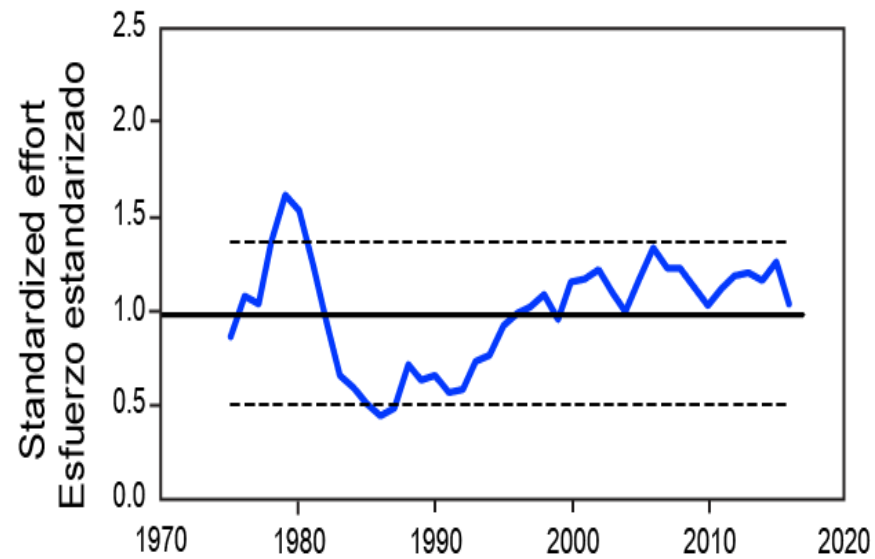
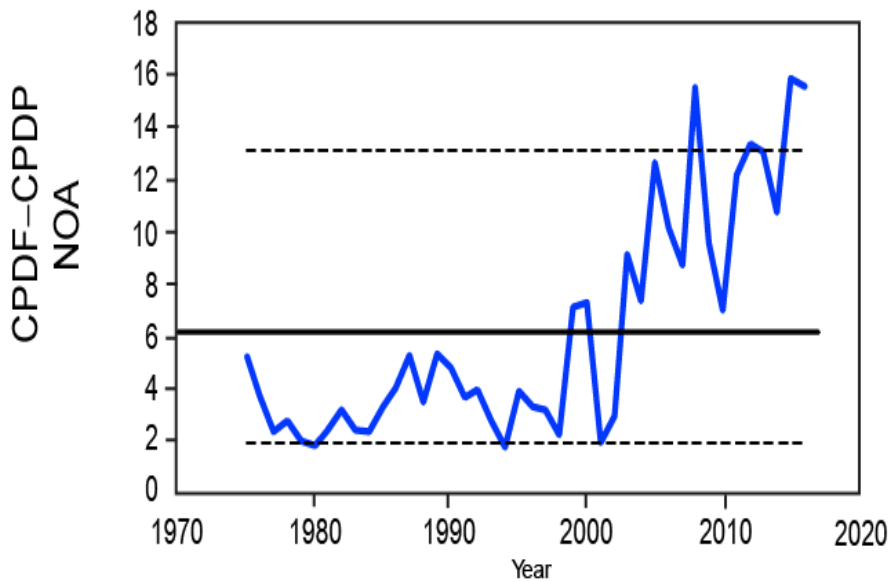
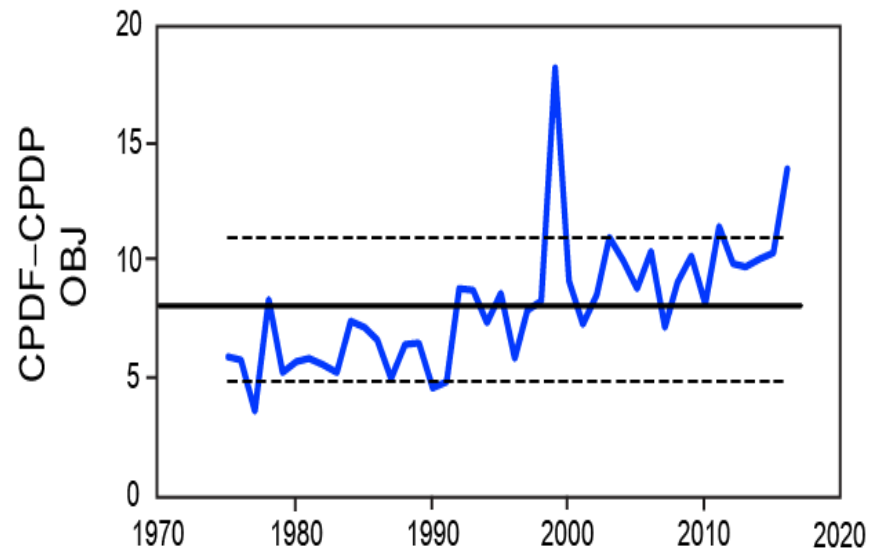
