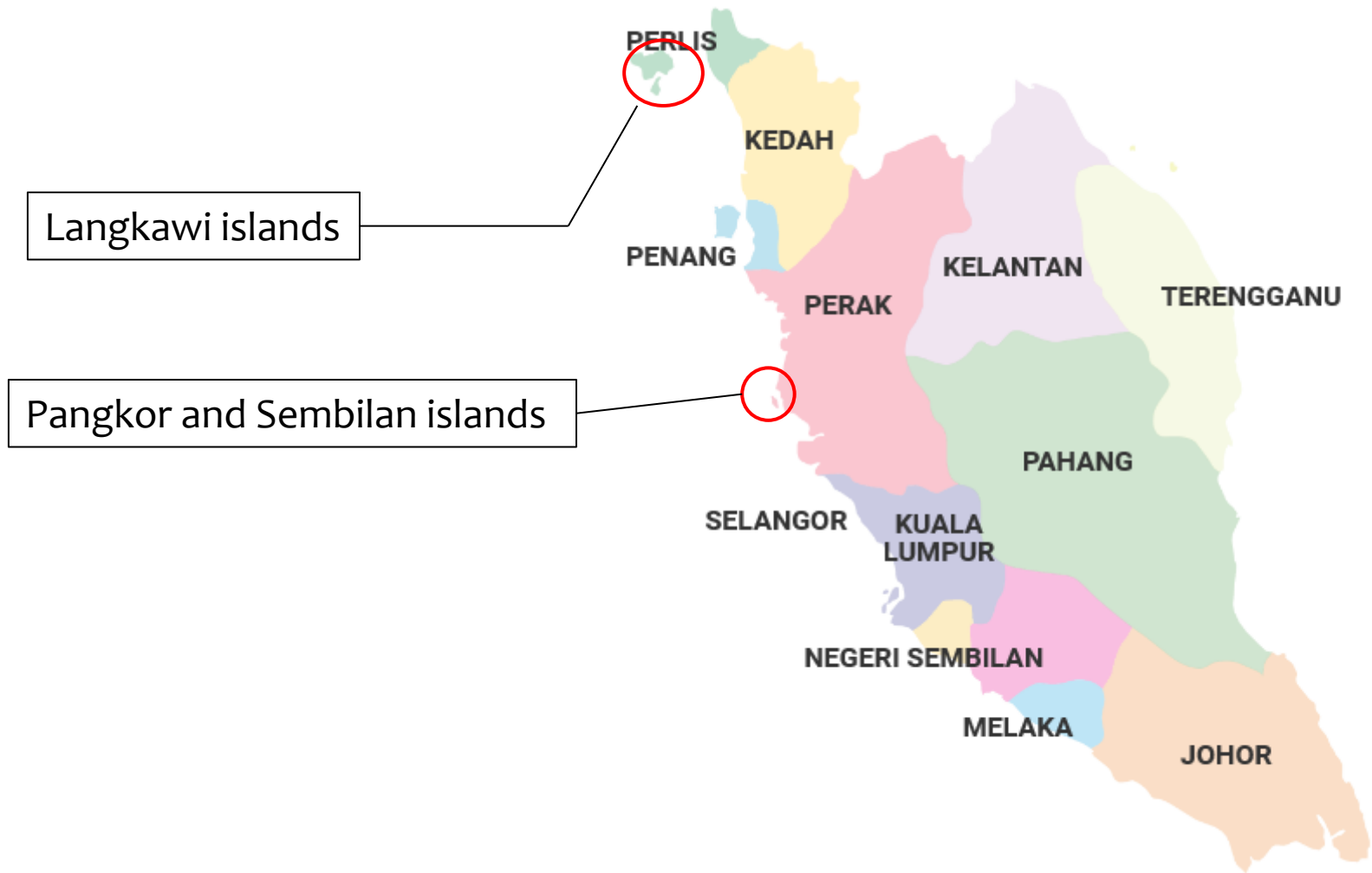


Source: BOBLME-SEAFDEC/MFRDMD (2015)



