

Comisión Interamericana del Atún Tropical
Inter-American Tropical Tuna Commission



The tropical tuna in the EPO: summary on the fisheries, assessment and management

1st External review of modelling aspects in stock assessments of tropical tuna in the eastern Pacific Ocean

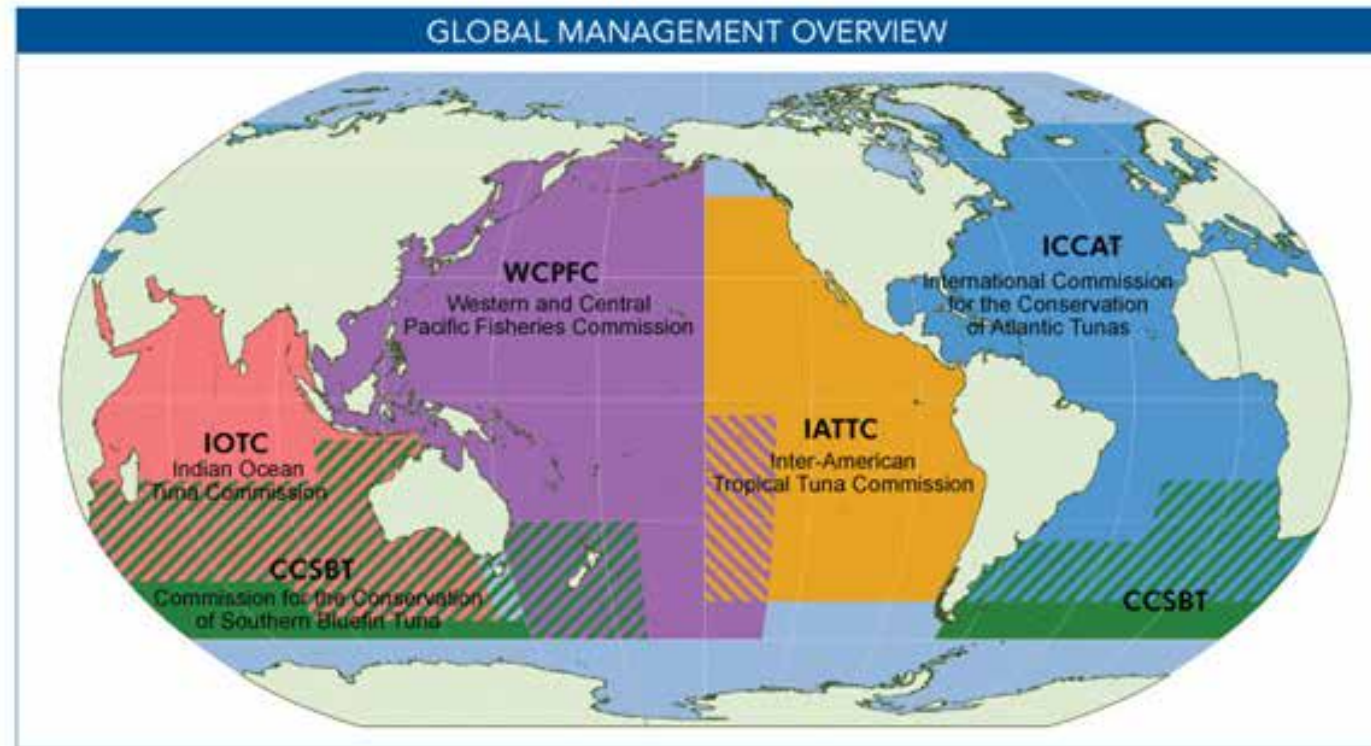
6 - 10 Nov 2023 - Videoconference

Outline

- Background on IATTC
- The tropical tuna fisheries
- Stock assessment process
- Management



IATTC structure: Convention area

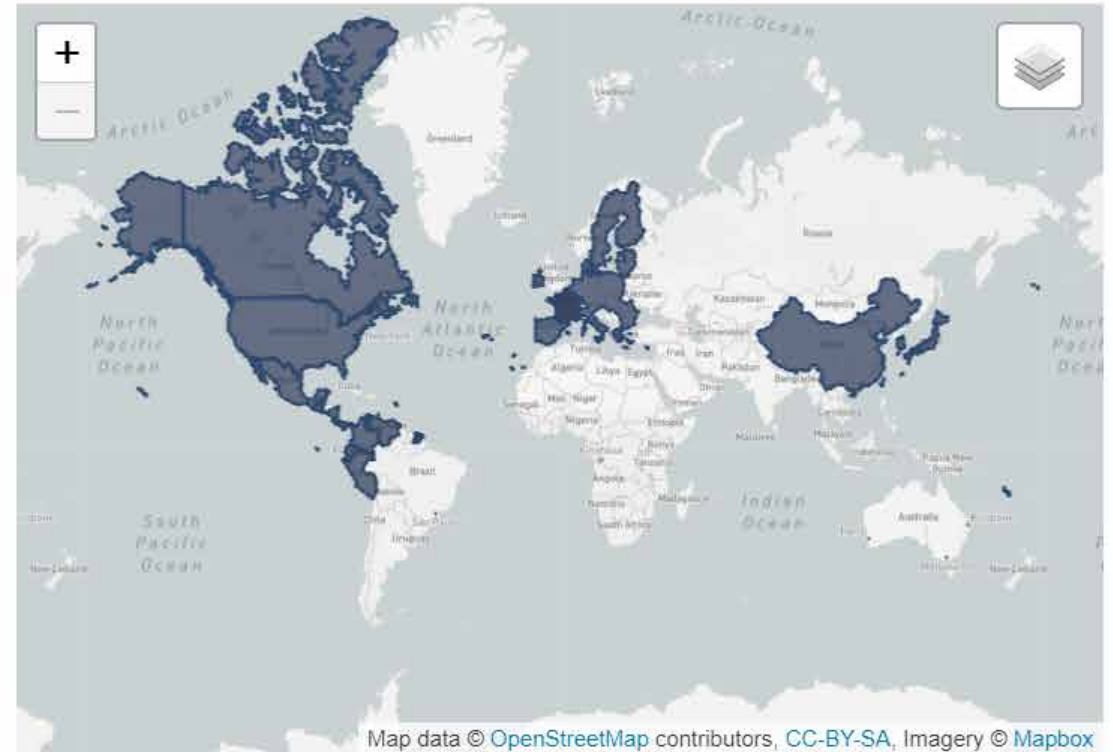


- 1949 Convention: Established the IATTC (signed between US and Costa Rica)
- 2003 Antigua Convention: Ecosystem Approach to Fisheries






IATTC structure: Members

Currently, the members of the IATTC are: 21

 BELIZE	 CANADA	 CHINA
 COLOMBIA	 COSTA RICA	 ECUADOR
 EUROPEAN UNION	 FRANCE (OT)	 GUATEMALA
 JAPAN	 KIRIBATI	 KOREA
 MEXICO	 NICARAGUA	 PANAMA
 PERU	 EL SALVADOR	 CHINESE TAIPEI
 UNITED STATES	 VENEZUELA	 VANUATU