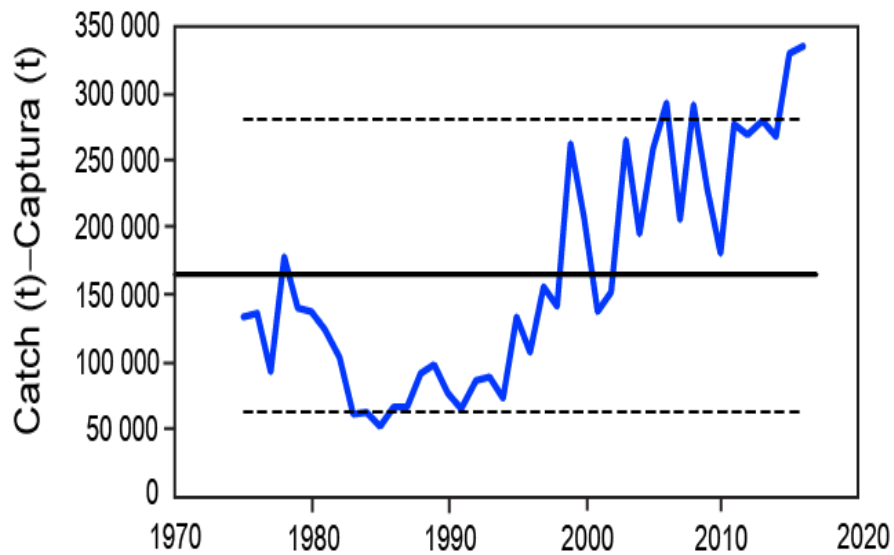
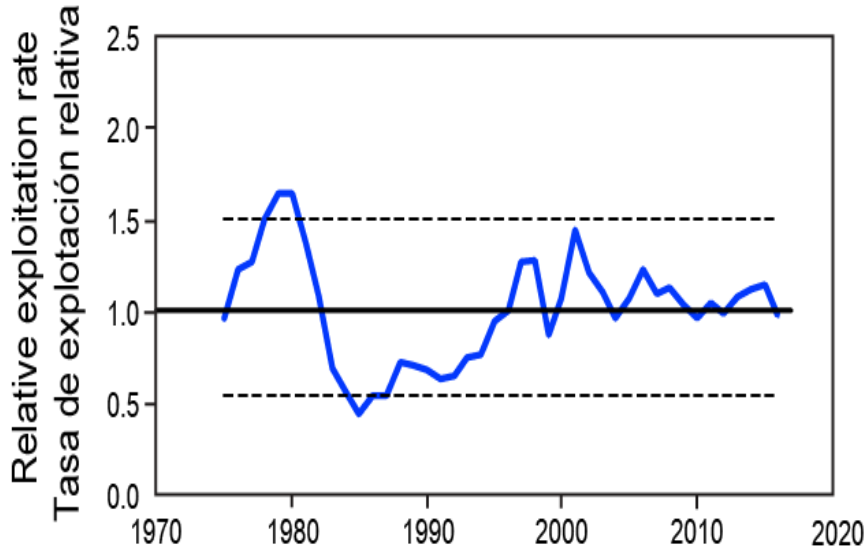
