



# NPFC, 2025

11th Meeting of the Technical Working Group on Chub Mackerel  
Stock Assessment

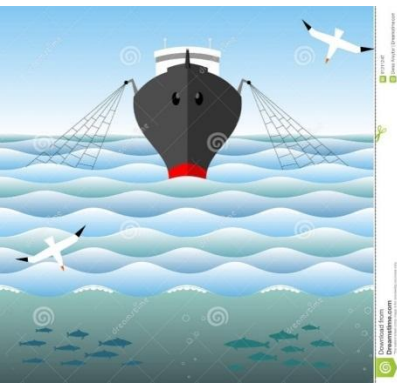


## Review of chub mackerel fishery in China and research activities in 2024-2025

China

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Shanghai, July



# Contents

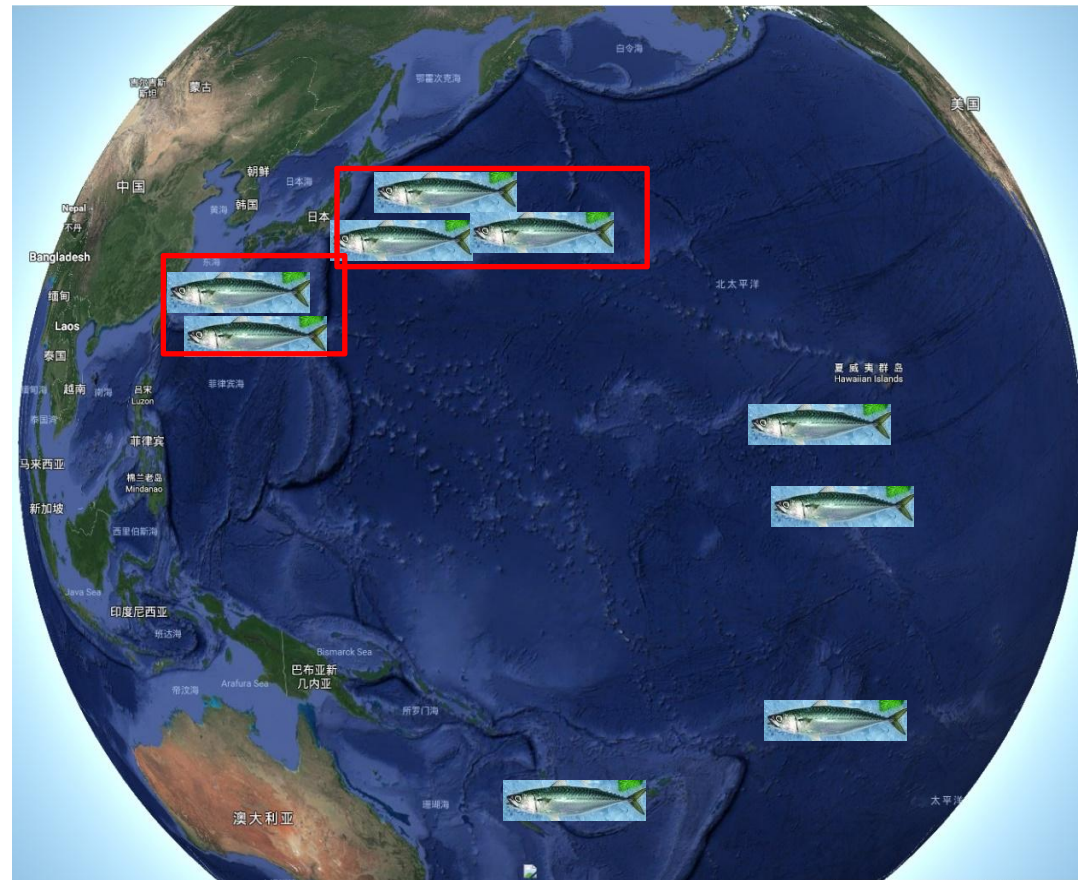


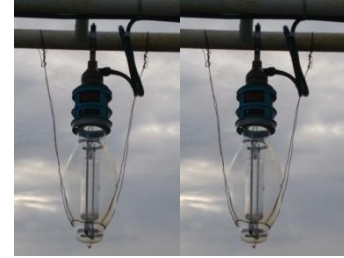
- 1. Introduction**
- 2. Description of chub mackerel fishery in China in the north pacific ocean**
- 3. Fisheries data collection and research activities**

