

Comisión Interamericana del Atún Tropical  
Inter-American Tropical Tuna Commission



Developing proxy target reference points for skipjack tuna in the EPO

Mark N. Maunder

1st External Review of IATTC staff's stock assessment of skipjack tuna in the eastern Pacific Ocean  
07-10 November 2022 – La Jolla CA, USA

# Outline

- Motivation
- Initial proxy
- New Analysis

# Motivation

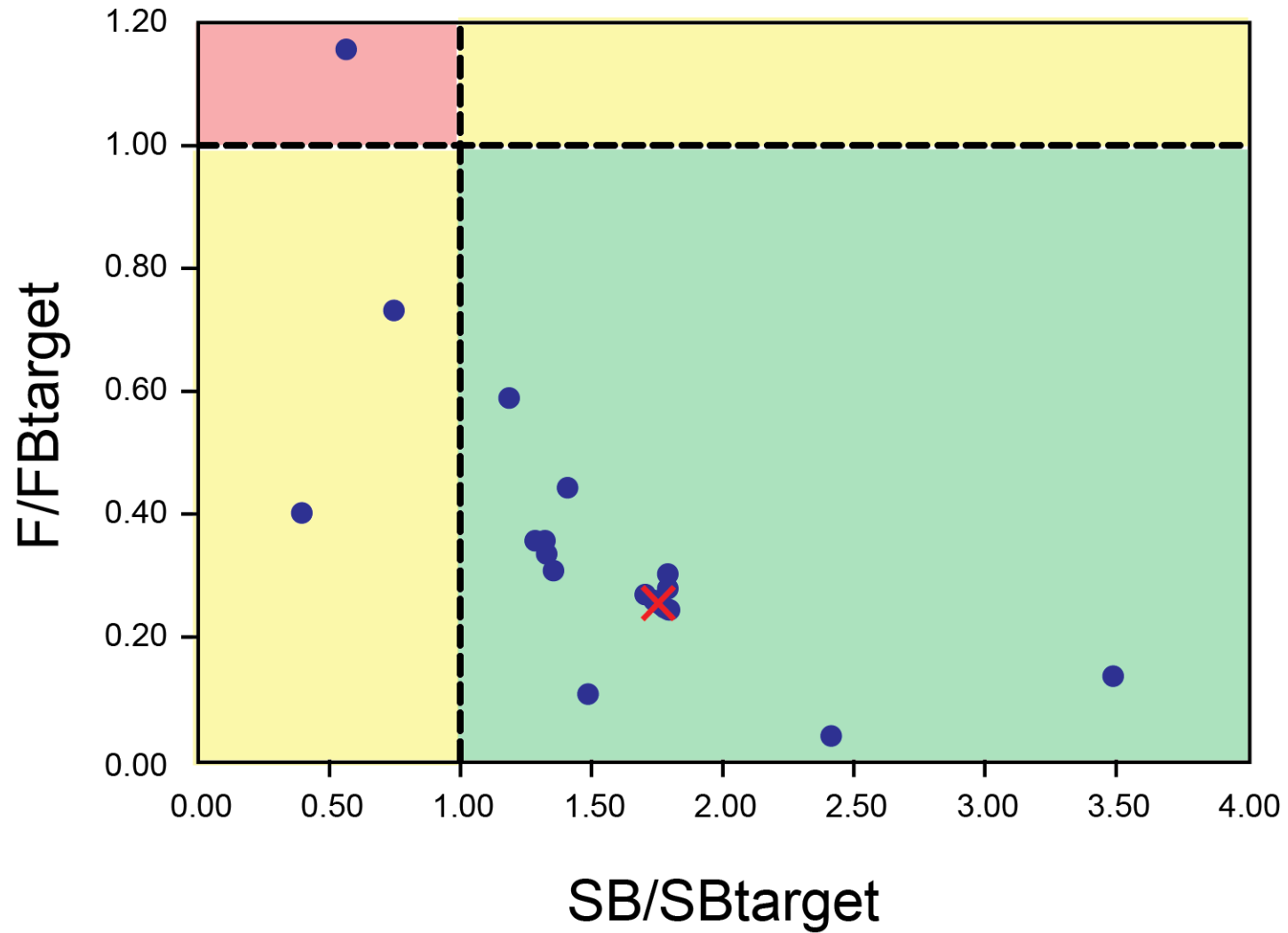
- Maximum YPR occurs at very high or infinite exploitation rates
- Recruitment is independent of spawning stock biomass (steepness =1)
- A conservative proxy target biomass reference point of 30% based on yellowfin and bigeye
- MSC did not accept this proxy