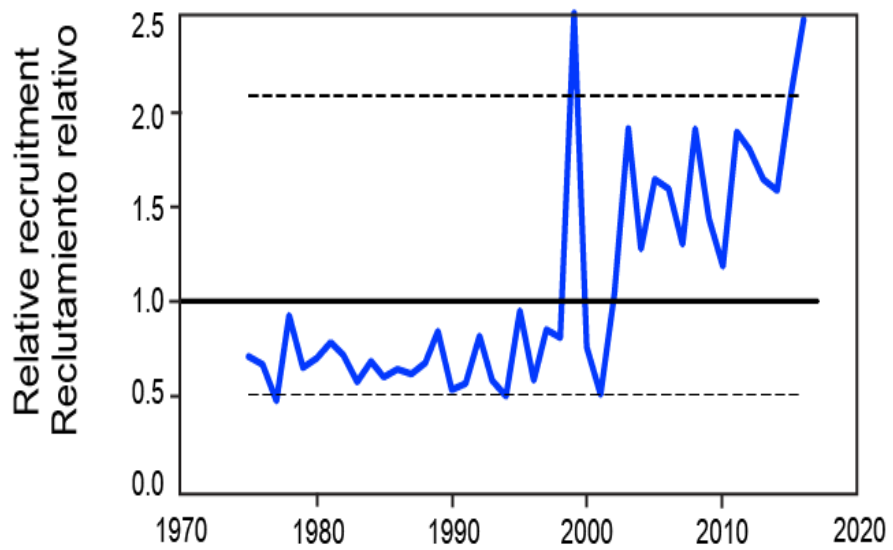
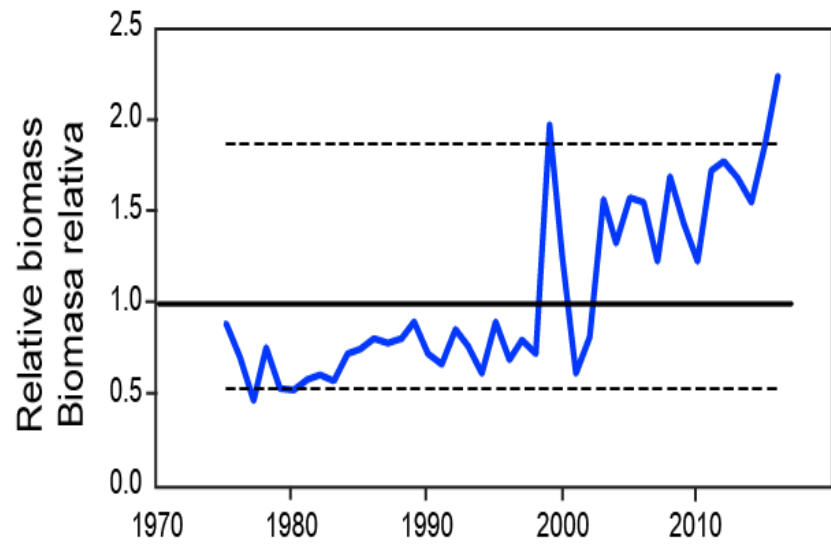
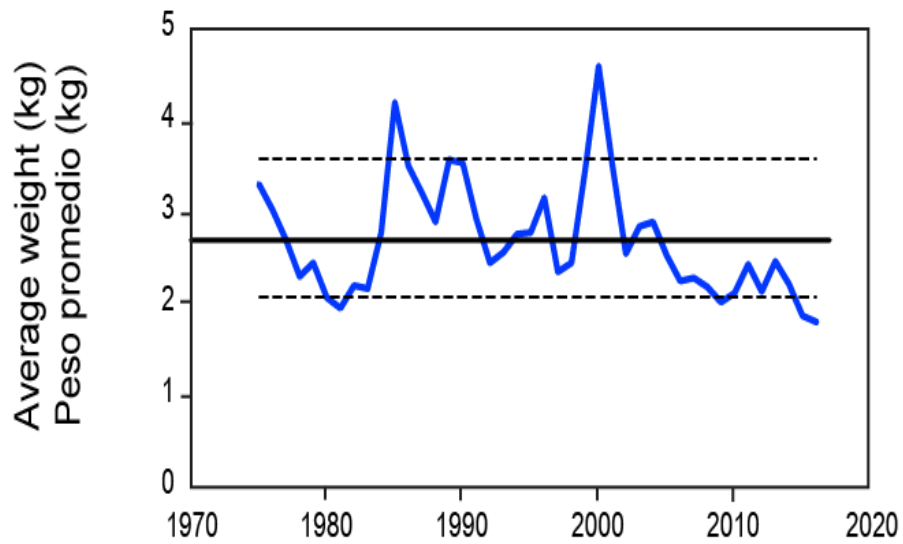