# 1. Introduction



**Chub mackerel (*Scomber japonicus*) population widely distributes in the Pacific Ocean.**





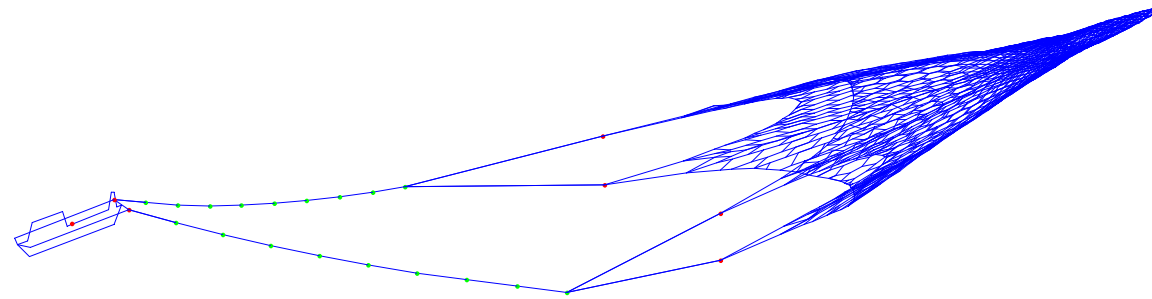
## light-purse seine

**In 2024-2025 year, China has two types of fishing nets operated in this fishery including the light-purse seine nets(>97%) and pelagic trawl nets(<3%).**



## Trawl nets — **Pelagic trawling**

**From two to three trawl vessels were operated in NPFC areas, in recently year. In 2025, Three vessels seasonally catch the chub mackerel fishery in the NPFC areas now.**



## 2. Description of chub mackerel fishery in China in North Pacific ocean

### Fishing effort and catch

Sample Template for chub mackerel reporting					
Fishing Gear	Statistical Area	Effort		Species name (English and scientific)	Catch Amount (Metric Tons)
		Numbers of fishing vessels	Fishing days		
purse seine	CA	103	18,260	chub macherel (Scomber japonicus)	69227.316
				sardine （Sardinops melanostictus）	233780.938
Pelagic Trawl		3	499	chub macherel (Scomber japonicus)	3,139.82
				sardine （Sardinops melanostictus）	27322.922

The catch of chub mackerel in 2024 in NPFC footprint has increased compared to 2023