# Stock status: Biomass target

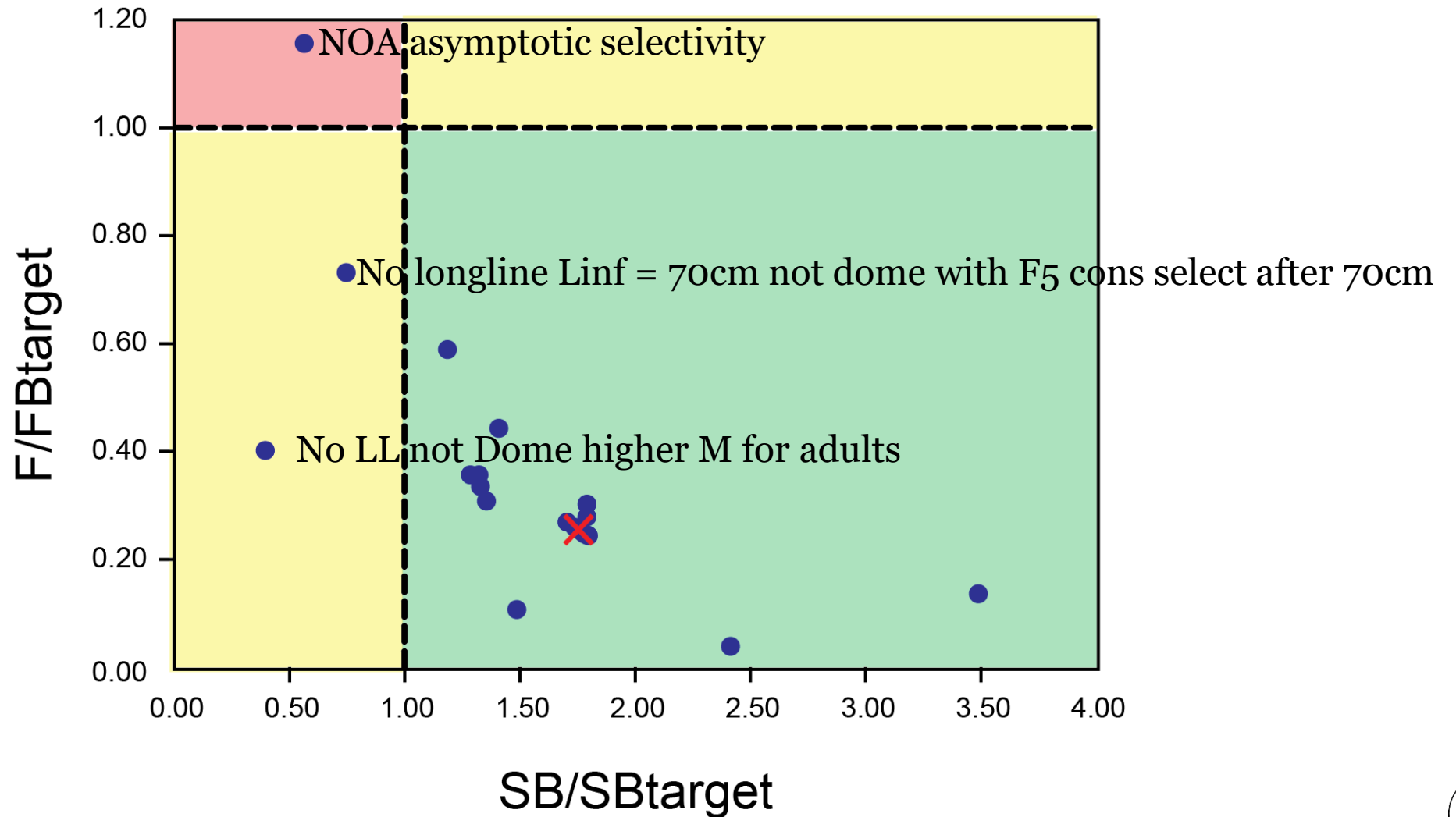
$$B_{\text{target}} = 0.3$$

Steepness (h)	Bigeye	Yellowfin
1.0	0.20 – 0.24	0.23 – 0.32
0.9	0.25 – 0.27	0.28 – 0.35
0.8	0.28 – 0.30	0.32 – 0.37
0.7	0.31 – 0.32	0.35 – 0.40

# Stock status



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# Analysis

- Develop proxy based on a conservative assumption of steepness of the stock-recruitment relationship,  $h = 0.75$
- Use the estimates of other parameters from the reference model (and sensitivities)



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- For the reference model  $S_{MSY}/S_0 = 0.15$





Questions