

# Recent fishery and stock status of chub mackerel from Japan

(NPFC-2020-TWG CMSA03 Item 6)

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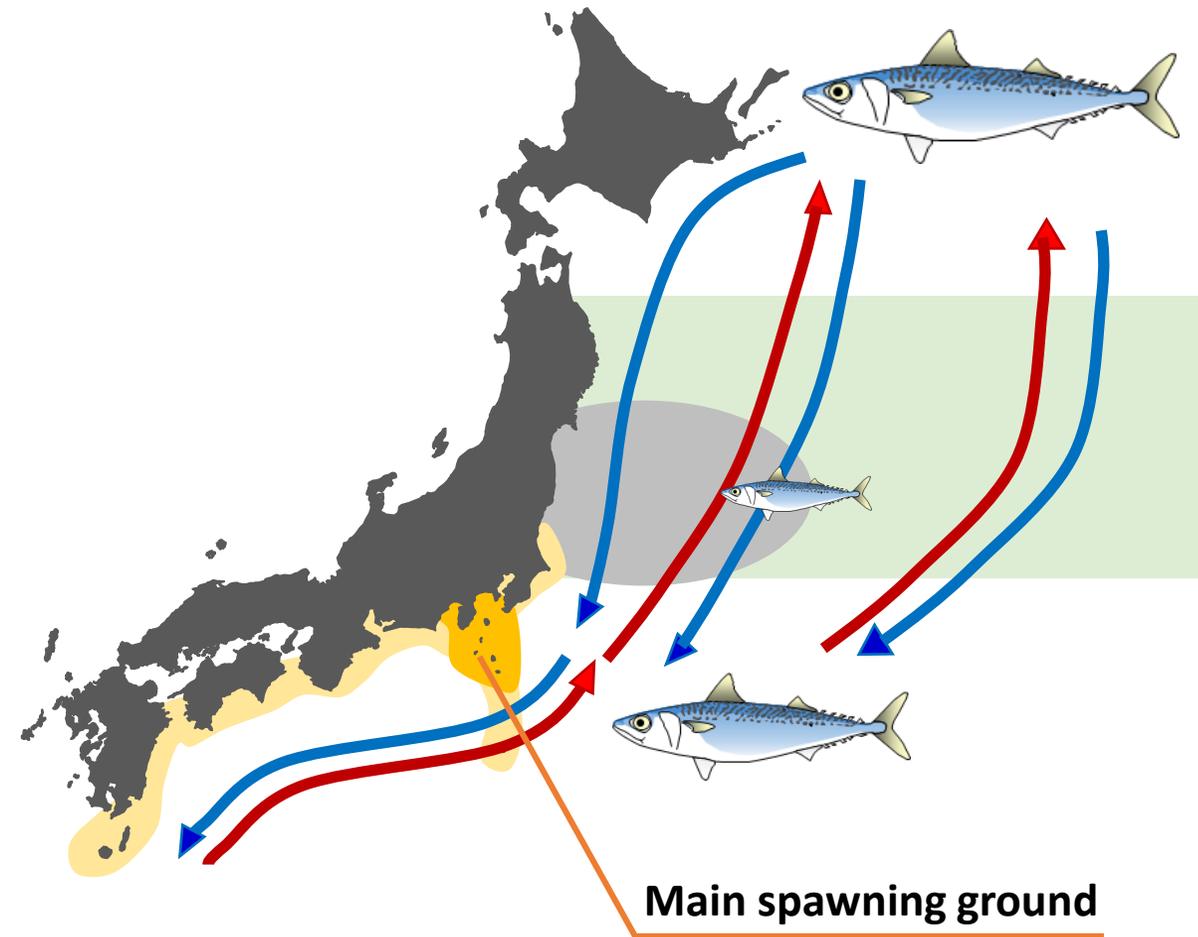
JAPAN

# Overview

- Brief review of chub mackerel in Japan
  - Biology
  - Fishery
  - Survey & Research
- Recent update of chub mackerel in Japan
  - Fishery