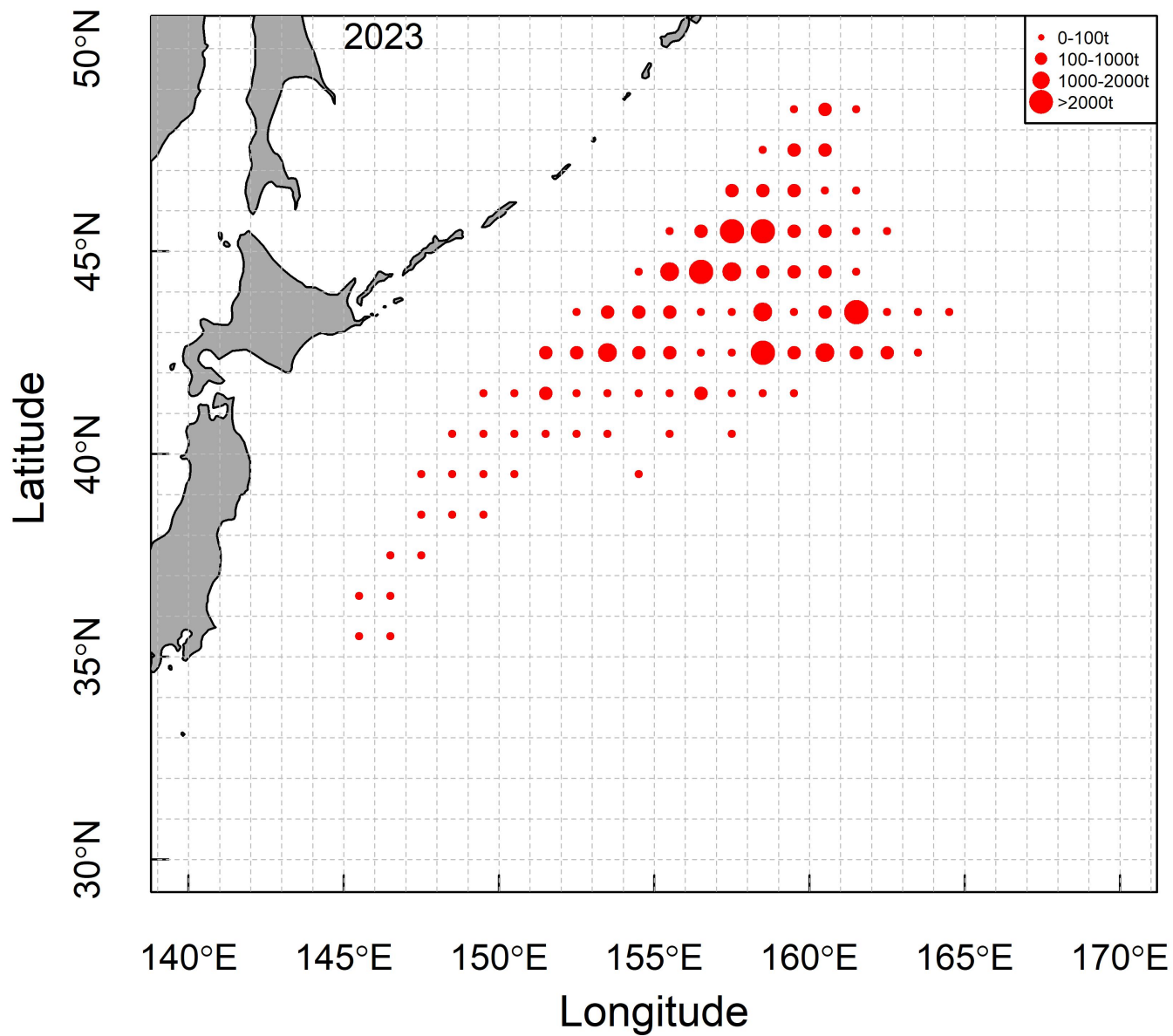
