6.1.1 Summary of Progress on Blue Mackerel

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Table of tasks for the SWG BM in 2024 (SC08 Report)

Footprint and effort data

(b) Evaluate the influence of environmental variables on the life history, biology, and population dynamics

Other

(a) Write terms of reference (TOR)

(b) Draft a rolling 5 year work plan

Update species summary

(a) Share data, including unpublished data if possible

(b) Data standardization - CPUE and abundance data

Stock Assessment

(a) Calculate nominal CPUE

(e) Observe domestic stock assessments by Members

Update catch and effort data

(a) Discuss potential data sharing needs
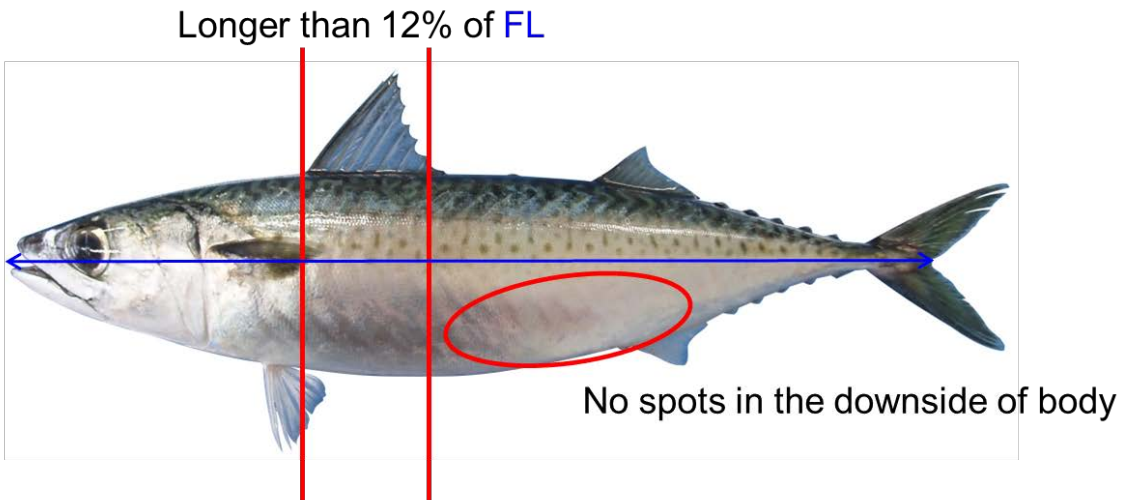**Distinguish between CM and BM**

Stock Assessment

(c) Conduct other research that may contribute to the provision of management advice

No progress
Partly done
Done

1st Joint meeting: 3 July 2024
2nd Joint meeting: 6 November 2024

Distinguishing between Chub and Blue Mackerel (1st meeting)

