
9th MEETING OF THE SCIENTIFIC COMMITTEE

Held virtually, 27 September to 2 October 2021

SC9-WP06_rev1

Peru reference points and rules for the advice

IMARPE-Peru

This working document was produced in response to requests for clarification made during the SC9 session

An important aspect to take into account to understand the rationale of the IMARPE advice to the Government for the management of the jack mackerel fishery in Peruvian jurisdictional waters is that since 2000 jack mackerel has been in a low abundance regime, with lower abundances and catch potential than during 1980s-1990s high abundance regime. In addition, since 2000, recruitment has shown a very particular dynamic, dominated by sequences of 3 to 4 years of very low recruitments. However, during 2017 and 2018, high and medium high recruitments were observed, which are those that have sustained the fishery for 2 to 3 years. This observation is important because in the last two years, 2019 and 2020, recruitment has been low and these are the ones that will sustain the fishery during 2021, 2022 and possibly 2023.

Likewise, in 2020, between September and December there has been a good spawning season (keeping in mind that from egg to juvenile many things can happen), raising some moderate expectations (subject to be confirmed) of good a good recruitment that may be able allow catches comparable to those of 2019 and 2020.

In this sense, the reference points applied to jack mackerel management in Peru are dynamic and are associated with productivity regimes. Where management recommendations take into consideration a range of potential fishing mortalities, where the decision on the catch limit for the year is located between maintaining the $F_{status\ quo}$ (i.e., a catch limit associated with a similar F to that applied in the previous year) and a value of F not higher than the F_{MSY} and also the probability that the estimated biomass for the following year will not less than the current biomass. Finally, environmental conditions, the level of recruitment and the CPUE trend (which in recent years has shown a significant increase but with more variability and a widening of the confidence intervals) are considered as possible sources of uncertainty in the advice and the decision-making process, leading in some circumstances, to a more precautionary approach due to which the advice in recent years has always been to aim at maintaining spawning (and total) biomass above B_{MSY} , and F_s well below the F_{MSY} and with moderate increases, if any, with respect to $F_{status\ quo}$. It is noted that new information on changing environmental conditions, local abundance and availability, recruitments strength, CPUE trends, etc., may arrive at any time after results of an assessment and advice is passed on to the Government and, if needed, the assessment and advice can be modified on relatively short notice.

It is also noted that the levels of SSB_{MSY} shown in the two evaluations are those calculated within the same JJM model and, as explained above, these are calculated dynamically (year to year). That, currently, no reference point (e.g., in relation to a MSY level) has been defined for the Far North stock and, therefore, for assessment purposes, the outputs of the JJM model are used each year. Also, the observed differences in the reference points were due to variations in the biomass outputs of the 2020 and 2021 assessment (related to CPUE and explained above), which led to changes in the levels of SSB_{MSY} .

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