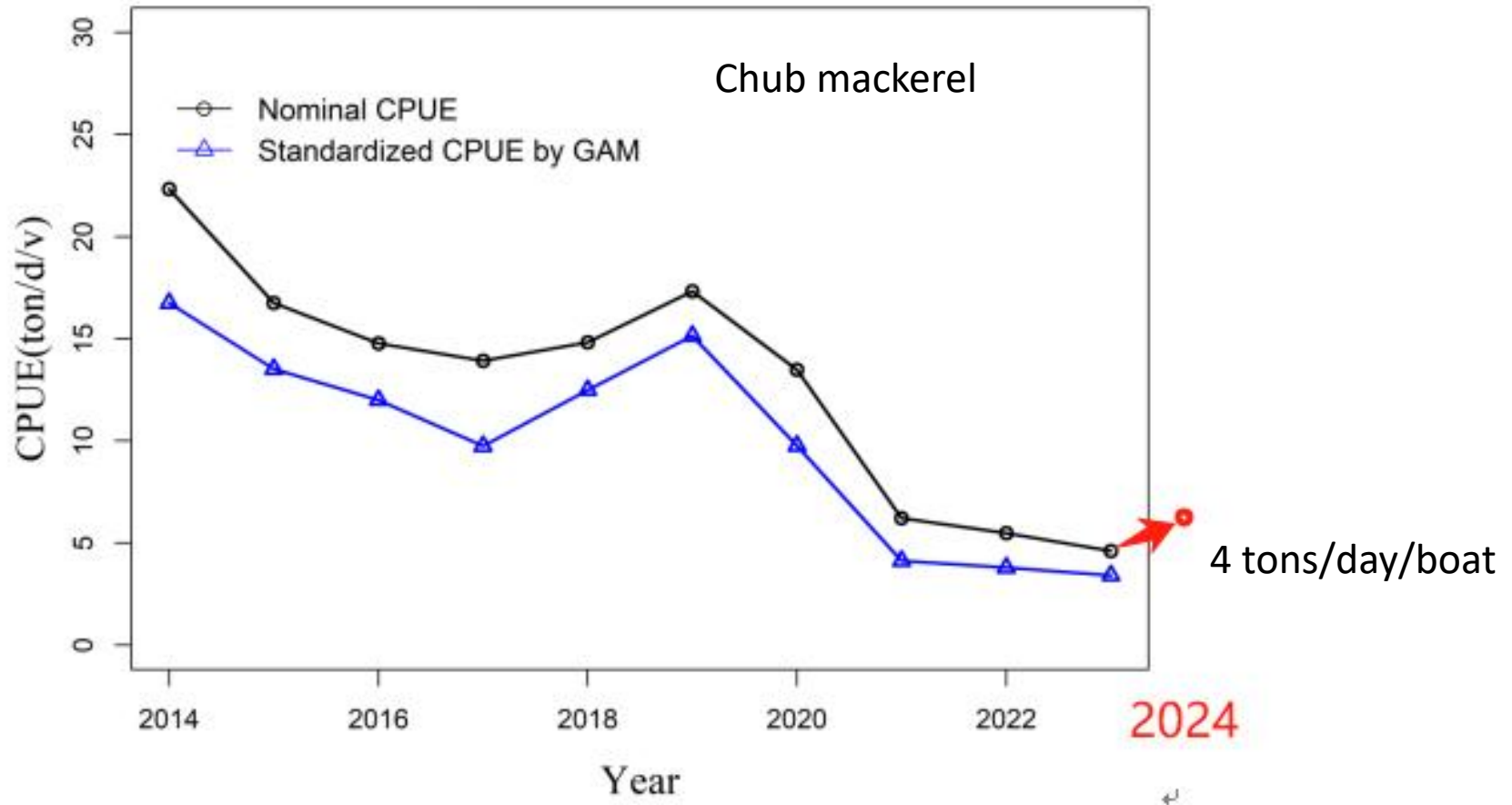