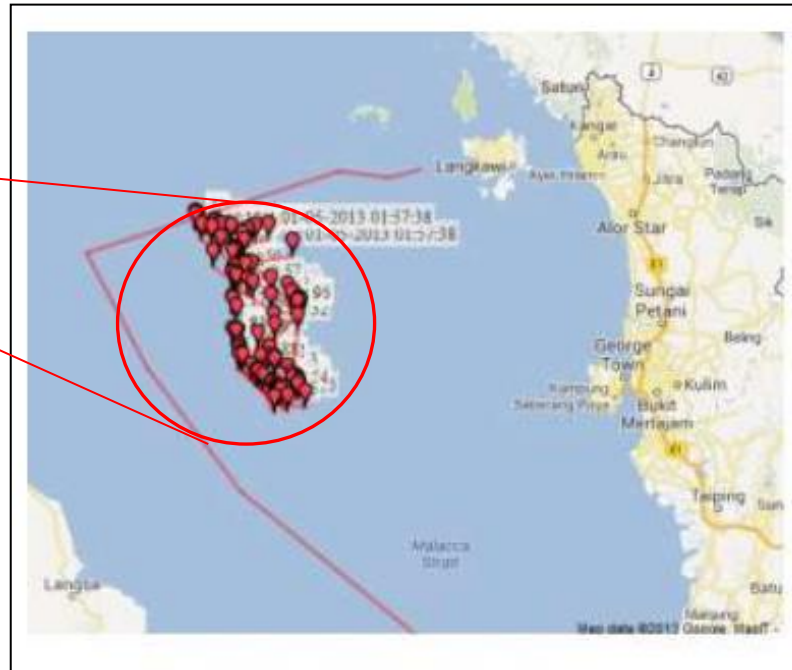
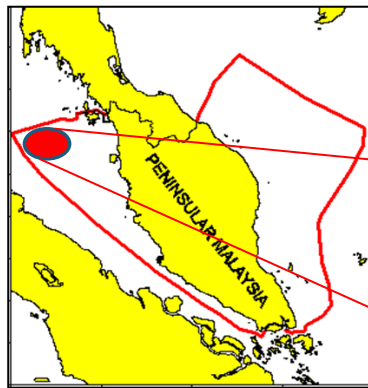
The catch distribution of *Rastrelliger kanagurta* (left) and *Rastrelliger brachysoma* (right) at the WCPM in 2006 (Abu Talib et al. (Eds) 2009)

Main fishing area for APS



Map source: malaysiavisa.org

The common fishing area of PS vessels of >70GRT in WCPM



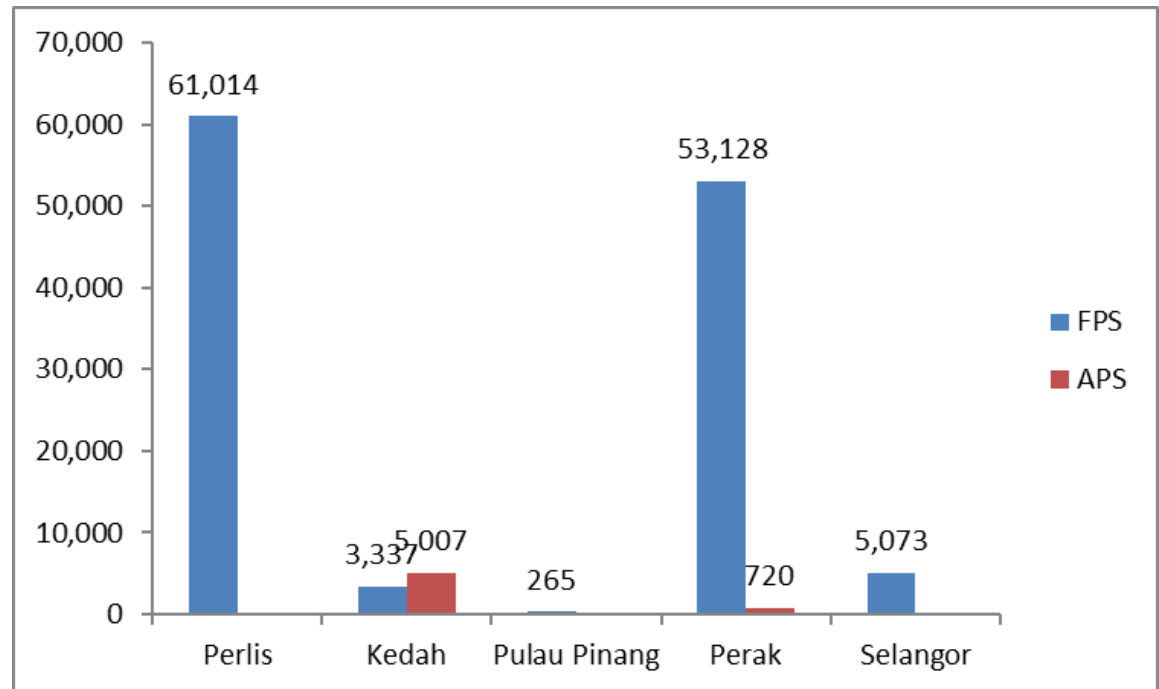
- * Most FADs for the PS >70 GRT can be found at this area

FISH AGGREGATING DEVICES (FADs)

- * The FADs normally was set in areas with depths **exceeding 40 meters**. The FADs are made of coconut leaf and anchored by several concrete sacks.
- * Most of the FADs are maintained and some of the owners employed fishermen to look after their FADs to prevent stealing or encroached by other fishermen.
- * Most areas with sufficient depth were located in the **northern most of Malacca Strait**. The larger purse seiners (>70 GRT) can only operate in areas beyond 30 nm from the shore as stated under the Zoning Regulation by the Fisheries Authority.