Chub mackerel

Longer than 12% of FL

No spots in the downside of body

Blue mackerel

Shorter than 12% of FL

Many spots in the downside of body
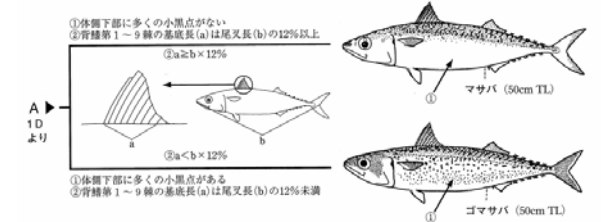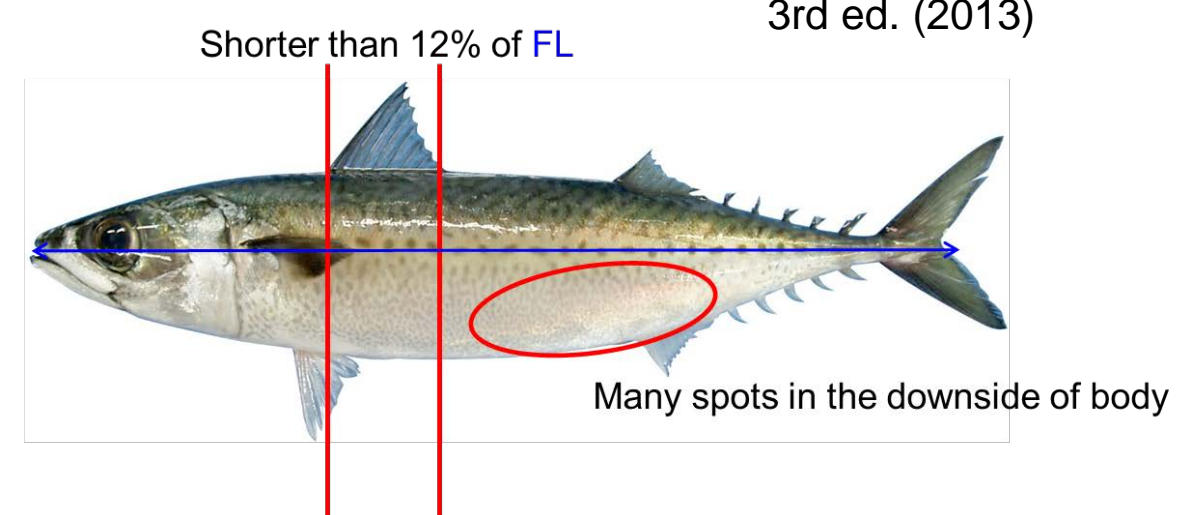
Search for Japanese Fishes, 3rd ed. (2013)

Chub mackerel

① No small black spots in the downside of body

② Basal length between 1st and 9th spines of dorsal fins is equal to or longer than 12% of fork length

Blue mackerel

① Many small black spots in the downside of body

② Basal length between first and ninth spines of dorsal fins is shorter than 12% of fork length

How to Identify Chub Mackerel and Blue Mackerel species?

Chub mackerel

A discontinuous black spot with vertical stripes along the body indicates a high probability of being a blue mackerel

The first dorsal fin has 9-10 fin spines

Almost no spots

Chub mackerel

The first dorsal fin has 10-13 fin spines

Black or blue spots

Blue mackerel

Methodology for distinguishment has been sufficiently discussed

BM ratio in total mackerel catch for each member

Calendar year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
China	10.0%	10.0%	12.0%	6.0%	13.0%	11.0%	15.2%	6.0%	25.0%		NOT publicly available
Russia	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	Publicly available
Japan	31.3%	21.3%	13.6%	10.6%	10.9%	9.5%	10.8%	10.0%	14.4%	22.8%	Able to be publicly available

Members that constitute a high proportion of the mackerel catch in the NPFC area:

China, Russia, Japan

China

The data is ready, but its sharing is not authorized by the authorities

→The Lead kindly asks SC to recommend that all Members share the data

Russia

BM catch is negligible, and fishermen do not separate these two species

Japan

Publicly available, but the documents are written in Japanese

https://abchan.fra.go.jp/hyouka/

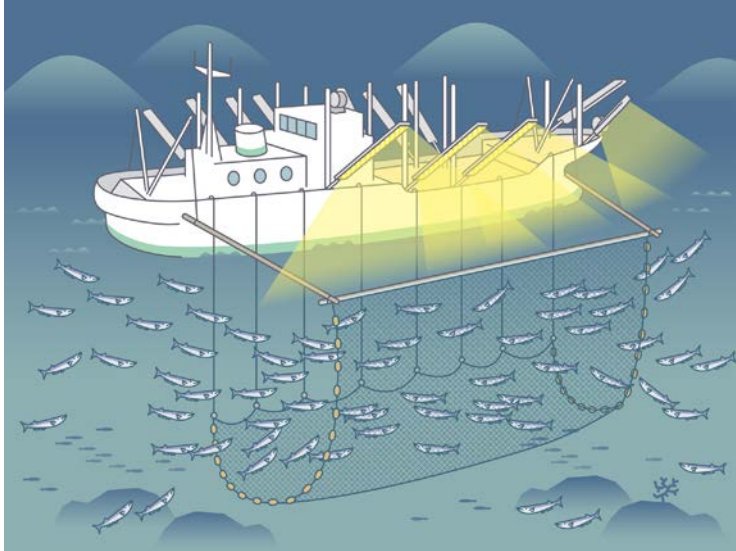To lower uncertainties in stock assessment,
the following data would be helpful