Figure Distribution on the catch (tons) of chub mackerel in China in 2023

The distribution on the chub mackerel in 2024 is likely with 2023 year



**Recently, the nominal CPUE of the species is decreasing from 2019 to 2023. But in 2024, the CPUE increased slightly than which in 2023.**



Year	日本鯖 chub mackerel	澳洲鯖blue mackerel	NPFC footprint汇总 的鲈鱼Total Catch (tons)
2014	26133	2904	29,037
2015	125965	13996	139,961
2016	125835	17159	142,994
2017	146240	9334	155,574
2018	113489	16958	130,447
2019	57284	7080	64,364
2020	78403	14053	92,456
2021	101770	6496	108,266
2022	83142	27714	110856
2023	42011.1	6839.0	48850.0911
2024	68025.1	4342.0	72367.136

The proportion of Blue mackerel to mackerel catch in 2024 is 0.06

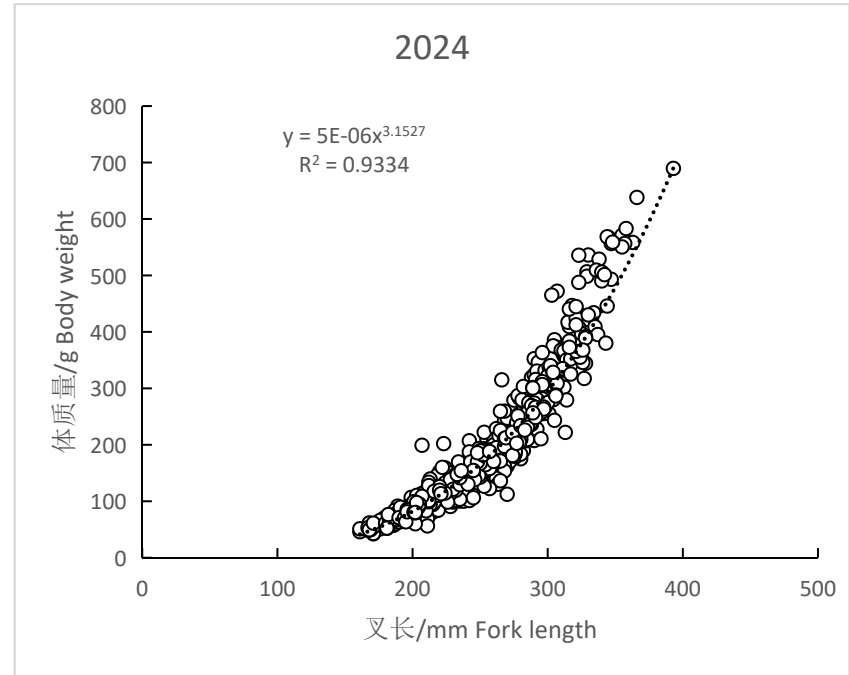
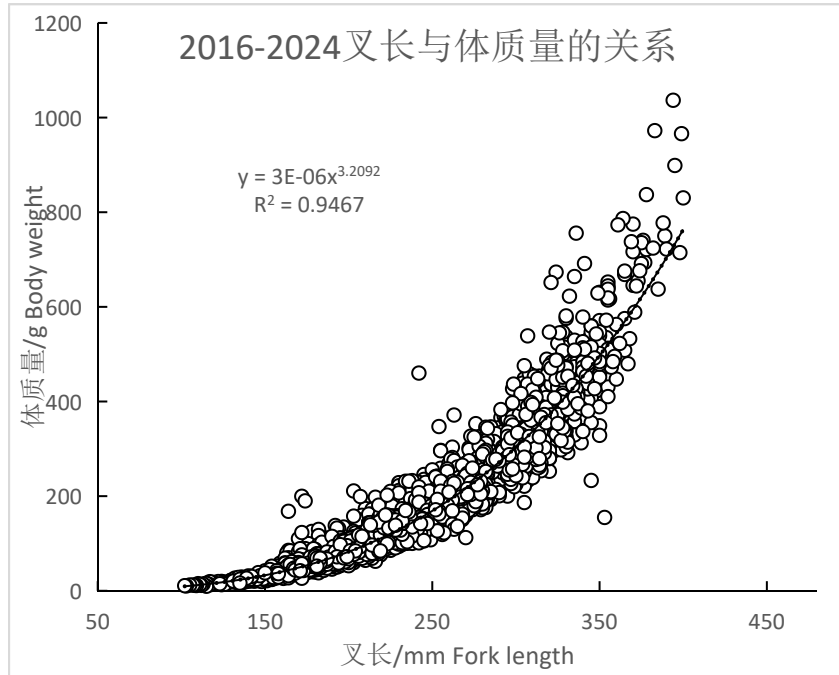
### 3. Fisheries data collection and research activities

- Population biology

In 2023, the average length was 235.5mm, which is a little larger than that in 2022. In 2024, the average length was 249.8mm



- Relation between weight and fork length



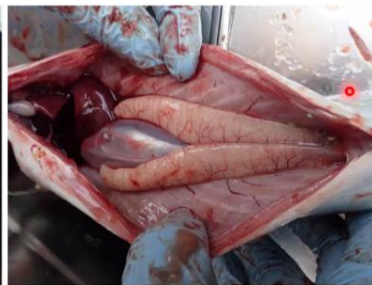
Length-weight relationship of China's chub mackerel

# Biological and Aging method

- Fork length (mm), weight(g)
- Maturity: The maturity of gonads is divided into I-V Phase by visual observations. **Phase III as a sign of maturity**. Phase III: Individuals whose gonads are maturing. The gonads are already well-developed, and the ovarian volume increases, accounting for 1/3-1/2 of the entire abdominal cavity. The naked eye can clearly see that the ovaries are filled with opaque slightly white or light yellow or orange egg granules.
- Maturity at age: 0-1+age individuals are not maturity, 2 + age individuals at least 30~40% have matured, 3 + age individuals are almost matured, larger than 4 age are 100% maturity. The situation varies every year.