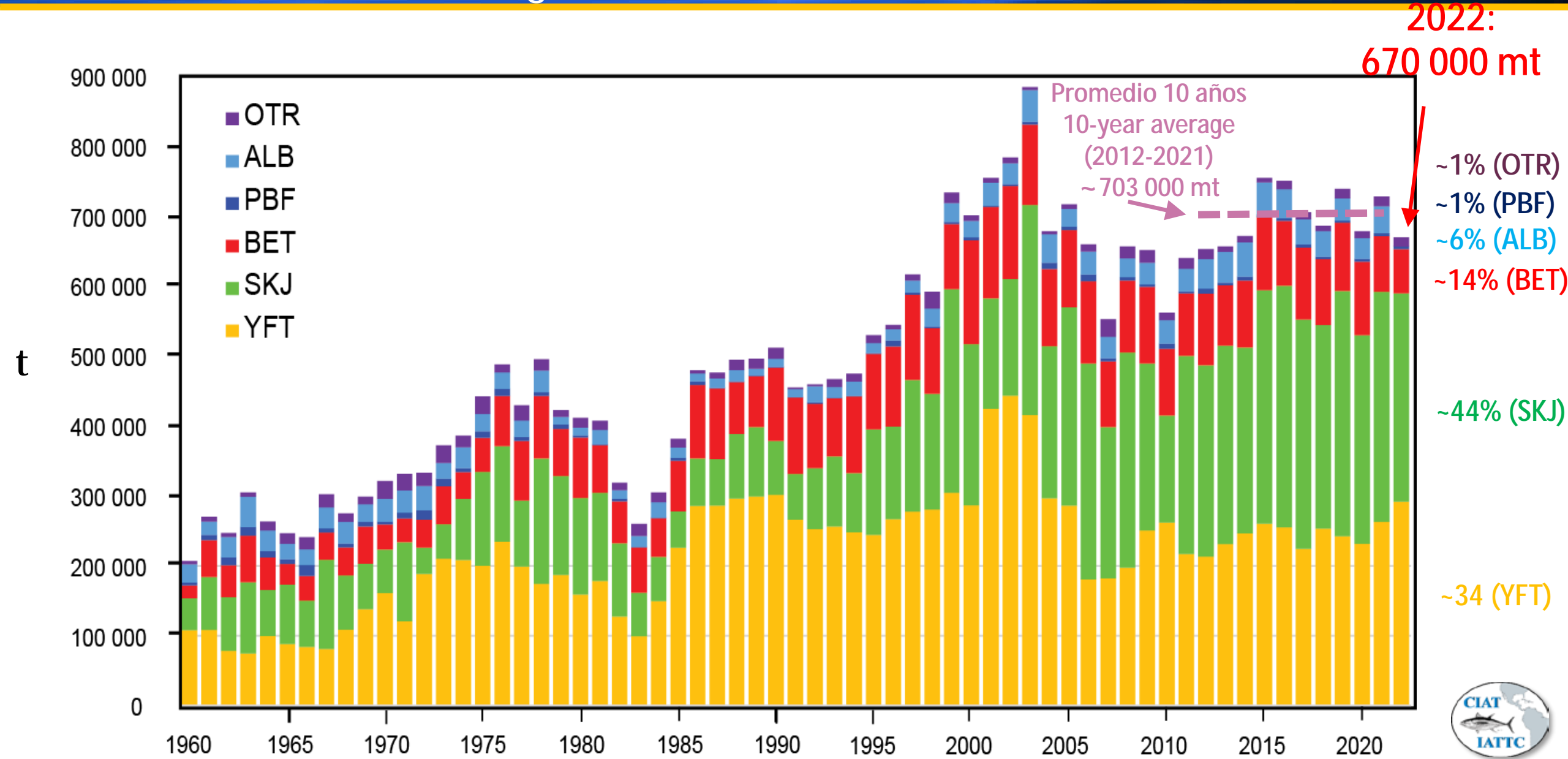


The cooperating Non-Members (CNM) of the IATTC are: 5

 BOLIVIA	 CHILE	 HONDURAS
 INDONESIA	 LIBERIA	

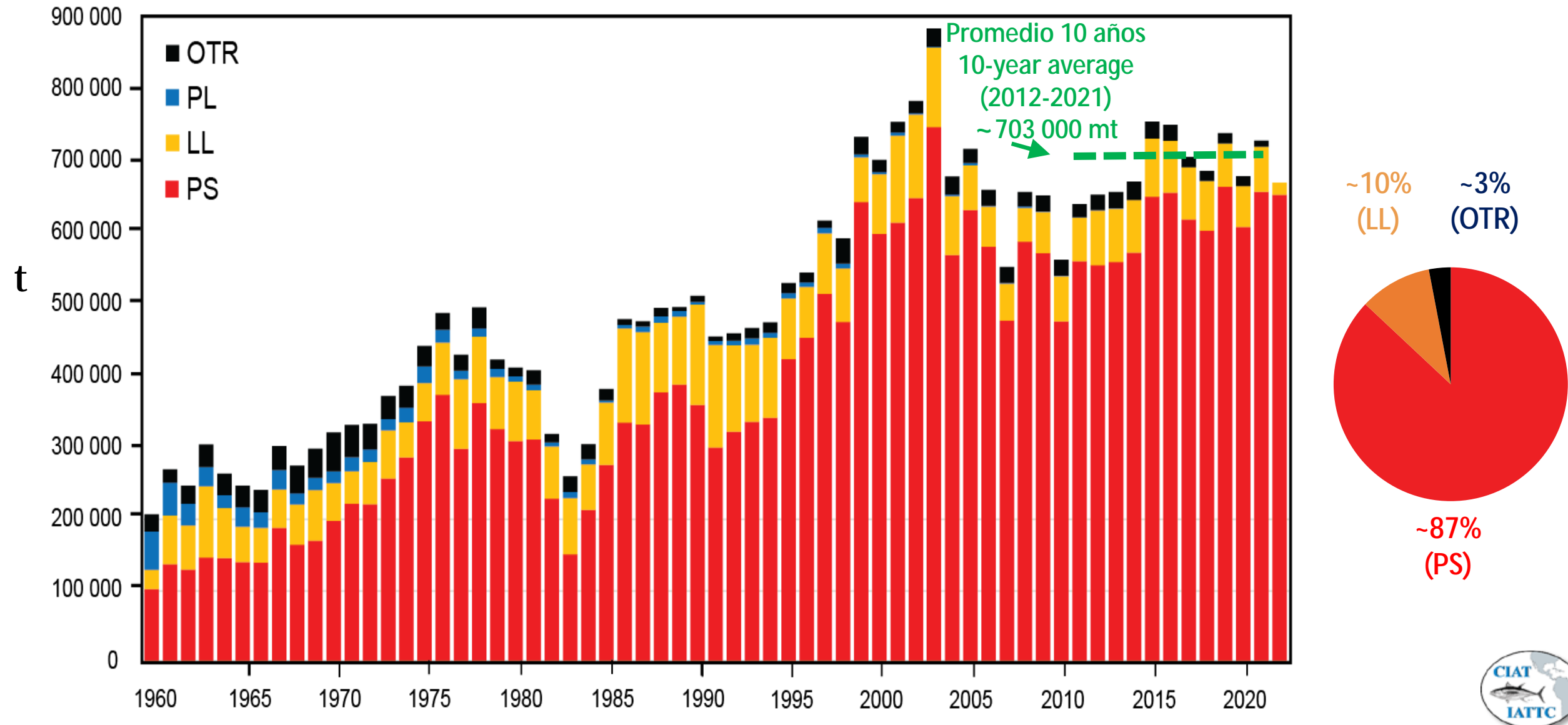
OPO captura retenida – todos los artes

EPO retained catch – all gears