Trend of landing, number of PS
vessels and fishing efforts

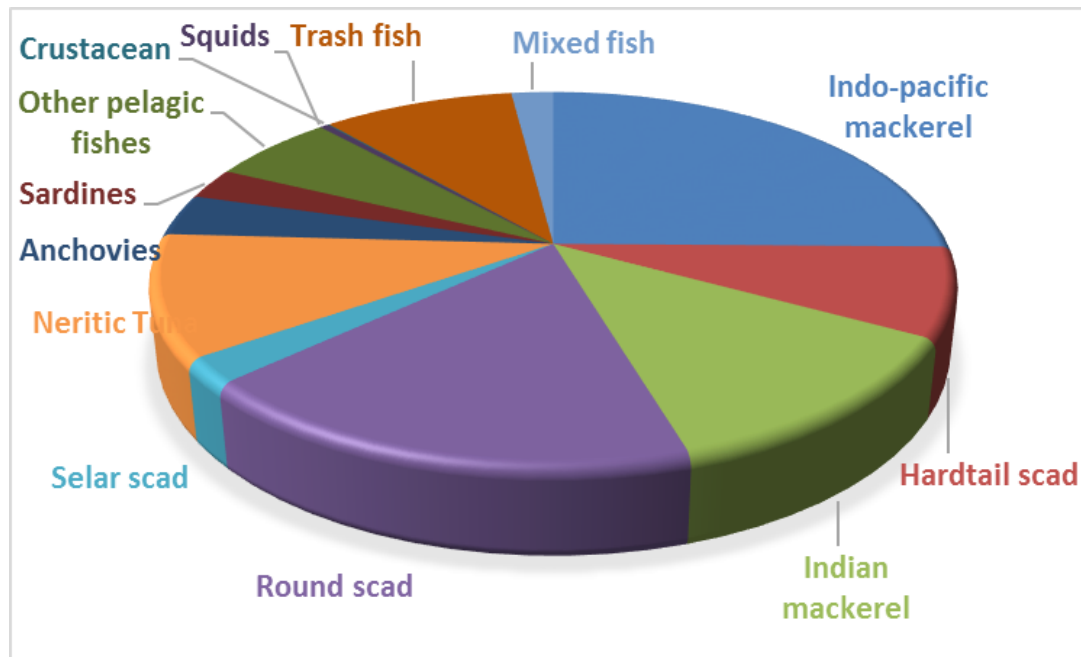
Landing of marine fish by PS types, 2017 (MT)



- * Overall licensed PS vessels in WCPM (2017) 413 units – 343 Fish PS and 70 Anchovy PS
- * Total marine fish landing contributed by PS in WCPM was 128,544 MT (>20% from the overall landings (all gears) in WCPM).

