



Status of the Fishery

Rodney Beard Fisheries Economics Advisor FFA

August 26, 2019

Main commercial species



Skipjack



Yellowfin



Big-eye

Big Eye Tuna



Albacore



Gear

- ▶ Purse-seine
- ▶ Longline
- ▶ Pole and line

Purse-seine



Longline



Pole and Line (Japanese)



Stock status

- ▶ All four species neither overfished nor is overfishing occurring
- ▶ Skipjack stock is below the interim target reference point (50% of unfished biomass) but above limit reference point (20% of unfished biomass) (2019 stock assessment).
- ▶ Albacore 52% depleted (median) compared to unfished biomass which means it is not too far off the target reference point of 56% of unfished biomass, the stock is stable and not being overfished and overfishing is not occurring. the economic condition of the long-line industry is another matter (2018 stock assessment).
- ▶ For big eye and yellowfin SPC modelling indicates relatively low risks of falling below the the limit reference points fo 20% of unfished biomass.

Skipjack distribution

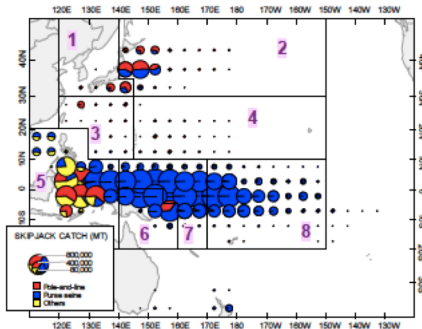
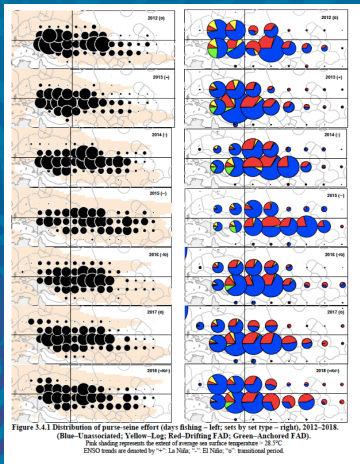


Figure 7.1.2 Distribution of skipjack tuna catch, 1990–2018.

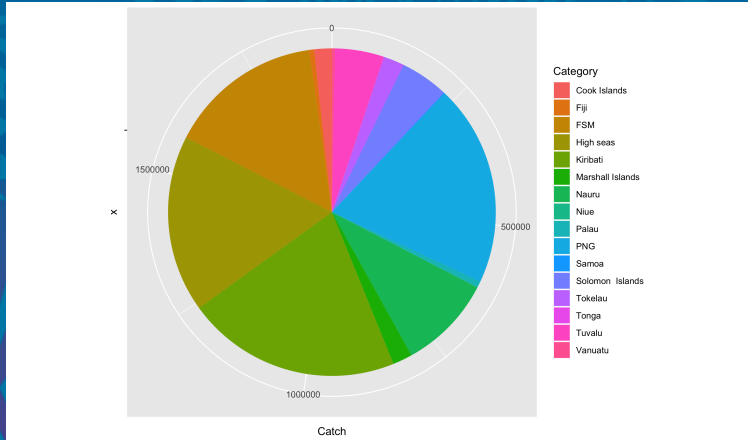
The eight-region spatial stratification used in stock assessment is shown.