OPO captura retenida – todos los artes

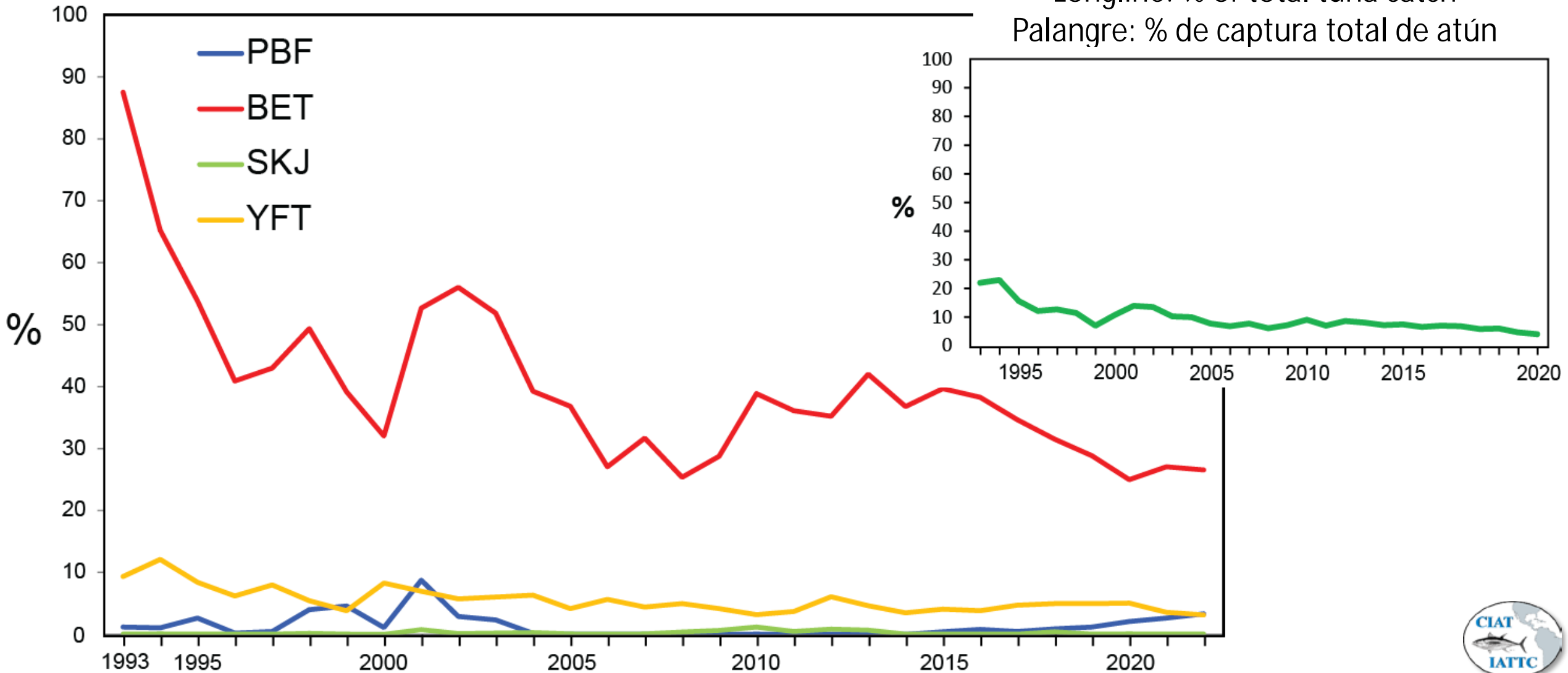
EPO retained catch – all gears



OPO captura retenida por arte/especie

EPO retained catch by gear/species

% longline catch EPO- % captura palangre OPO

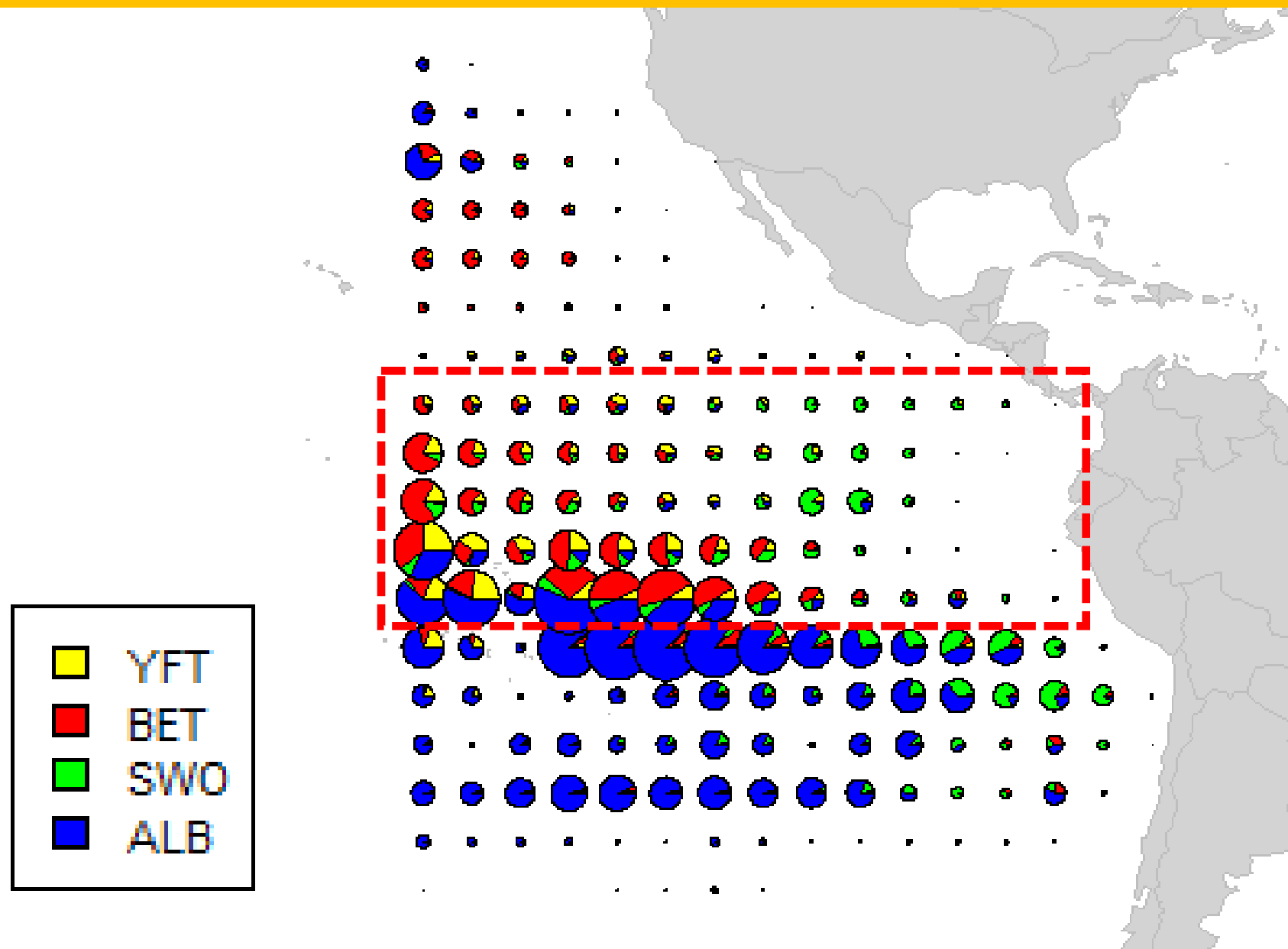


Longline: % of total tuna catch