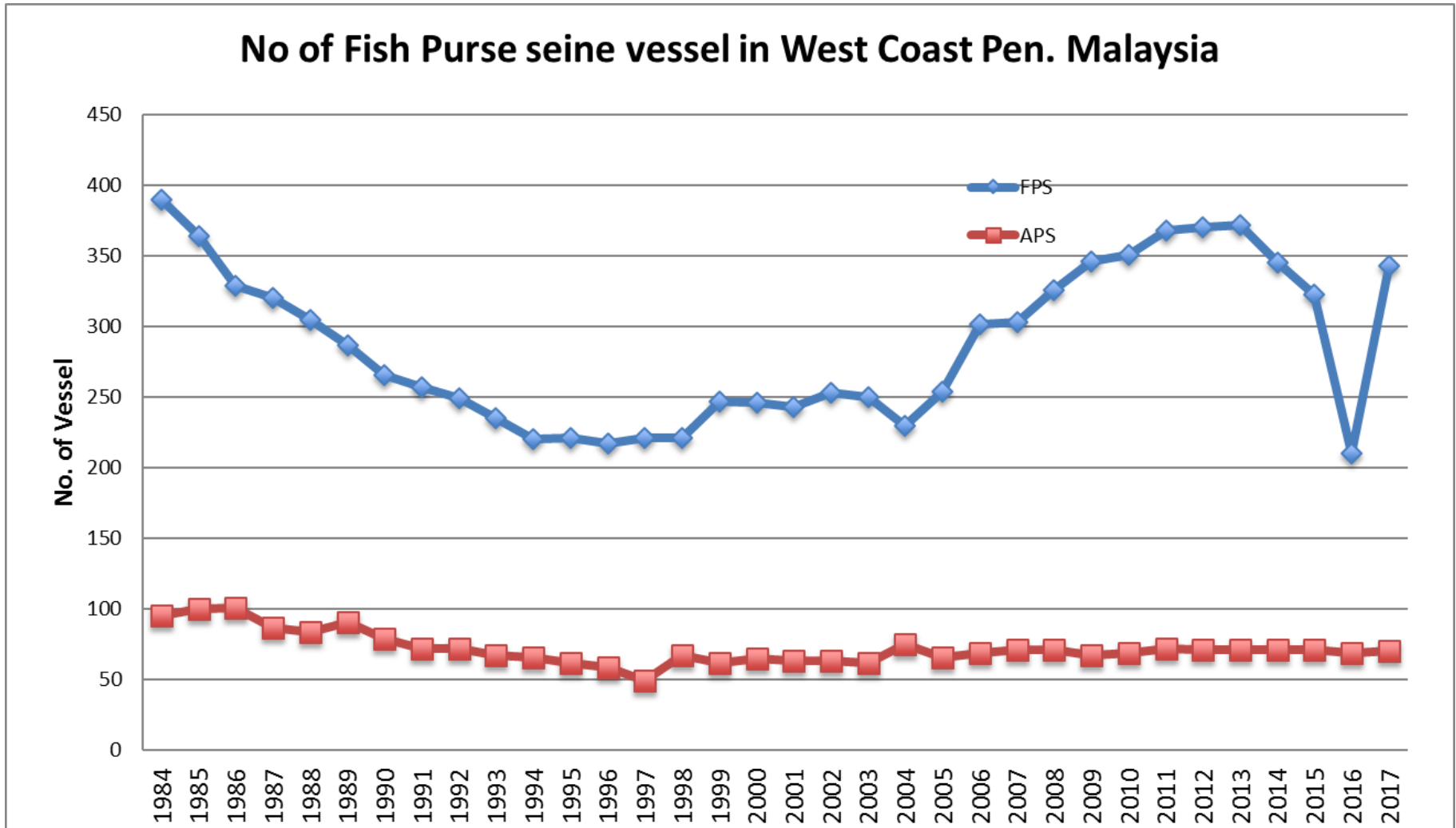
Catch composition of all PS in WCPM

- * The major species were the mackerels, scads, neritic tunas, anchovies and sardines (2008-2016)



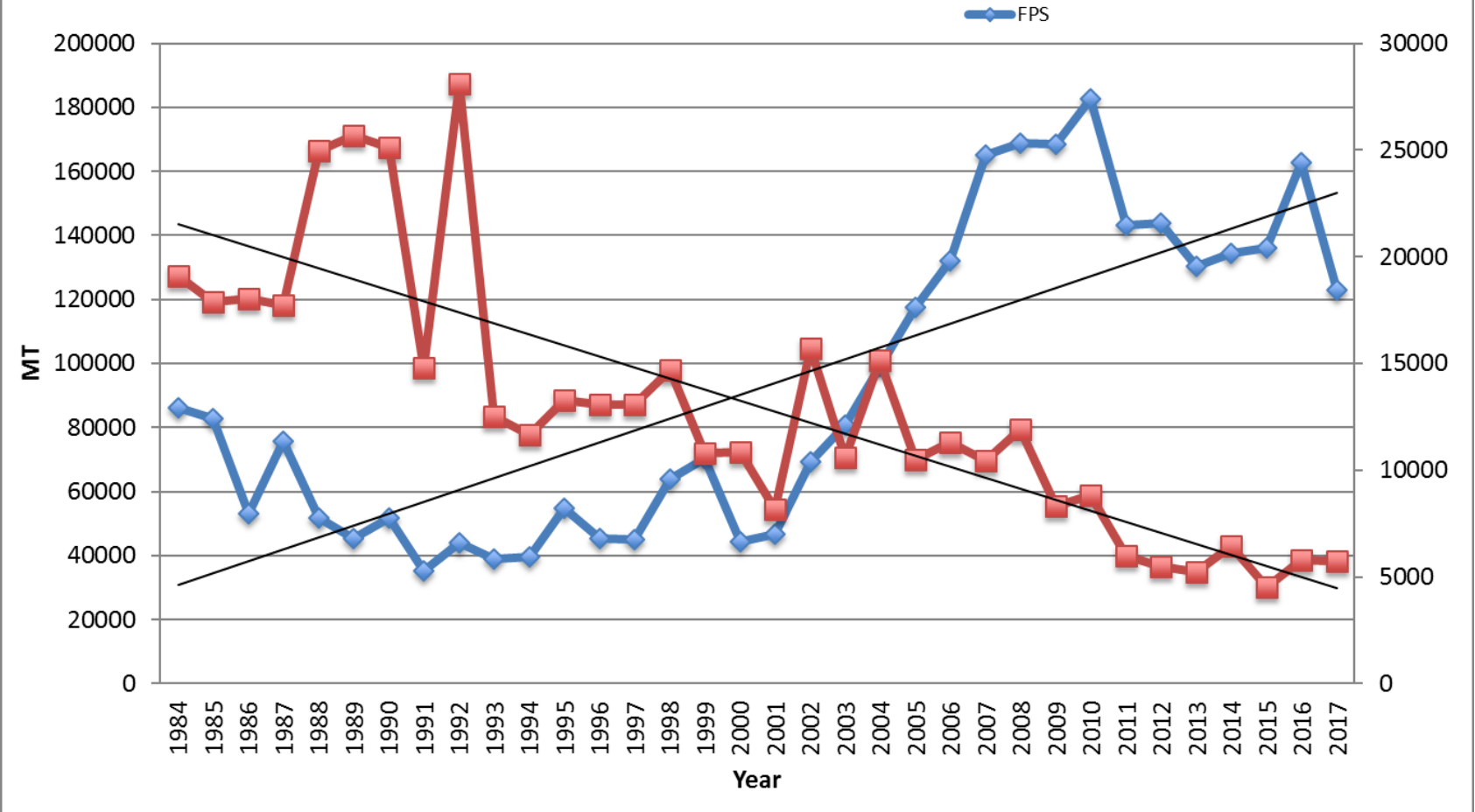
Species catch composition percentage for 9 years (2008-2016)