III stage



IV stage



V stage



V stage

V期, 卵巢, 日本鰻



# Aging- otolith age rings reading method

Table 4 Sample sizes of age determination

Year	month	samples	individuals
2017	December	2	40
2018	April to October	14	260
2019	April to November	16	469
2020	April to December	18	322
2021	April to November	23	255
2022	April to December	25	235

In 2023, we increased the number of otolith measurements to 500+

In 2024, the number of otolith measurements is 600+

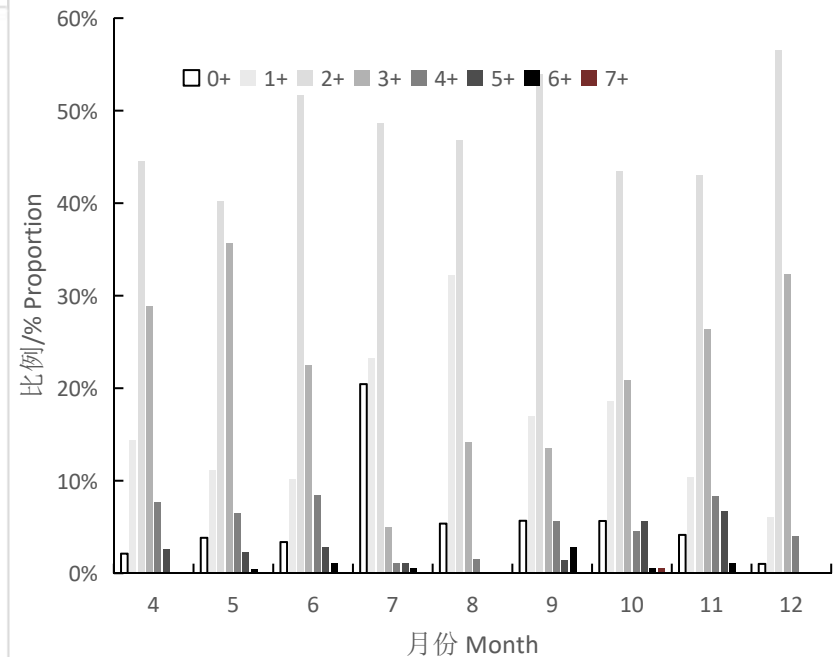
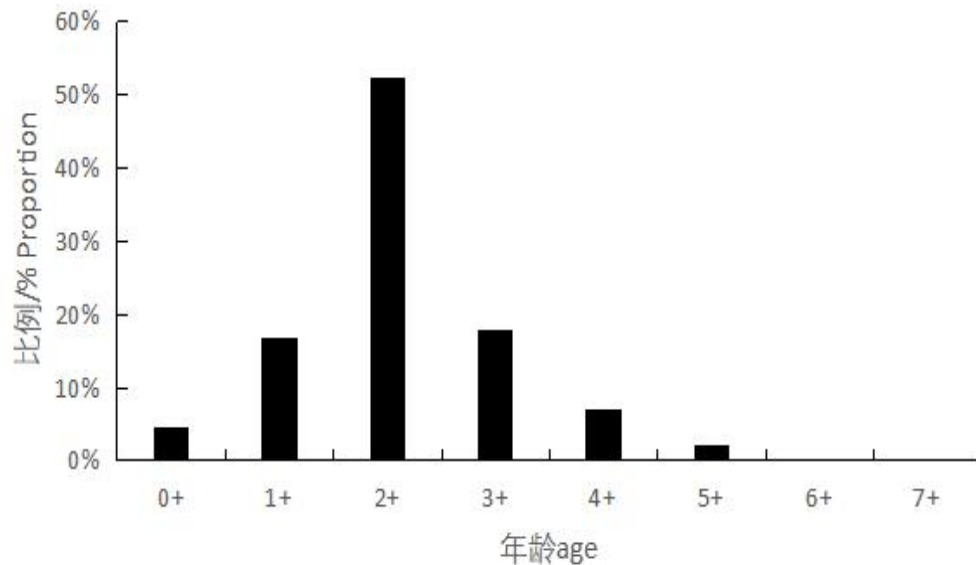
# ALK table