Palangre: % de captura total de atún



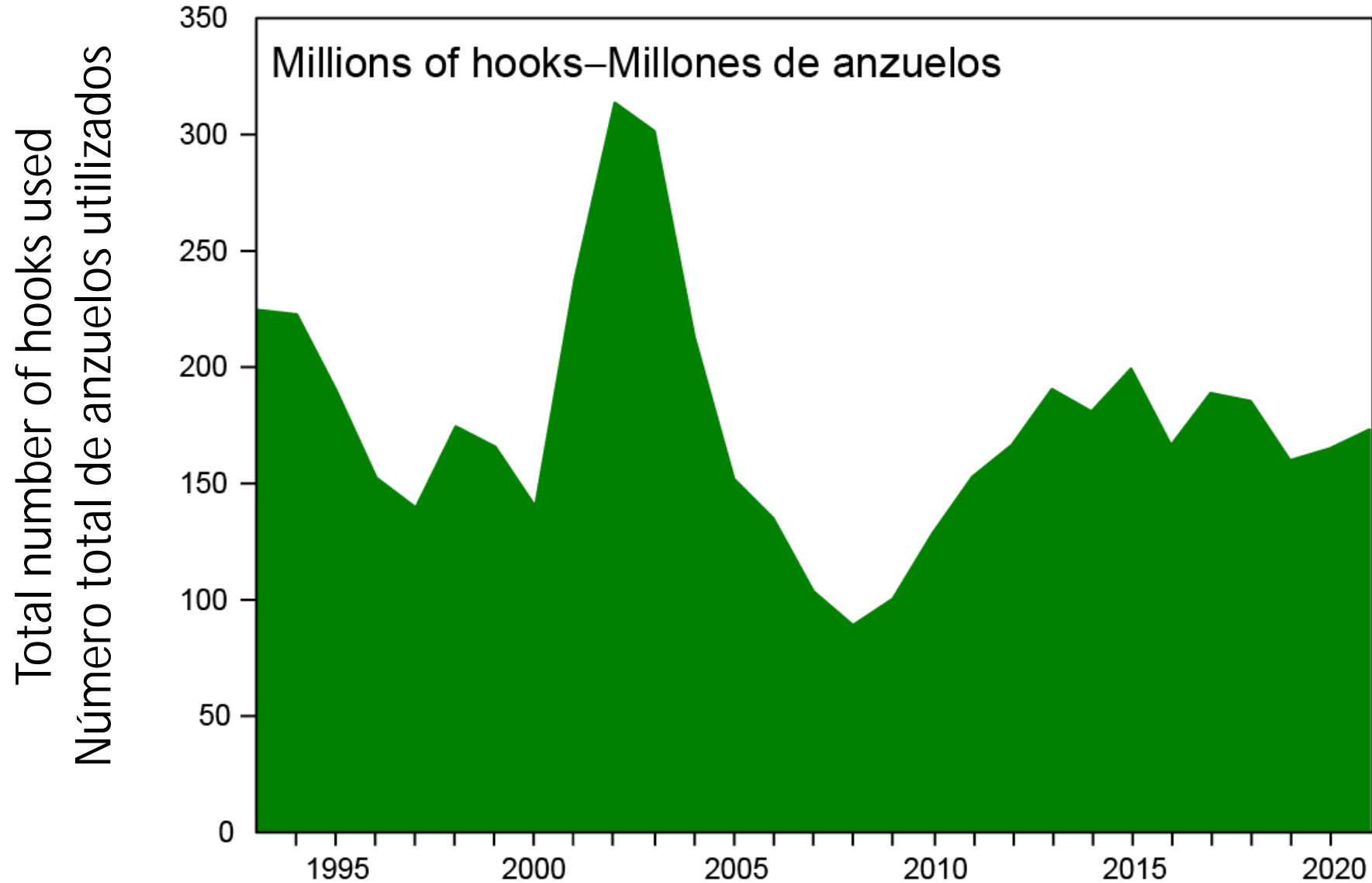
Distribución de las capturas palangreras (2017-2021)

Distribution of the loingline catches (2017-2021)



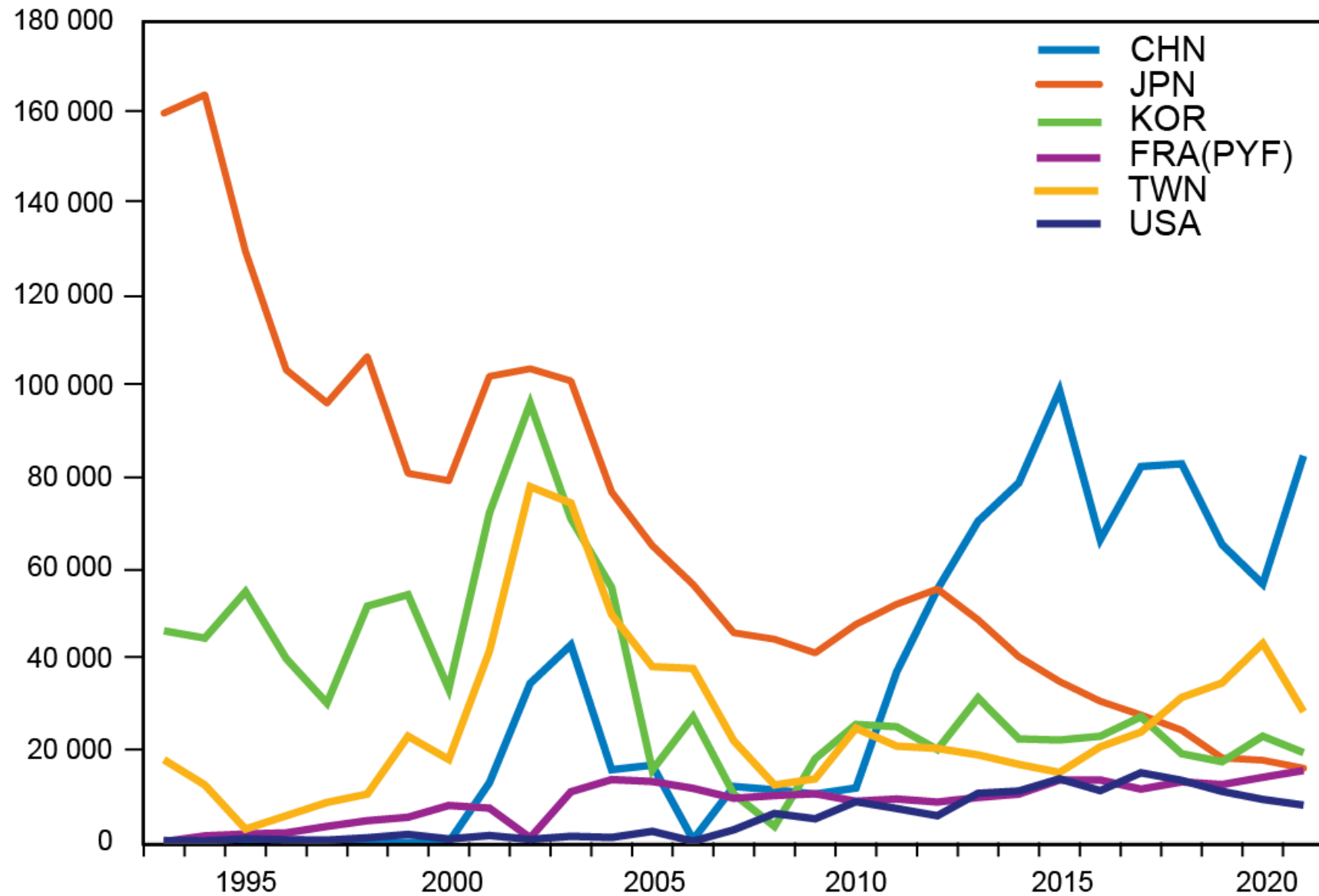
Esfuerzo de pesca: pesquería de palangre

