

Consideration on the period of the most recent catch to be used for the projections

Tom Nishida and Takayuki Matsumoto
 Fisheries Resources Institute, Japan
 May, 2022

In the 24th Session of Scientific Committee (2021), the optimum period of the most recent (average) catch to be used for the projection, was briefly discussed. In this regard, we reviewed the situation in tuna and demersal RFMOs by species as a reference. Table 1 shows the summary of the reviews.

Table 1 Summary of the period over which past catch (*) is averaged to provide projections by RFMO and species

RFMO	Species	SA or MP (**)	Period (years)	Any agreed rules?	
Tuna	IATTC	Yellowfin tuna	SA	3 (SA in 2018)	No
	WCPFC	Bigeye tuna	SA	3 (SA in 2021)	No
	ICCAT	North Atlantic bluefin tuna	MP	3 (either different constant catches or a time-varying catch as under F0.1)	MP rule (due for adoption in 2022)
		Yellowfin tuna	SA	1 (SA in 2019)	No
		Bigeye tuna	SA	2 (SA in 2018)	No
		Albacore (southern Atlantic)	SA	3 (SA in 2016)	No
	IOTC	Albacore	SA	3	Gentlemen's agreement
		Other species	SA	1-3	No
	CCSBT	Southern bluefin tuna	MP	(MP-based TAC)	MP rule
Demersal	NAFO	Greenland halibut	MP	(MP-based TAC)	MP rule
		Other species	SA	3	Yes (guideline)
	SIOFA	Orange roughy	SA	5 (SA in 2018)	No
		Alfonsino	SA	1 (SA in 2020)	No

Note (*) This summary is for the base case catch (point estimate) without considering different catch levels for the Kobe II strategic matrix. In addition, the period of selectivity is not included in this summary.

(**) Is the projection based on Stock Assessment (SA) or Management Procedure (MP)?

Discussion

Based on Table 1, we can understand that 3 years is common, while 1 or 5 years is much less. We also understand that choices for the period over which to average, are generally somewhat arbitrary. However, we consider that 1 year (the last year of the stock assessment period) is risky to obtain the realistic projection when that catch is abnormally high or low. We also consider that 5 years may be too long as it may mask the actual recent catch levels, which may mislead projections. Thus we consider that 3 years are likely most appropriate, plausible and sensible.

However, we further consider that the optimum period needs to be carefully determined by species incorporating catch trends, stock assessments (for example, selectivity), biological features such as life span (for example, orange roughy lives more than 100 years) and other relevant factors.

Acknowledgment

We thank Dr Doug Butterworth (University of Cape Town, South Africa) to provide useful suggestions and relevant information.