# Biology of chub mackerel

- Spawning ground
  - Along the Pacific coast of Japan
  - Main spawning ground around Izu Islands
- Recruitment
  - Age-0 recruitment to fishery in July
- **Northward migration**
  - For feeding, from April to July
- **Southward migration**
  - For wintering, from August to March
- Wintering ground
  - Joban-Boso region, for immature fishes



# Japanese fishery activities

- Purse seine
  - Operates in the northern district of Japanese water (Northern purse seine)
  - Catches CM within Japanese EEZ
  - The largest source of catch of CM in Japan
- Dip net
  - Catches fishes using hand-held dip-net
  - Catches adults in spawning season
  - CPUE used as index for SSB
- Others (Set net, Fishing, Bottom trawl)



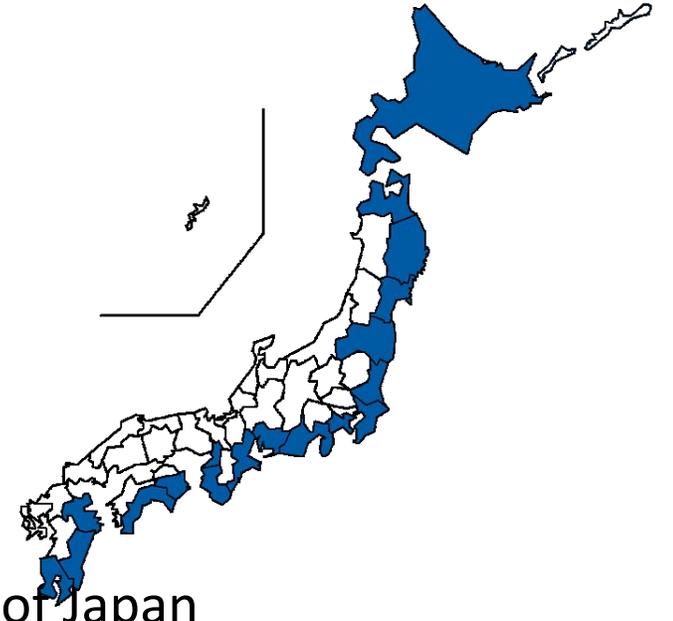
▲Purse seine operating in the Northern Pacific District