INDICATORS OF STOCK STATUS FOR SKIPJACK TUNA IN THE EASTERN PACIFIC OCEAN

Indicators

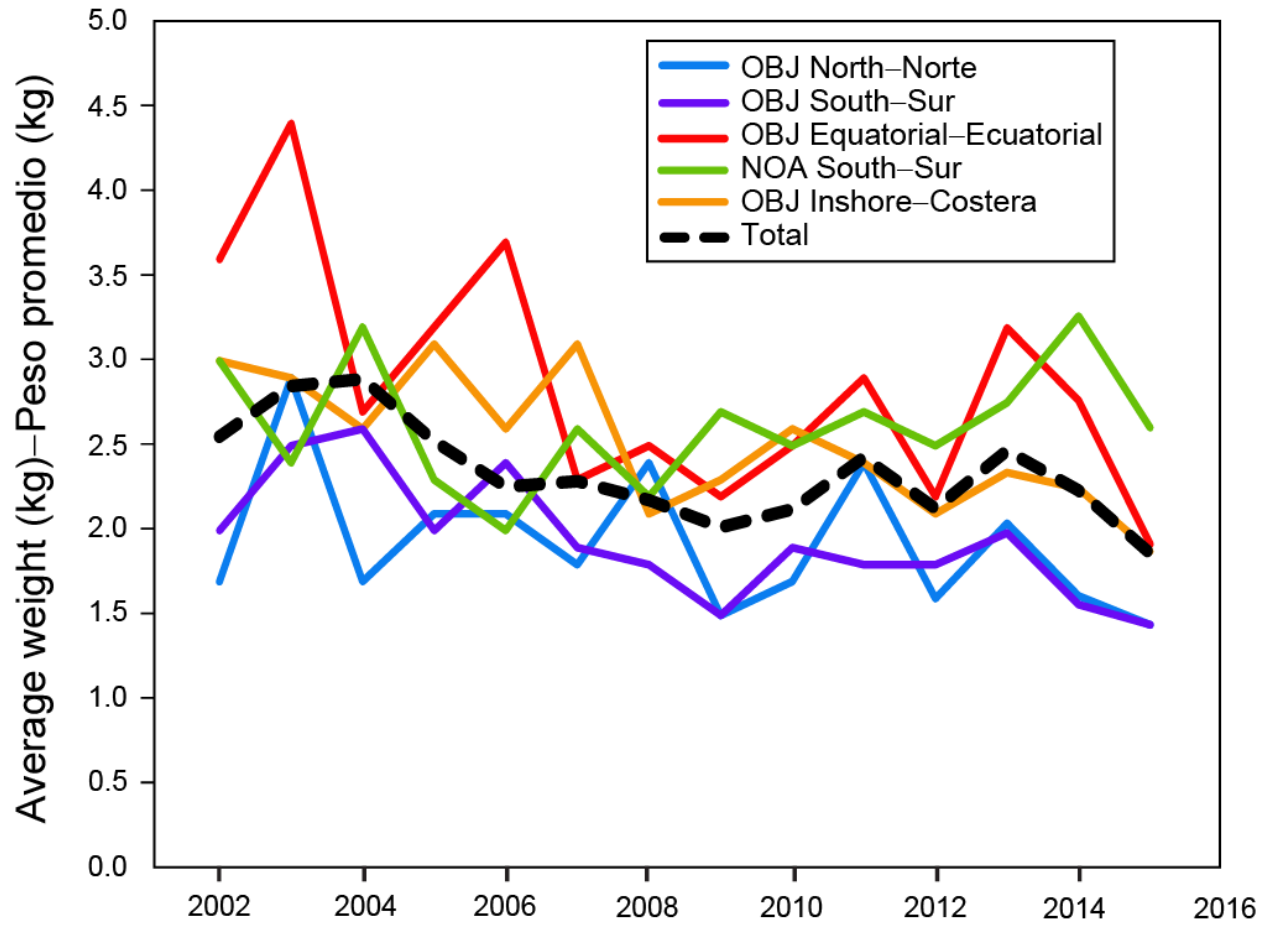
- Based on data (catch, effort, CPUE, and mean weight)
- Based on a simple population dynamics model (biomass, recruitment, and exploitation rate)
- Reference levels based on the 5th and 95th percentiles