- Bycatch information (purse-seine, other fishing gears…)
- Biological data
  (length-weight relationship, catch at length, age-length key, etc…)
- CM-BM ratio

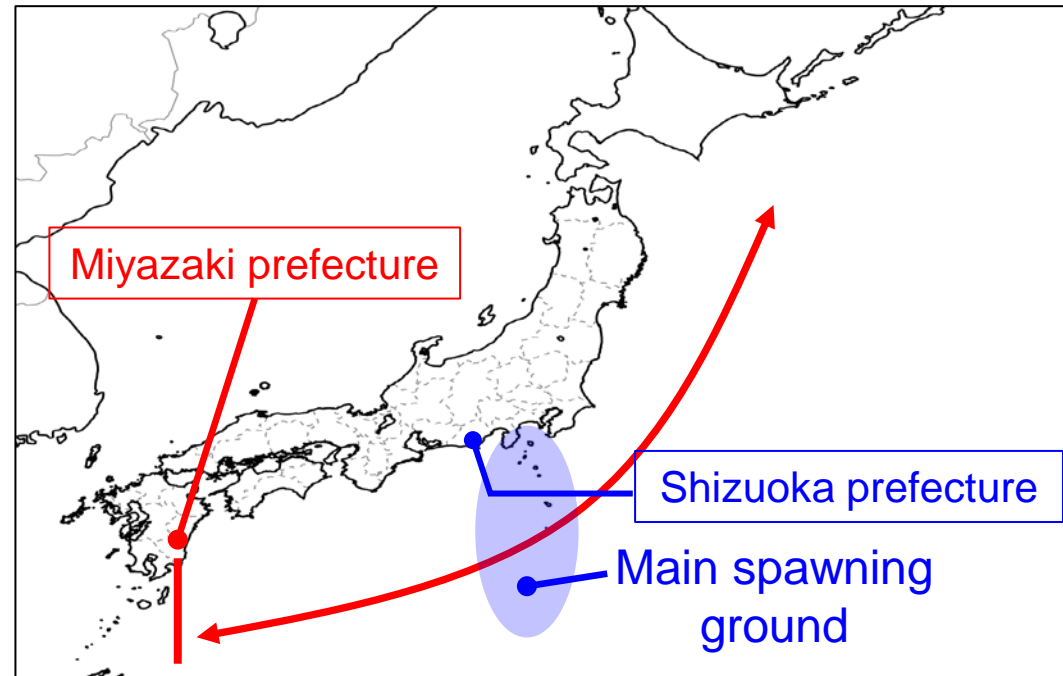Data sharing for stock assessment is the highest priority

The following abundance indices are used for tuned VPA;

- **Stick-held dip net (Shizuoka pref.)**: age 0 (recruitment) fish
  →Fishery-dependent
- **Egg abundance (East of Miyazaki pref.)**: spawning stock biomass
  →Fishery-independent

stick-held dip net

https://www.maff.go.jp/j/tokei/census/img/sanma2.jpg

Miyazaki prefecture

Shizuoka prefecture

Main spawning ground

https://www.freemap.jp/itemFreeDIPage.php?b=japan&s=japan1

Anticipated activities during the coming year

- Update the species summary

- Data sharing

- Separate the mackerel catch data into blue mackerel and chub mackerel categories (e.g., as in the Annual Footprint)

- Any others?