Trends on the number of PS

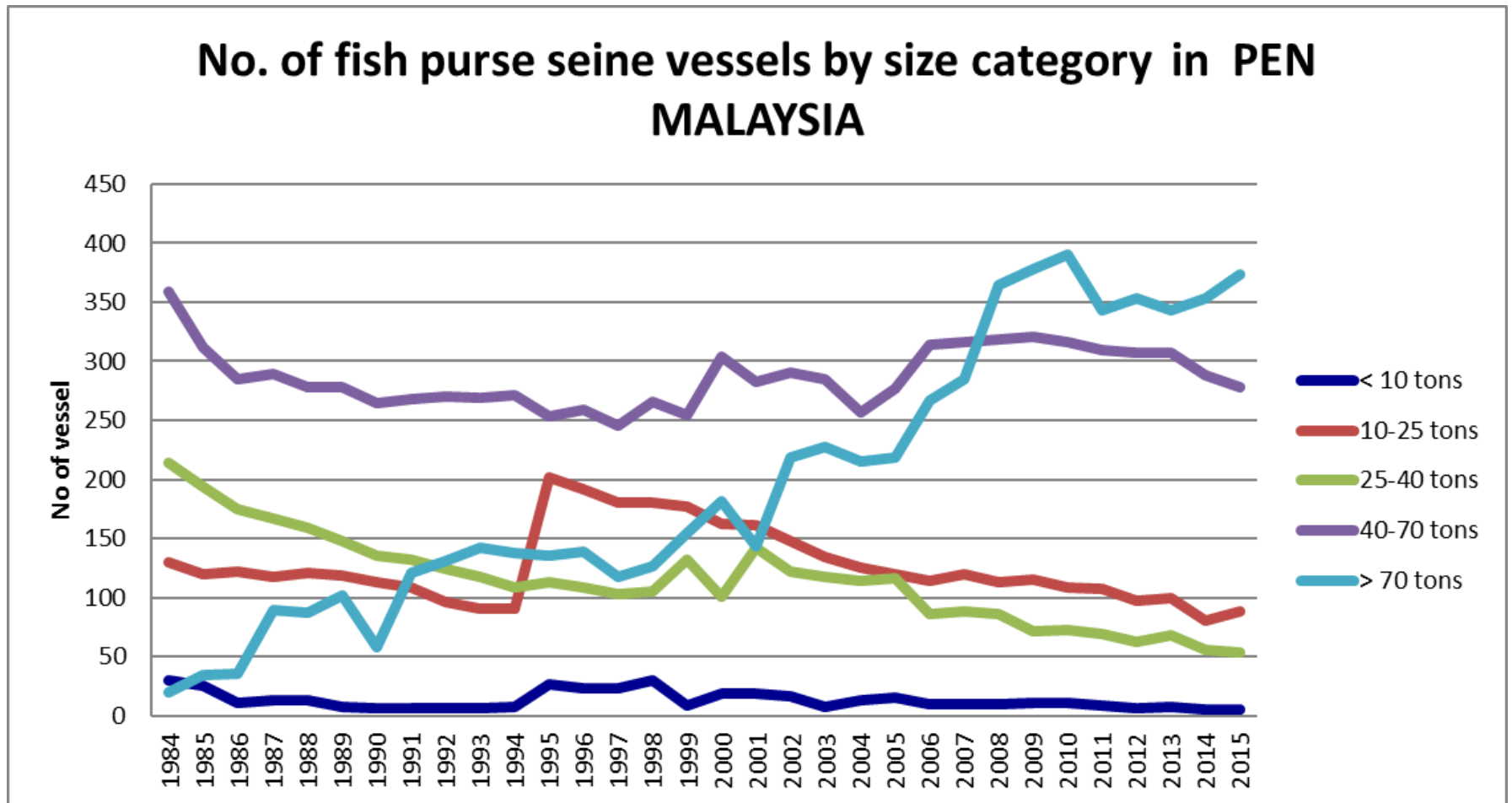


Landing trends of PS