Fishing effort: longline fishery



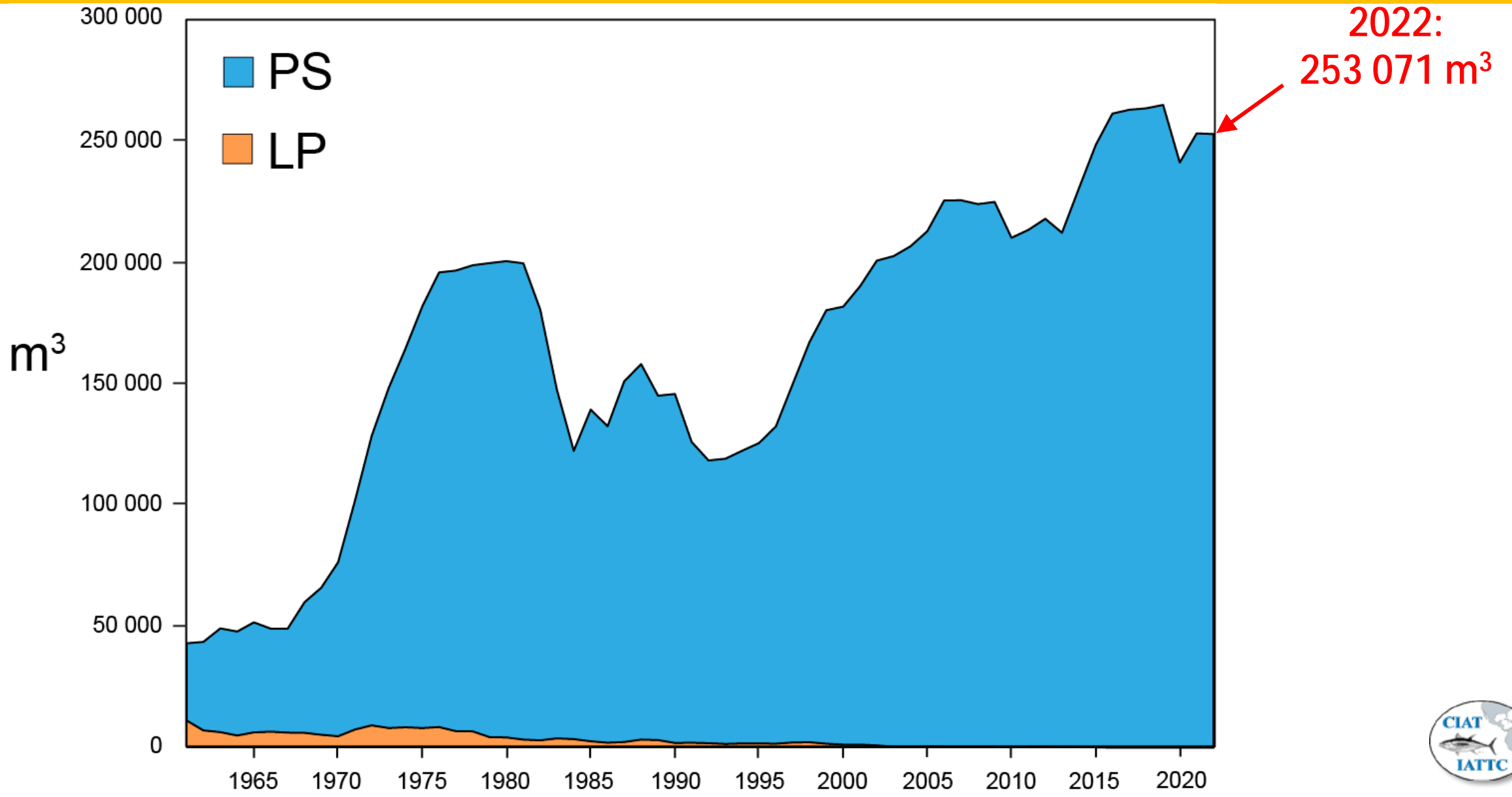
Estuerzo de pesca: pesquería de palangre por CPC