▼Dip net fishery harvesting on chub mackerels

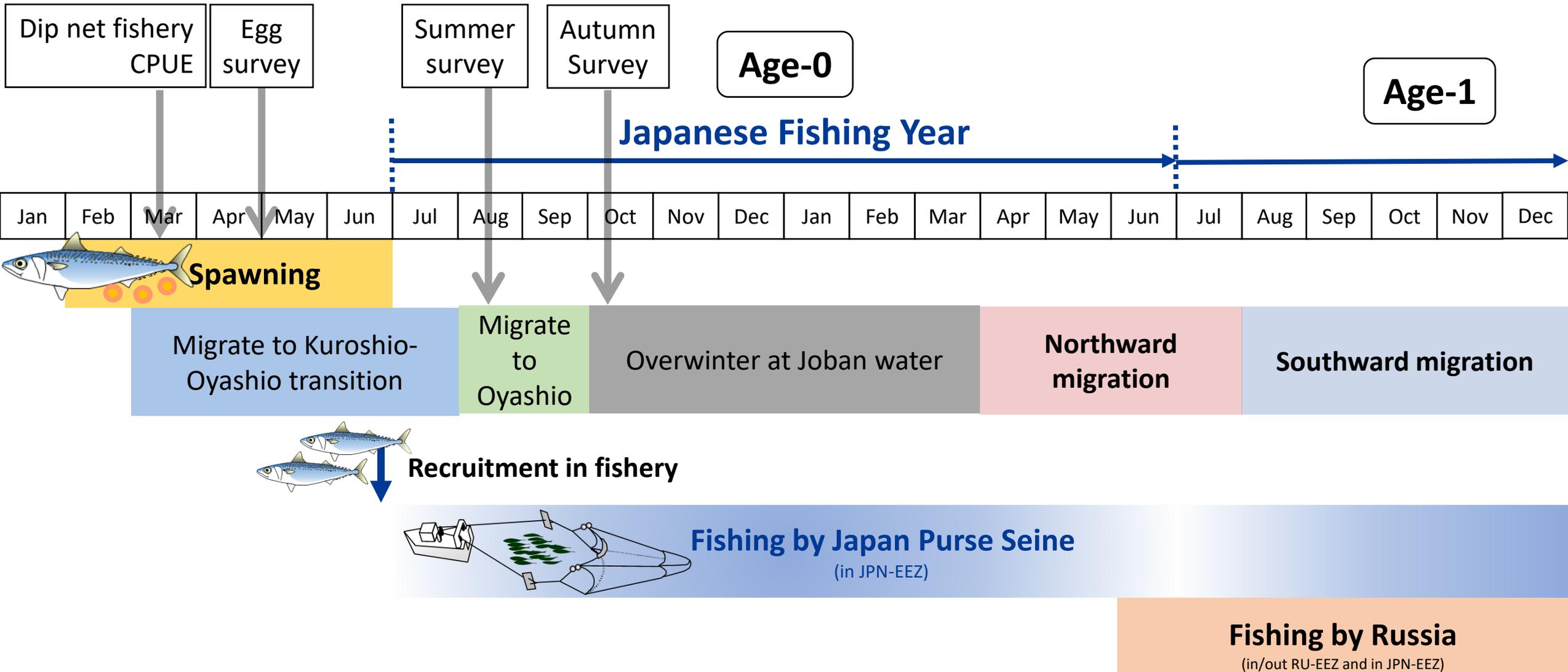


# Japanese survey activities

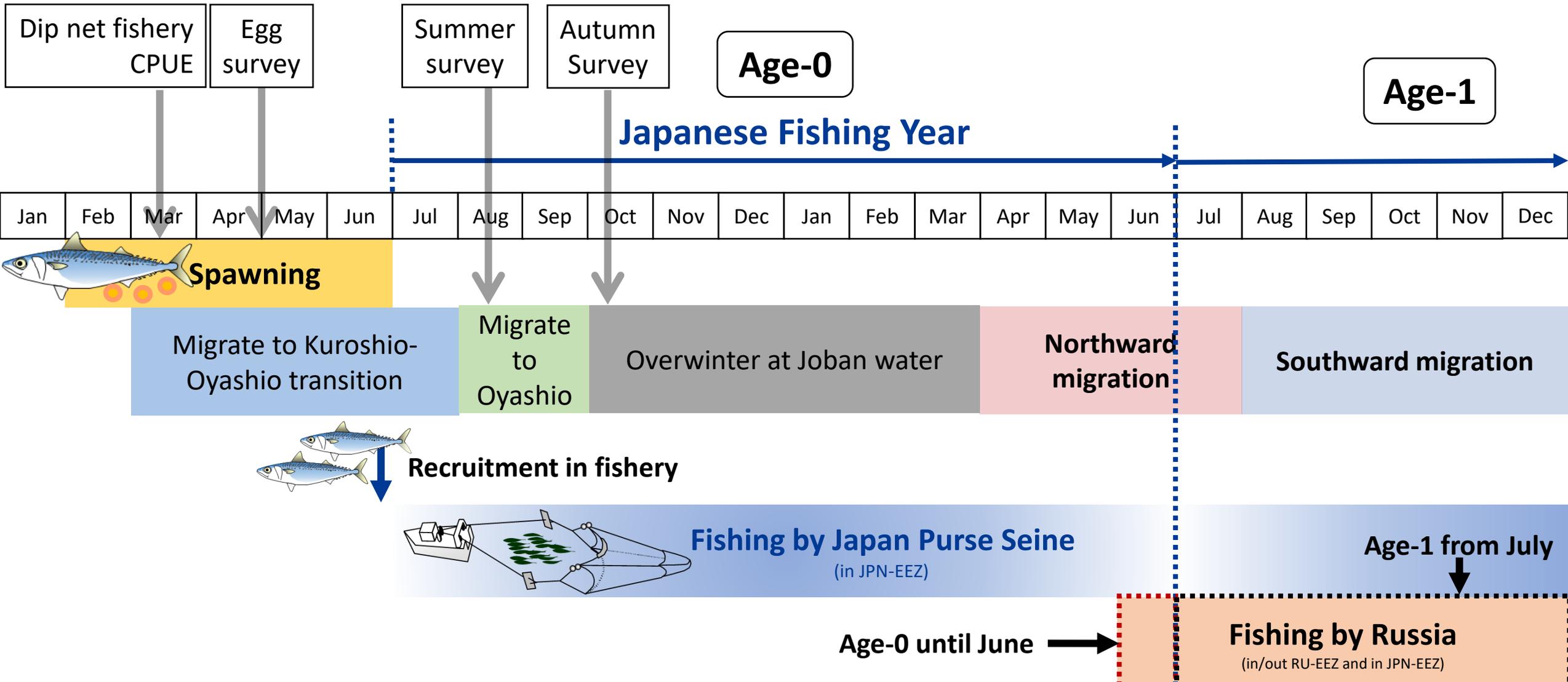
- Two midwater trawl surveys by research vessels
  - Summer
  - Autumn
  - Sample age-0 chub mackerels to estimate recruitment
- Egg survey
  - Conducted by joint venture institutions along the Pacific coast of Japan
  - Collect eggs to estimate SSB
- More details will be explained in the latter presentation!
  - Estimating catch-at-age, length frequency, etc.
  - Fishery dependent/independent indices