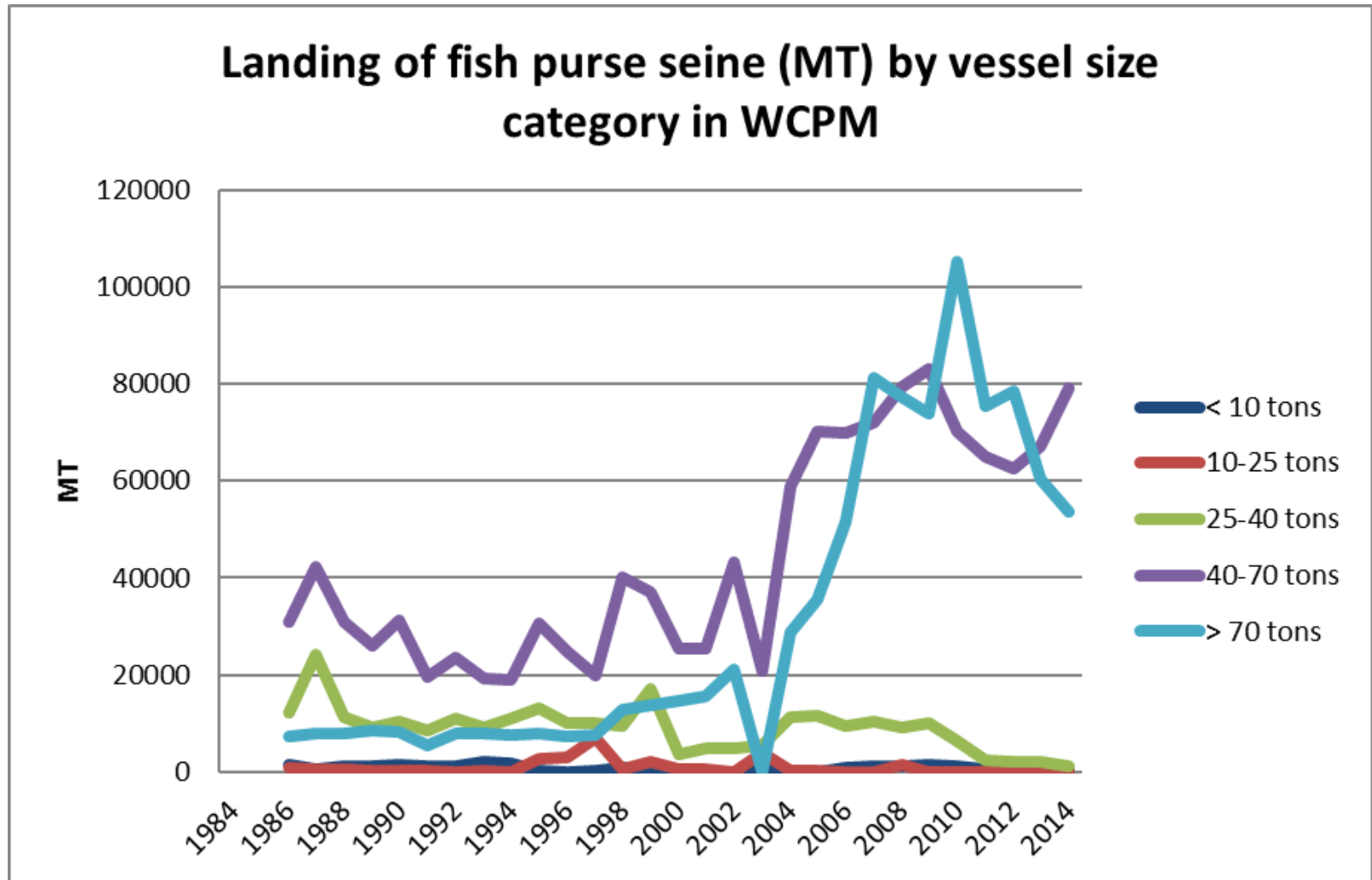
Total Landing of Pelagic fish (MT) by type of Purse seine in West Coast Pen Malaysia