Fishing effort: longline fishery by CPC



Capacidad de la flota

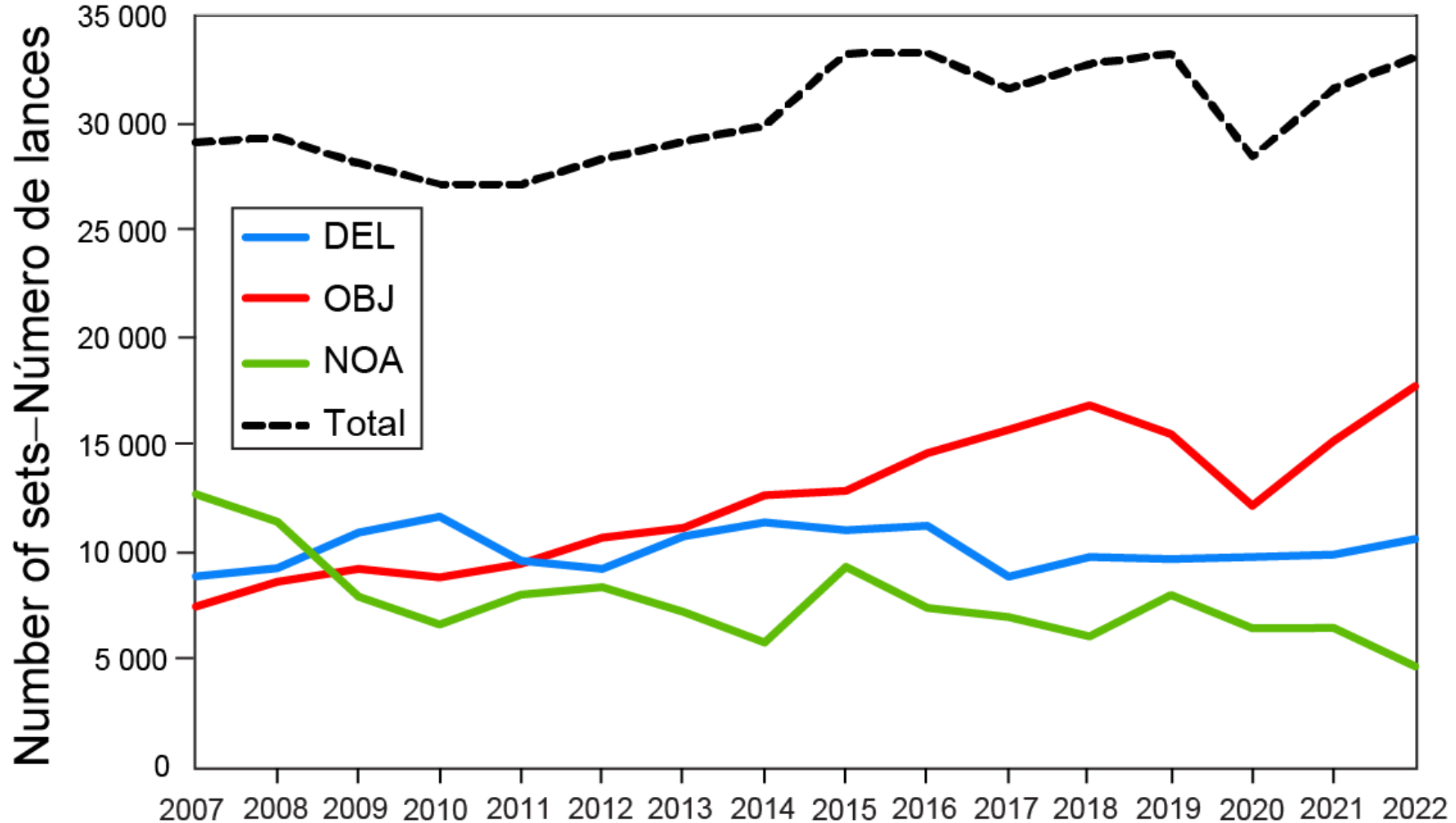
Fleet capacity



Esfuerzo de pesca: pesquería de cerco

Fishing effort: purse-seine fishery

Numero de lances de cerco, por tipo / Number of purse seine sets, by set type



Purse seine tuna fisheries in the EPO

3 set types

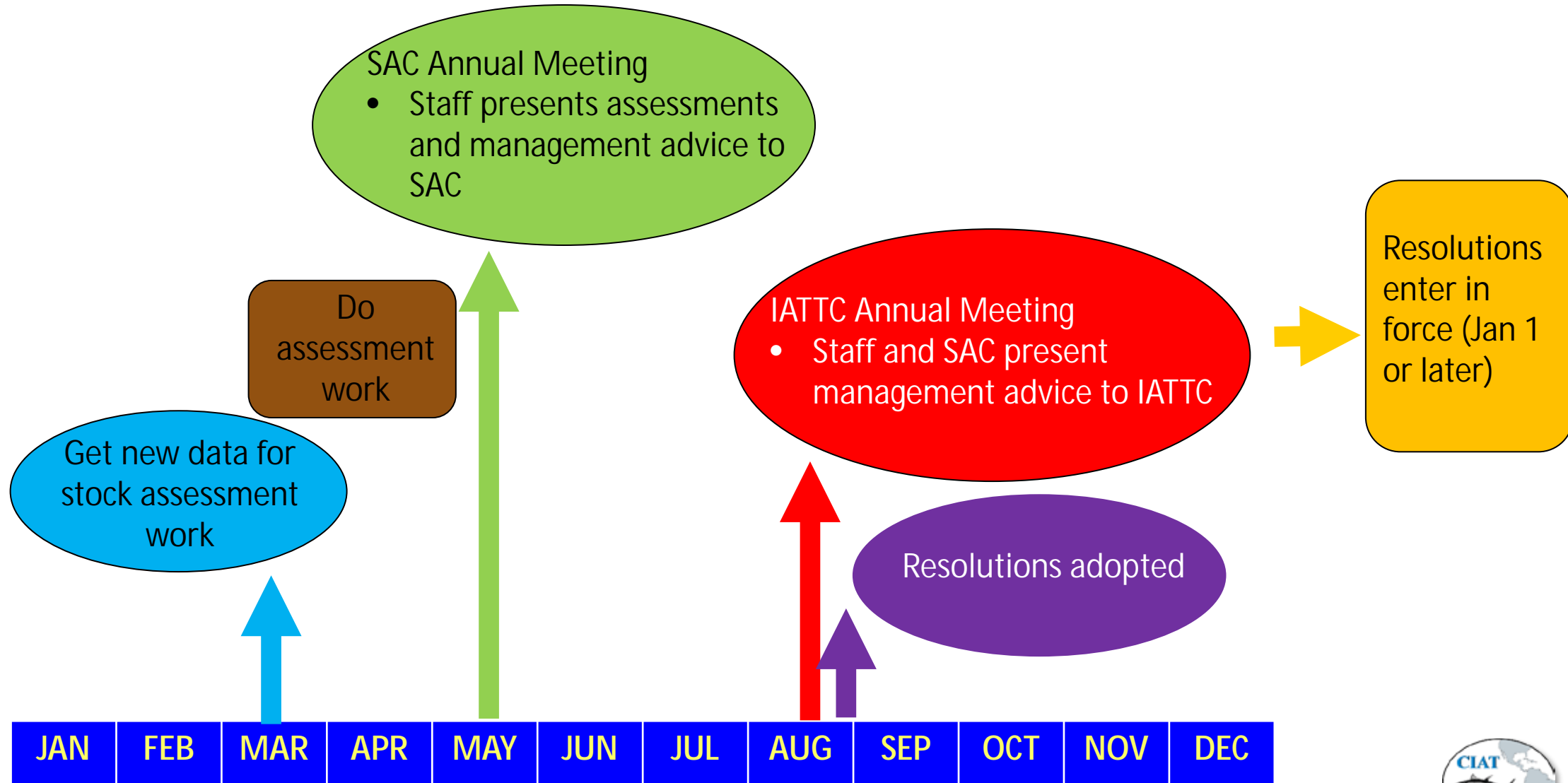


Stock assessments

- Benchmark stock assessments (every 3 years)
 - § Investigate model assumptions and improve methodology
 - § Decide on the base case methodology / model grid (since 2020)
 - § Conduct sensitivity analyses to proposed changes / risk analysis (since 2020)
- Stock status indicators (every year)
- Independent reviews of assessment methods
- IATTC/CAPAM methodology workshop
 - § Selectivity, growth, data weighting...