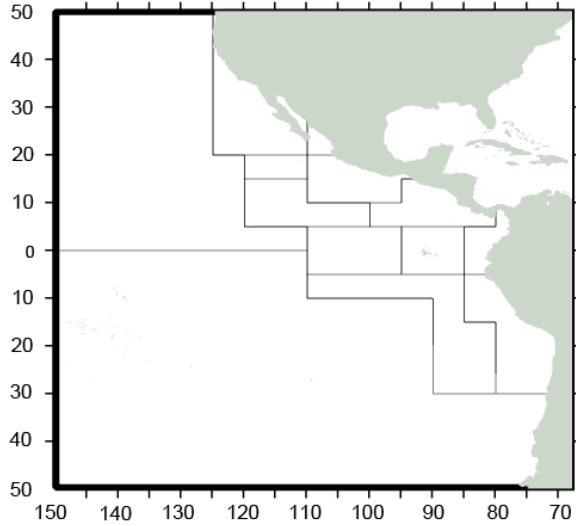


Conclusions

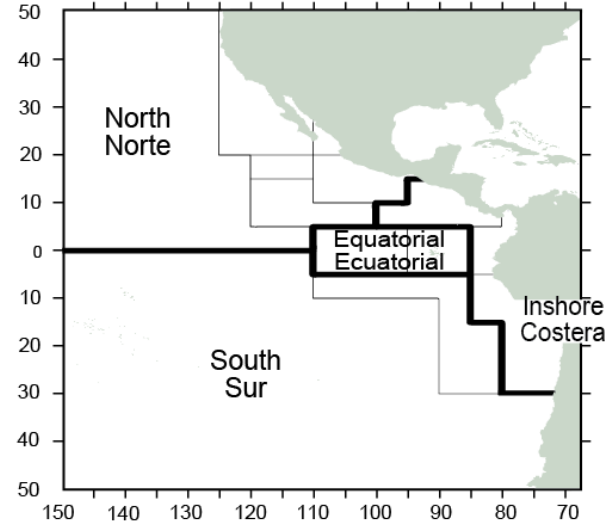
- The main concern with skipjack tuna stock was the constantly increasing exploitation rate.
- However, this appears to have leveled off in recent years, including the expansion of the fishery.
- The indicators have yet to detect any adverse consequence of this increase in exploitation rate.
- The average weight was below its lower reference level in 2015 and 2016, which can be a consequence of overexploitation, but is likely due to high recruitments in 2015 and 2016.
- The constantly increasing catch, and corresponding estimates of recruitment and biomass is difficult to explain.
- Susceptibility and productivity analysis shows that skipjack has substantially higher productivity than bigeye tuna. Therefore, since skipjack and bigeye have about the same susceptibility, the status of skipjack can be inferred from the status of bigeye. The current assessment of bigeye tuna estimates that the fishing mortality is less than F_{MSY} ; therefore, the fishing mortality for skipjack should also be less than F_{MSY} .



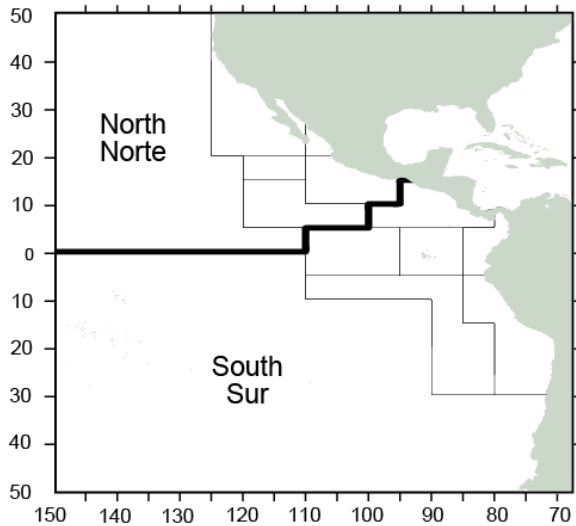
Unassociated - Bigeye, bluefin
 Dolphin - Bigeye, skipjack
 Pole-and-line vessels - All species
 No asociado - Patudo y aleta azul
 Delfín - Patudo y barrilete
 Barcos cañeros - Todas especies



Floating objects - All species
 Objetos flotantes - Todas especies



Unassociated - Skipjack, yellowfin
 No asociado - Barrilete y aleta amarilla



Dolphins - Yellowfin
 Delfín - Aleta amarilla