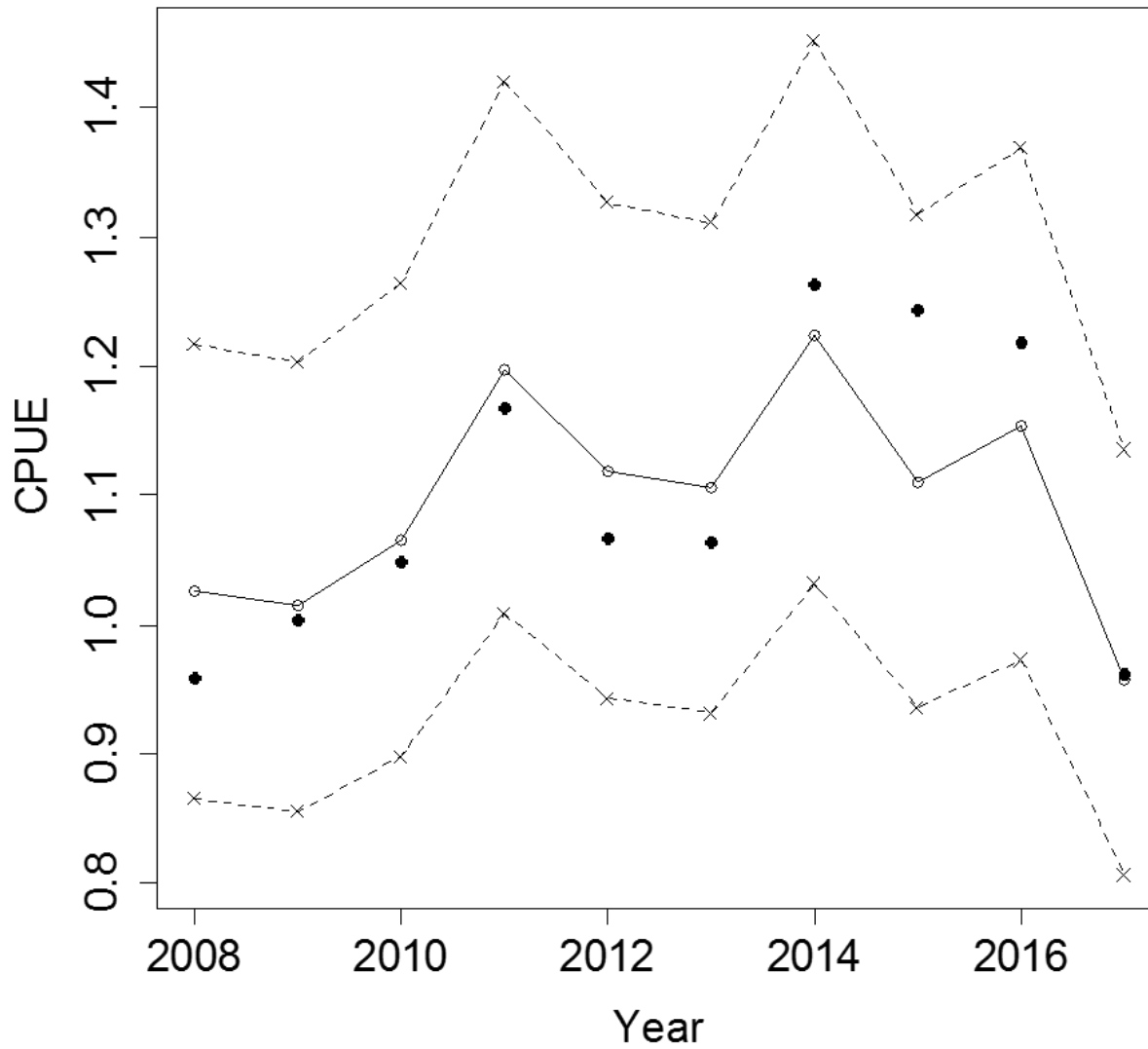
Trends on number of PS vessels by GRT



Nominal catch trend by size category



Standardized CPUE+mean(CPUE)*0.1



Status of pelagic fish stock in the WCPM

Comparison of survey results on density of pelagic fish stock at WCPM

Year	Density (MT/km ²)	References
1998	9.6	National fisheries survey report, 2000
2006	7.5	Raja Bidin et al, 2009 in Abu Talib Ahmad et al. (Eds) 2009.
2013	7.45	FRI (2016)

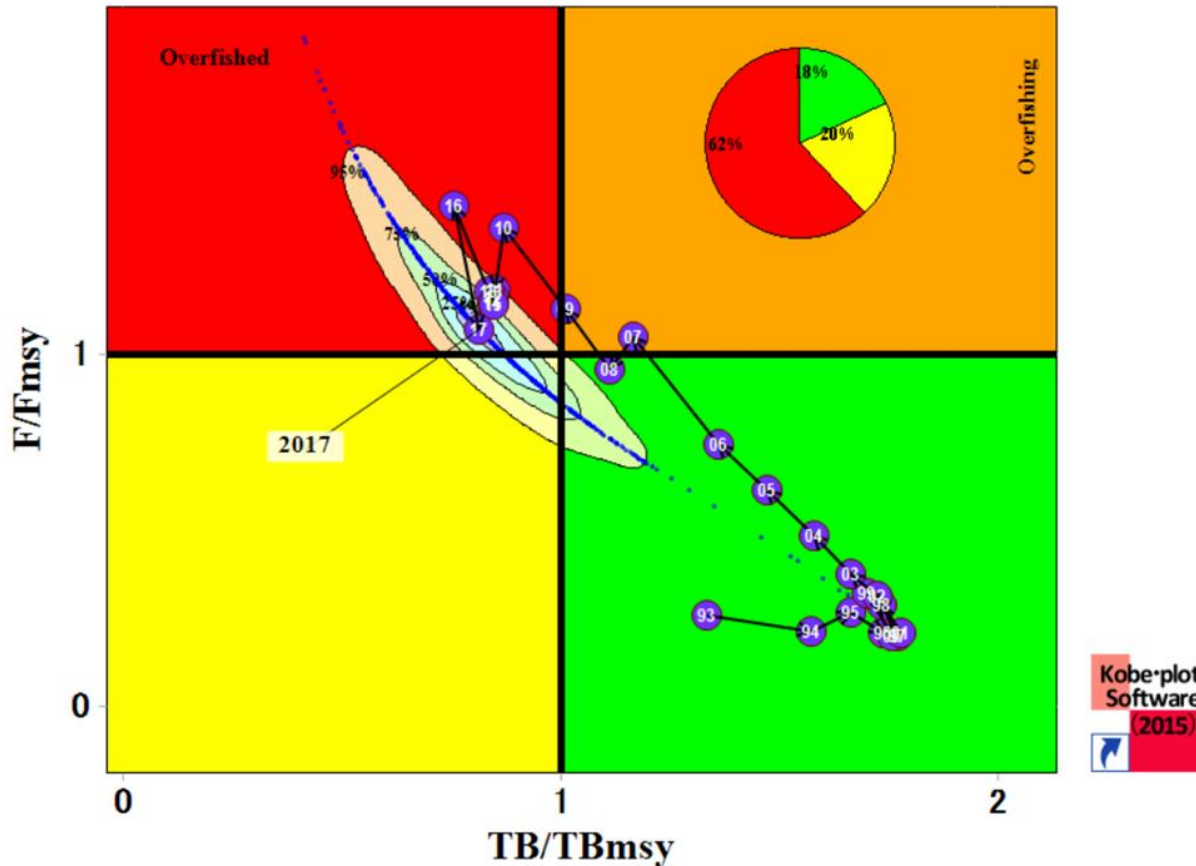
- The latest survey has the density of only 0.67% less than the survey in 2006, but 22.4% less than the 1998 survey.