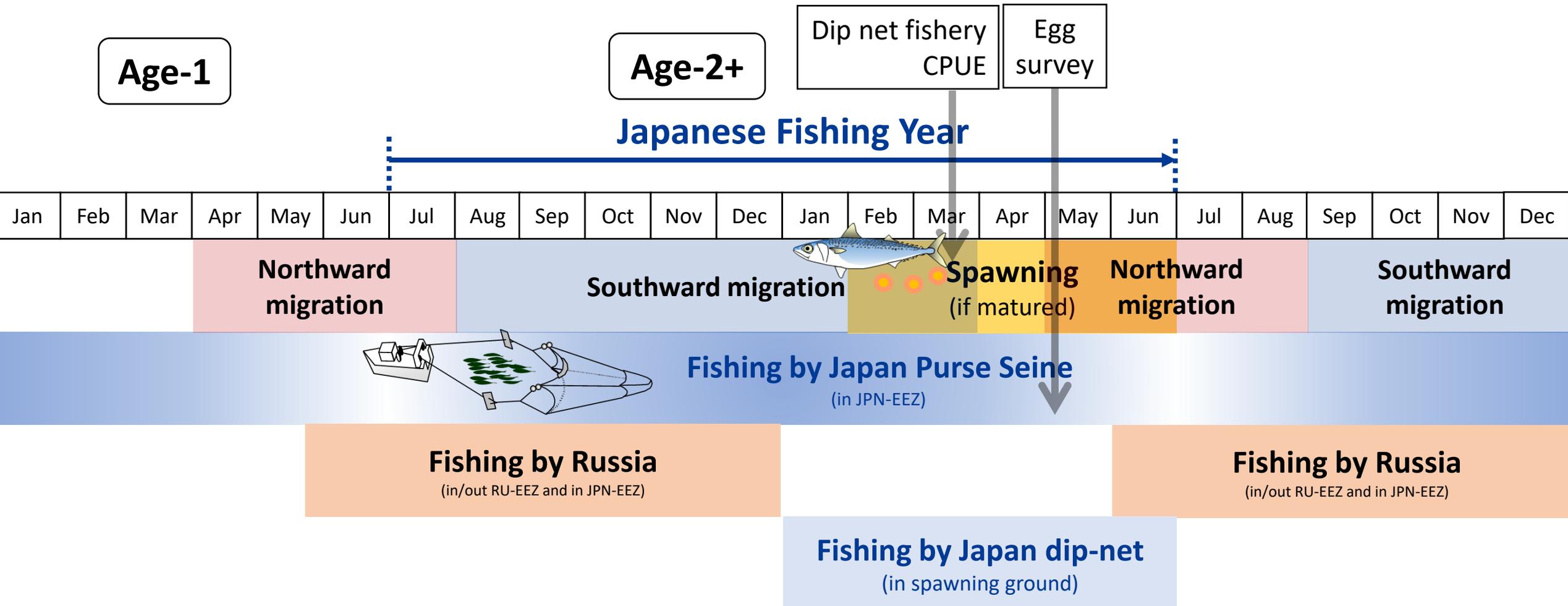
# Chub mackerel calendar ( ~Age-1)