IATTC calendar year for assessment work and management



Management: Reference points (RESOLUTION C-23-06)

- Limit reference points:

§ $S_{LIMIT} = S(0.5R_0, h=0.75)$

§ $F_{LIMIT} = F(S_{LIMIT})$

- Target reference points:

§ S_{MSY}

§ F_{MSY}

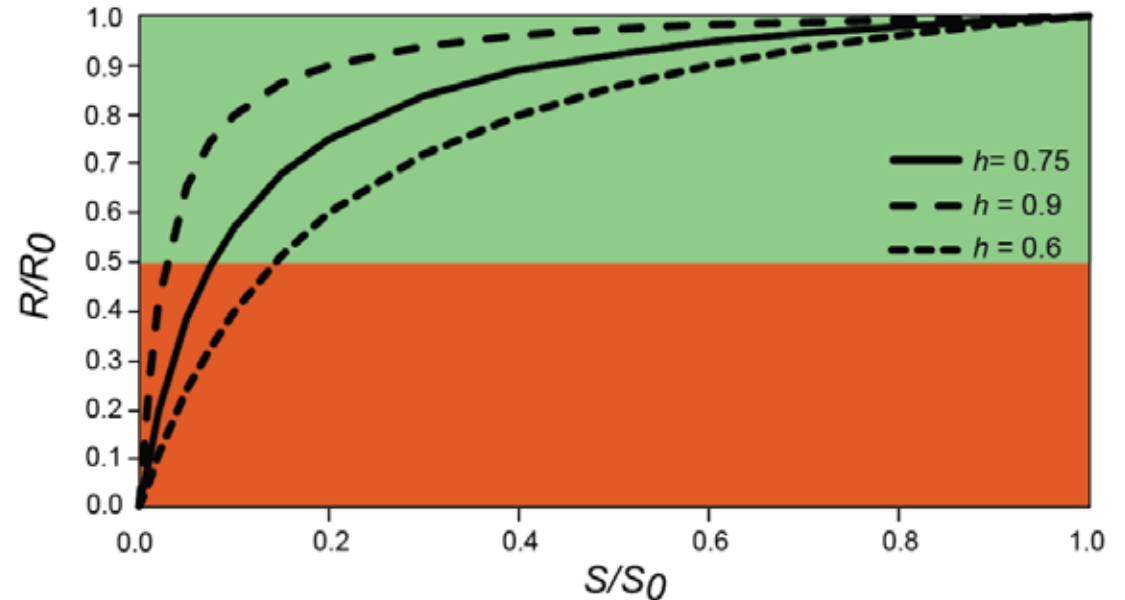


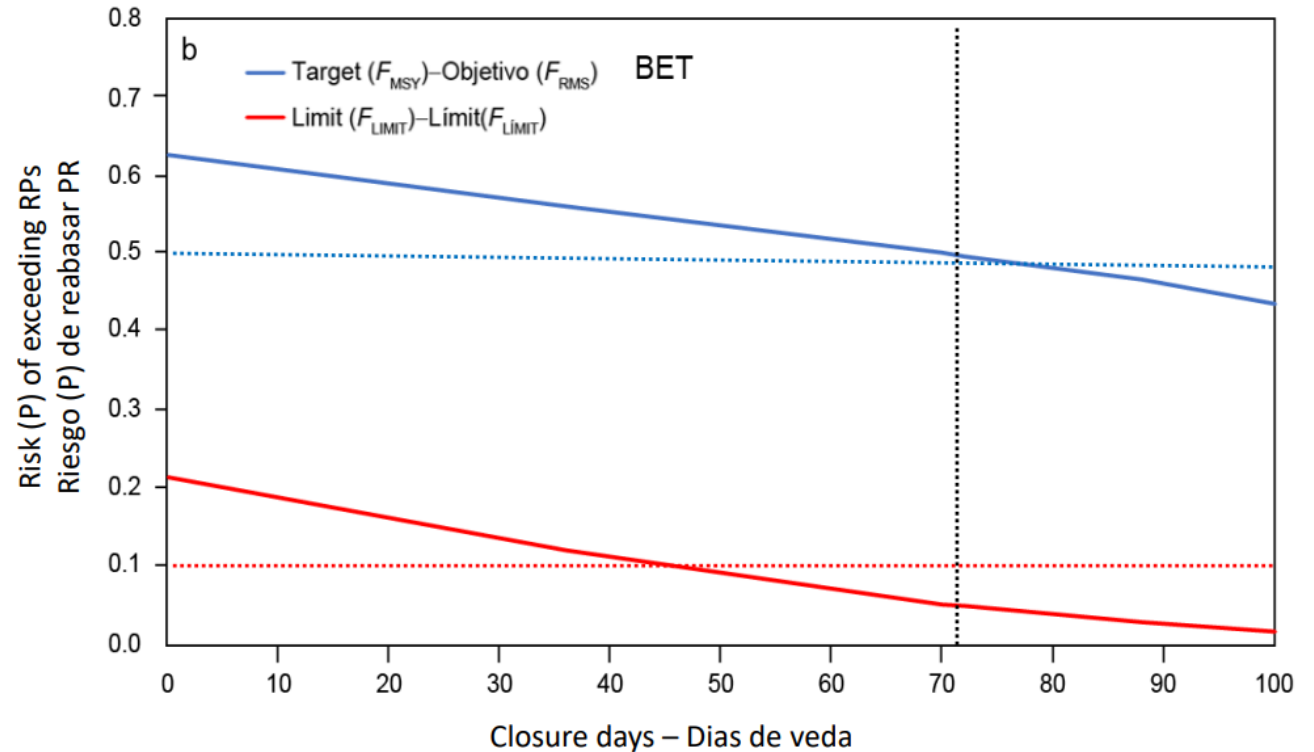
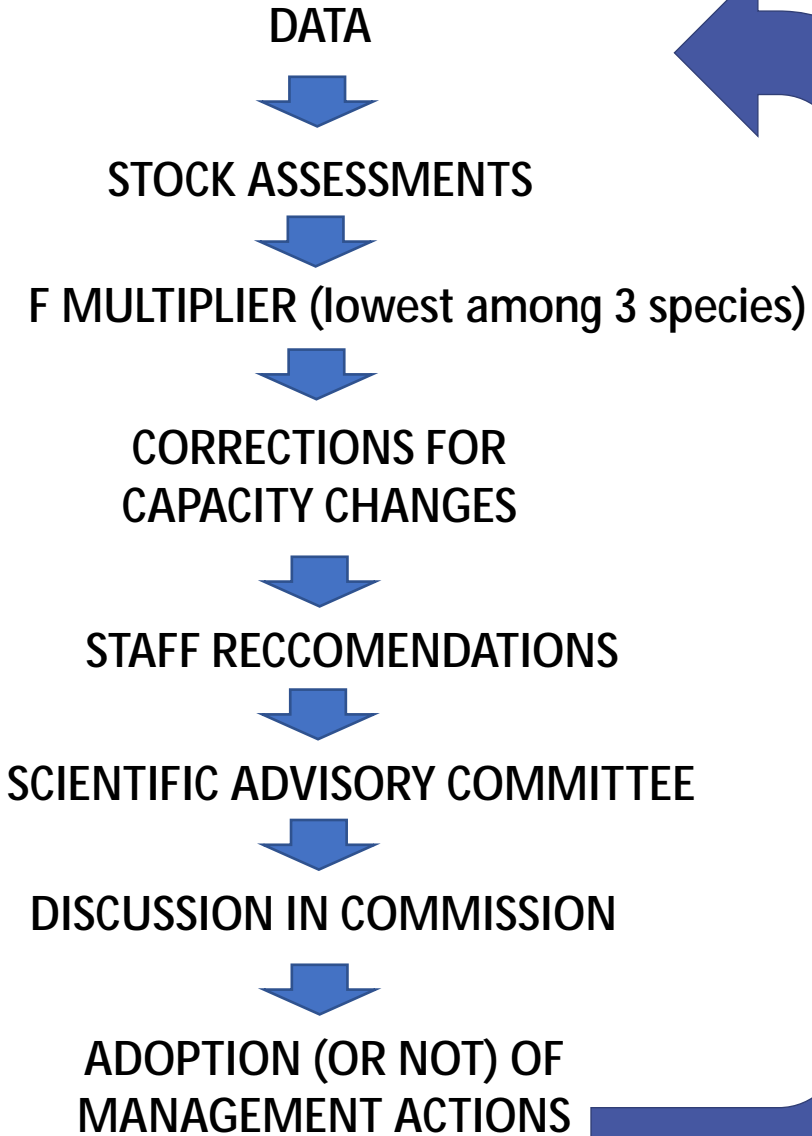
FIGURE 1. The Beverton-Holt stock-recruitment relationship with three different values for steepness (h). The orange area represents recruitment below the LRP definition of $0.5R_0$.