Pelagic stock assessment surveys in WCPM (using acoustic survey)

Year	MT	
	Biomass	Potential Yield(MSY)
1998	311,000	155,500
2013	235,438	112,684
% reduced	24.3%	27.5%

- * The total landing of pelagic fish in WCPM in 2013 was 130,213 MT, which exceed 16% of MSY.
- * Steps has been taken to reduce the declining pelagic stocks

KOBE PLOT



Kobe Plot graph showed the current status of pelagic fish in the WCPM is in **OVERFISHED** area (red zone) of the plot. The probability is showed by the pie chart.

Spawning seasons: Indian mackerel *R. kanagurta*

Month	Area	Lm	Reference
Oct and Apr	WCPM	16.7-17.2	Pathansali (1967)
May and Feb	PM	16.6 (SL)	Chee (1977)
Jan to Mar	PM	17.5	FAO (1978)
Sept to Feb	WCPM	22.8-23.8	BOBLME- SEAFDEC/MFRDMD (2015) Malaysia report - unpublished

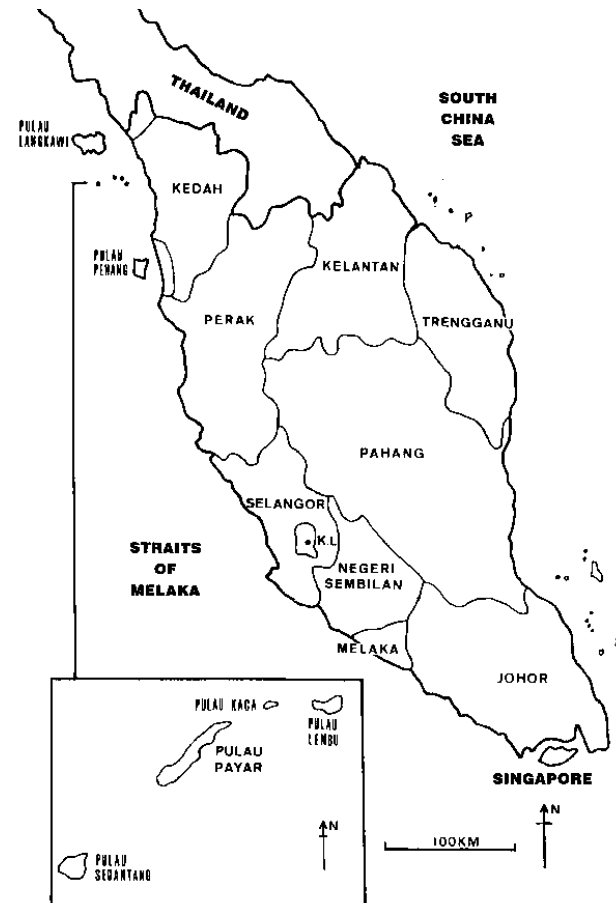
The occurrence of mature fishes throughout the year indicates that this species maturation is a continuous process

Length of 1st maturity (Lm)

<i>R. kanagurta</i>	Average size of maturity	Reference
Male/Female	20.6 cm	Mansor (1996)
Male/Female	18-19 cm	Abu Talib et al (2009)
Male	22.8-23.2 cm	BOBLME- SEAFDEC/MFRDMD (2015) Malaysia report - unpublished
Female	23.2-23.8 cm	

Closed area in WCPM

- * The existing protected area, under Fisheries Act 1985 are:
 - * State of Kedah **Marine Park islands** – Payar Archipelago (**48,058 ha of sea area**), consist of 4 islands; Payar, Kaca, Lembu and Segantang. The islands were gazetted under Marine Parks Malaysia Order 1989
 - * **Fisheries Prohibited Area (FPA)** – Tanjung Tuan & Pulau Besar, Melaka. Pulau Besar and Tanjung Tuan Melaka was gazetted as FPA under the Fisheries (Prohibited Areas) Regulation (Amendment) (1988).



Peninsular Malaysia & Payar Archipelago

Issues and challenges

- * The demand to use light as fish aggregating device has increased not only in the PS fishery, even for other type of fishing apparatus.
- * Latest pelagic stock assessment survey (2013) showed the pelagic stocks are depleting and are assumed in the status of over-exploitation. Although some of the pelagic species are highly fecund, the stock may be being overfished and more detailed assessment is needed and should be done on regular basis.
- * Sharing of information in the status of pelagic stocks in Andaman Sea & Straits of Malacca and cooperation between neighbouring countries are pivotal in order to manage properly the stocks.

Thank you