Source: WCPFC-SC15-2019/GN WP-1

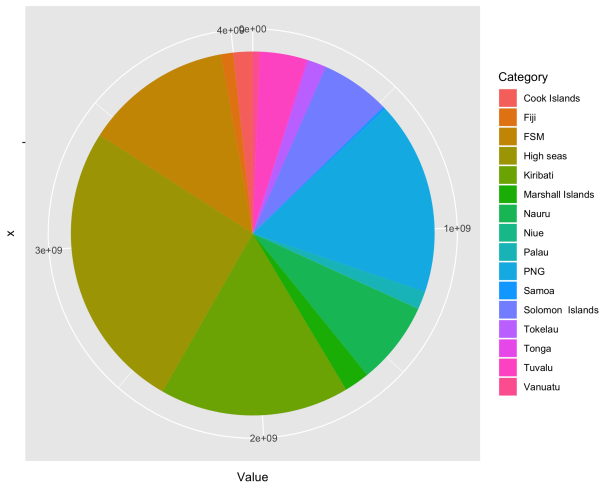
Purse-Seine



Total catch in national waters (2018) All gears

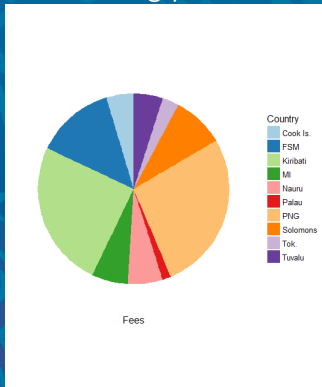


Value of the Catch by EEZ

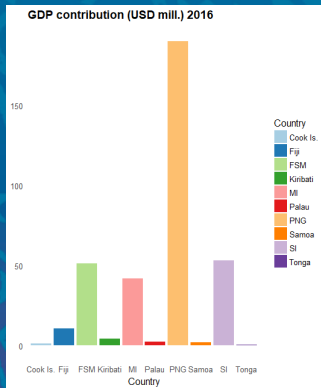


Share of revenue

The share of revenue from licensing and fees is illustrated in the following pie chart



GDP contribution



The importance of the fisheries sector to the economies of the region is perhaps best measured by the contribution of the fisheries sector to each countries GDP:

Economic conditions in the major WCPO tuna fisheries

Economic conditions prevailing in a fishery is influenced by three key determinants:

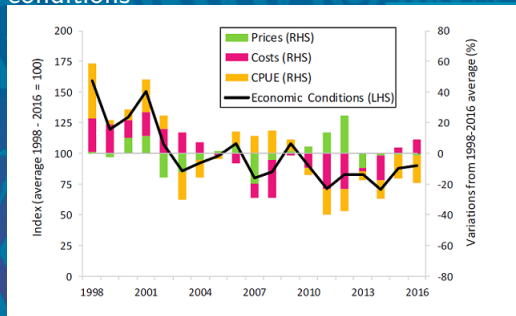
- ▶ Ex-vessel fish prices
- ▶ Fishing costs (excl. license and access fee payments)
- ▶ Catch rates

Changes in each can have significant impacts on the financial viability of vessels operating in a fishery and the returns generated from the exploitation of fish stocks.

Economic conditions for the southern longline fishery have followed a declining trend over the last couple of decades, from 1998 to 2016. Conditions were particularly poor in the period from 2010 to 2014 as a result of low catch rates and high real fuel prices. Despite the fact that real fish prices were at its second highest and highest levels (for the period examined) in 2011 and 2012, conditions have continued to remain below long-term average since 2010. Economic conditions improved significantly in 2015 and 2016, compared to 2014, owing to falling fuel costs with the fish price remaining around its long-term average. However, persistent low catch rates continue to impact on economic conditions.

Economic conditions index for the southern longline fishery

Economic conditions index for the southern longline fishery (LHS)
and variance of component indices against average (1998-2016)
conditions



Ex-vessel prices

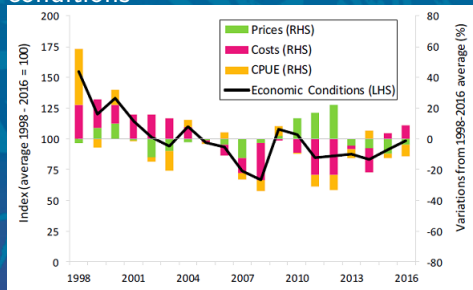
The fish price component of the economics index is a weighted composite index of the annual real (that is, inflation adjusted) prices of species caught: albacore, bigeye and yellowfin. That is, weighted based on proportion of catch in the fishery:

$$\begin{aligned} \text{Composite price index} = & \%catch_{alb} \times (price\ ind_{alb} - 100) \\ & + \%catch_{yfn} \times (price\ ind_{yfn} - 100) \\ & + \%catch_{bet} \times (price\ ind_{bet} - 100) \end{aligned}$$

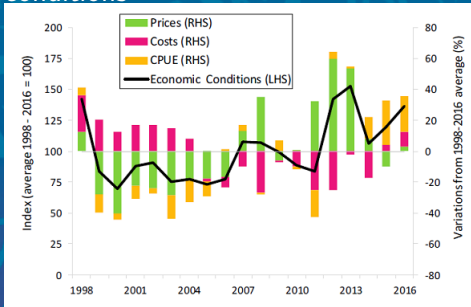
where

$$price\ ind_{alb} = price_{alb,t} / average\ price_{alb}$$

Economic conditions index for the tropical longline fishery (LHS) and variance of component indices against average (1998-2016) conditions



Economic conditions index for the purse seine fishery (LHS) and variance of component indices against average (1998-2016) conditions



Conclusion

- ▶ stock is sustainable in the weak sense
- ▶ Economic conditions for the long-line fishery still need to be addressed
- ▶ Low prices in most markets this year have no doubt had an impact