FIGURA 1. La relación población-reclutamiento de Beverton-Holt con tres valores diferentes de inclinación (h). La zona naranja representa reclutamiento inferior a la definición del PRL de $0.5R_0$.

Management: Harvest control rule (RESOLUTION C-23-06)

- For the species requiring the strictest management: measures should prevent F from exceeding F_{MSY} ($F \leq F_{MSY}$)
- Action specified at the limit level
 - § $P(F > F_{LIMIT}) > 10\%$ à Rebuild to $P(F \leq F_{MSY}) \geq 50\%$ and $P(F > F_{LIMIT}) < 10\%$ ASAP
 - § $P(S < S_{LIMIT}) \geq 10\%$ à Rebuild to $P(S \geq S_{MSY}) \geq 50\%$ ASAP and $P(S < S_{LIMIT}) \leq 10\%$ in max of 2 generations or 5 years

Management: Process



SAC-11-08

Main management actions

- Limit access to the fishery (purse seine capacity restriction)
- Temporal closure for purse seiners (72 days)
- Spatial closure for purse seiners (“corralito”)
- Longline catch limits
- Others (ban on discards, FAD limits)
- Dolphin mortality limits (DMLs)

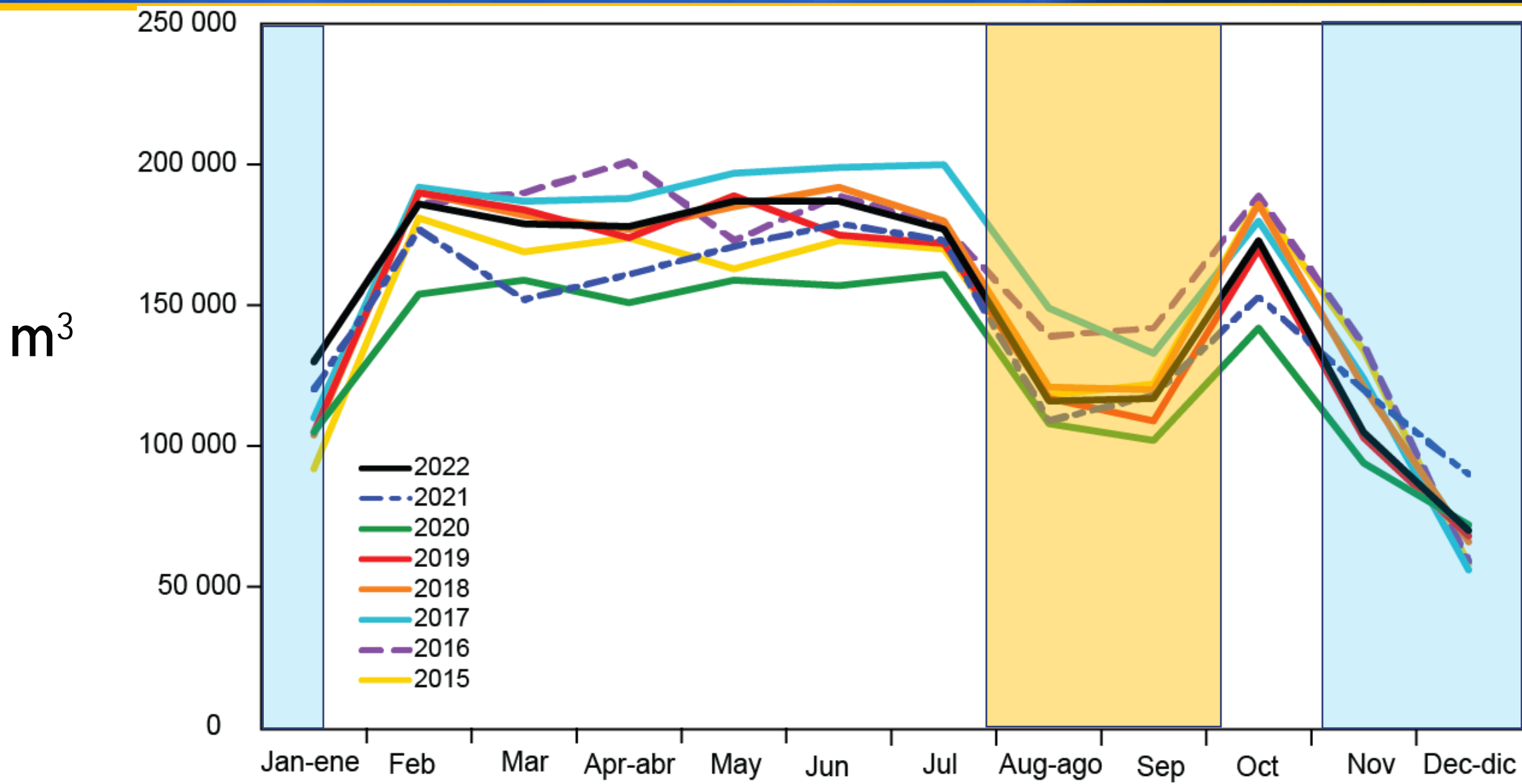
Main management actions

- 72 days (2 periods)



Capacidad promedio (metros cúbicos) de buques cerqueros en el mar en el OPO en 2015-2022 por mes

Average capacity (cubic meters) of purse-seine vessels at sea in the EPO in 2015-2022 by month





Questions?