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
1	2024		Age and quantity of otoliths in each fork length group																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

1-3 years old individuals is the dominant age group, FL 19~34cm is the dominant length group.

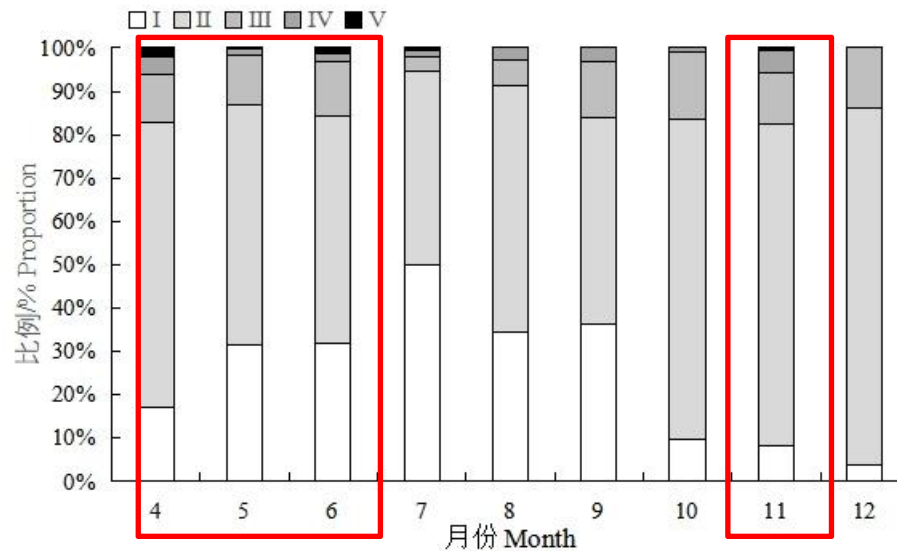
# Changes in age composition

2024年日本鲭年龄结构比例



- In 2024, the main individuals at age range from 1+ to 3+. Similar to other years
- The higher proportion of young individuals in the lower age (lower than 2 years old) group from July to August indicates that they migrated to the open sea during this period

### Gonadal maturity satge



### Gonadal maturity of female *Scomber japonicus* by month

Generally, unmatue individuals mainly appear from May to September, which may be related to an increase in the proportion of juveniles. However, the proportion of mature individual with gonadal development is relatively high in spring and early summer (April to June) and autumn (October to November)



# Research activities and training

- ◆ Collection and analysis of all fishing logbooks every year
- ◆ Research Specialist Staff went to fishing vessels or in the ports to collected the samples data
- ◆ Monitor the monthly ratio of chub and blue mackerel catch
- ◆ Biological feature monitoring



# Conlusions

- China's production of chub mackerel in 2024 will increase compared to 2023, with a slight increase in nominal cpue.
- The distribution of fishing grounds for Chub Mackerel in China in 2024 is similar to that in 2023.
- The proportion of mature individual with gonadal development is relatively high in spring and early summer (April to June) and autumn (October to November)

A large photograph of a sunset over the ocean. The sun is a bright orange orb on the horizon, with a long, shimmering reflection on the dark blue, choppy water. The sky is a mix of orange, yellow, and blue, with scattered white and grey clouds. In the center of the image, there is a red text overlay.

- Thank you very much!