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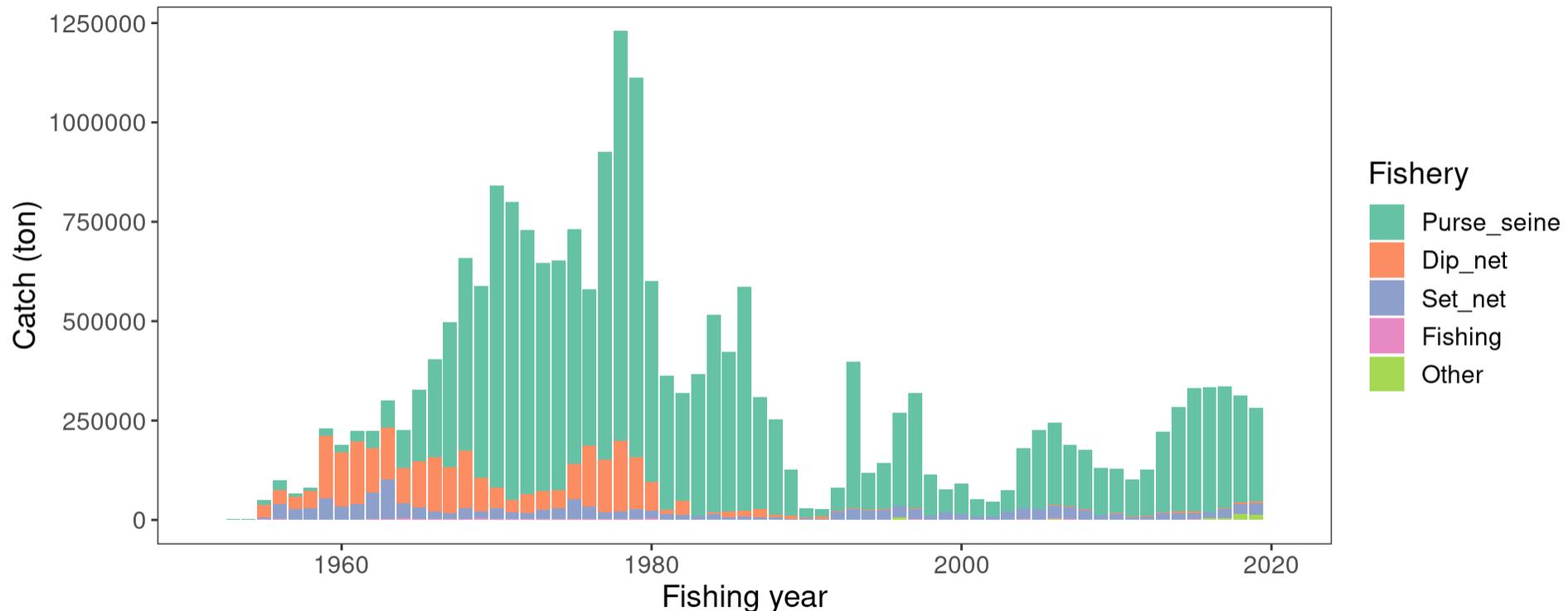


# Chub mackerel calendar (Age-1~)



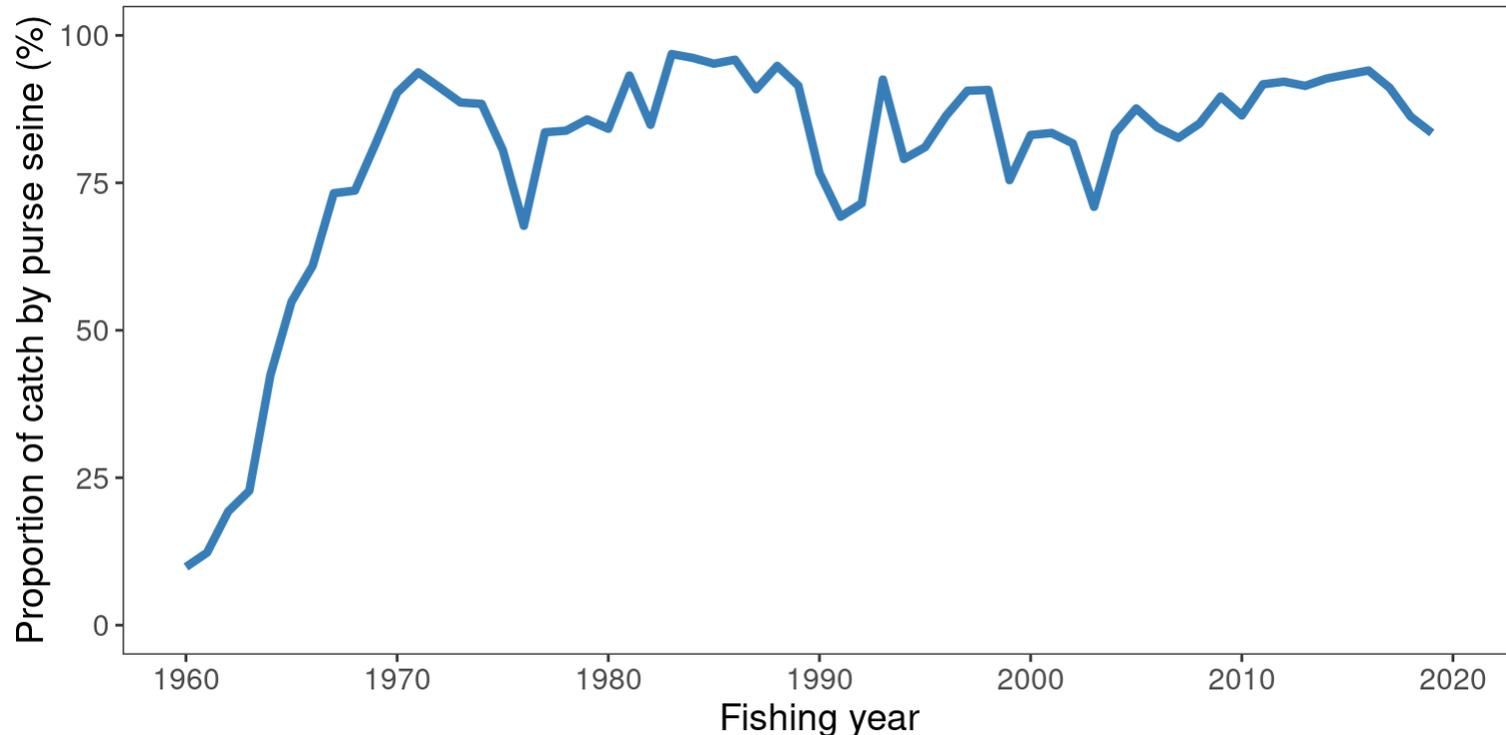
# Updates on Japanese fishery

- Catch in 2019 fishing year was 283 thousand tons
  - Slightly lower than 2018 (314 thousand tons)
  - Purse seine as the largest source of catch in 2019 (236 thousand tons)
- Since 1970s, purse seine catches more than 70% of the catch



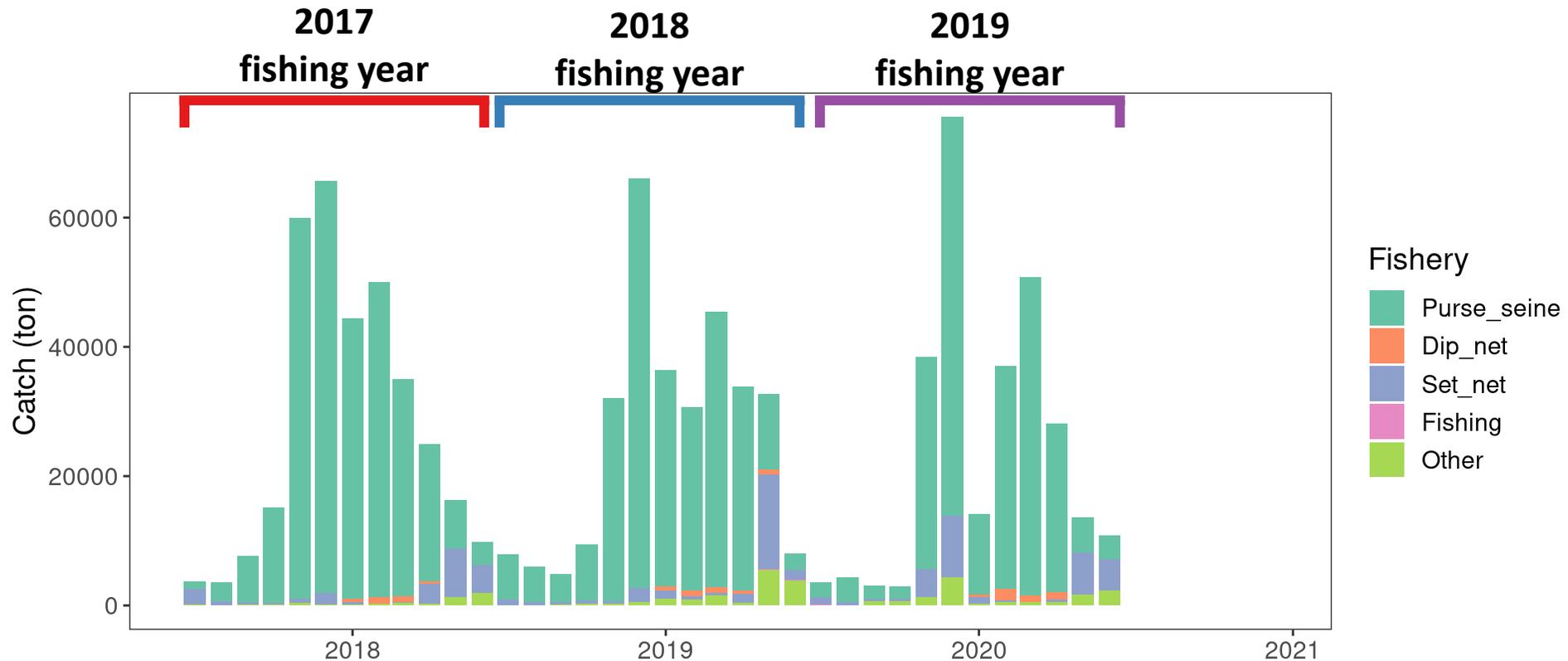
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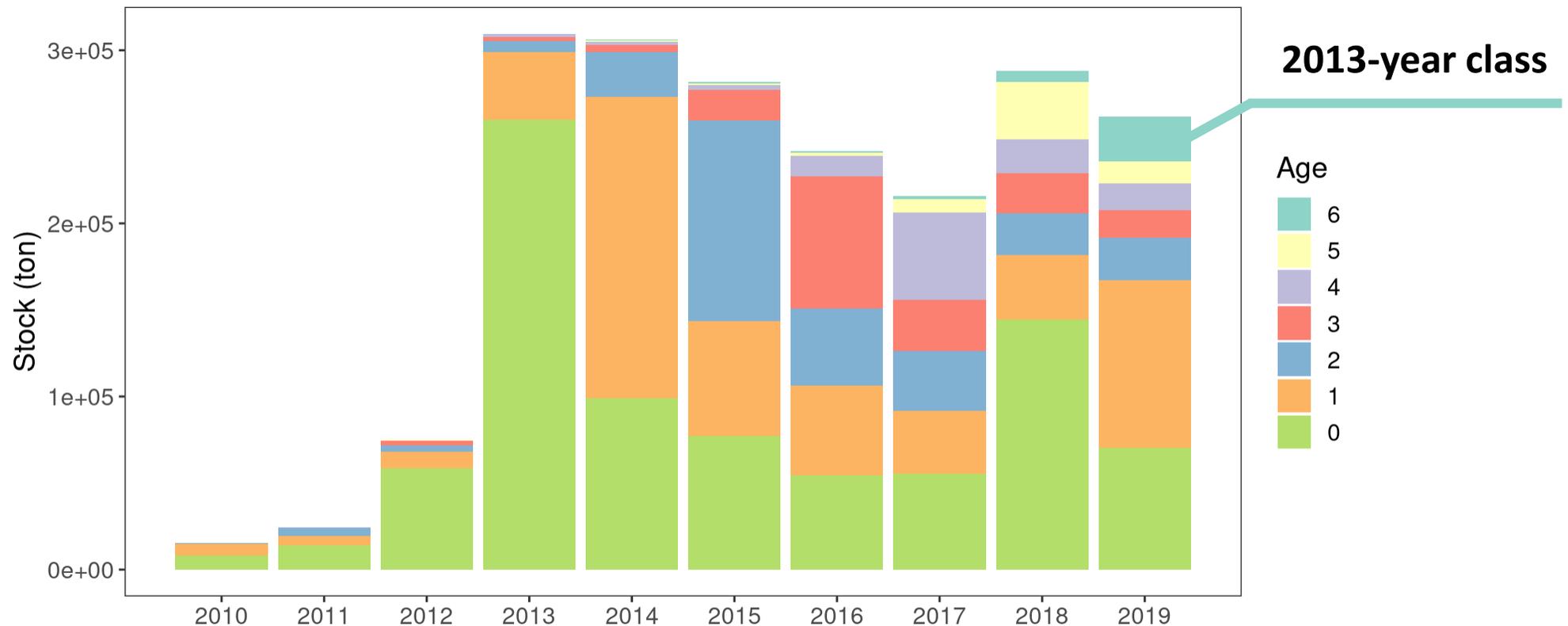
# Updates on Japanese fishery

- In 2019 fishing year, catch in September and October were low
  - 3137t in Sept and 2966t in Oct
  - 63 % and 31 % of catch from the equivalent month of 2018, respectively
- Large catch was obtained in December 2019 but low again in Jan 2020
  - 14093t, 39% of Jan 2019



# Updates on Japanese fishery

- Strong year class of 2013 is still present in the catch-demographics
- Catch in 2018 & 2019 consist of ages throughout various year classes



# Conclusion

- Catch and catch-at-age data are shown based on fishing year
- The difference in age-counting between calendar and fishing year needs to be understood
- Overall catch in 2019 fishing year was slightly lower than 2017 & 2018
- The catch consists of age-0 to age-6+
- The strong year class of 2013 is still substantial