

8th MEETING OF THE SCIENTIFIC COMMITTEE

New Zealand, 3 to 8 October 2020

SC8-JM01

Trachurus murphyi catch history

Secretariat

1. Summary Paragraph

The Secretariat has provided an updated historical catch data series to 2020 as **Annex 1**. There are no notable changes to the historical catch history. As final catch figures are not due until September 30th, in many cases the 2019 data remain catch estimates.

Initial 2020 catch estimates have been provided by applying the mean observed ratio, by fleet, of the provisional 2010-2019 figures and the final 2010-2019 figures, to the available 2020 monthly catches. Members are asked to either accept these initial estimates or provide adjustments based upon their knowledge of the current fishing season. Previous estimates for total current catches have always been within about 10% of the final figures (the SC7 2019 estimates exhibit 1% variance overall with individual fleet variances ranging from 1% to 5%).

Box-plots showing historical monthly catches for each of the major fleets are presented and compared with the current monthly catches from the first half of 2020.

This paper also provides a short explanation of the *Trachurus murphyi* (CJM) catch history as used in the SPRFMO CJM stock assessment.

2. Annual Catch Totals

Historical catch data for the years prior to 2007 were originally provided to the (Interim) SPRFMO Secretariat under the 2007 interim data standards. Thus, the SPRFMO Secretariat holds catch data for all major fish species (including CJM) caught in the SPRFMO Area, in many cases back to the 1970s. The 2007 interim data standards were revised and the term “annual catch total” introduced in the 2012 interim data standards. This term persists in the current Conservation and Management Measure 02-2020 (Data standards). Members and CNCPs provide annual catch totals raised to ‘live’ weight for all species caught during the previous calendar year.

A summary of this information was first published in 2008 (SPRFMO-V-SWG-10) and it is updated annually. In this paper these annual catch totals are used to create the historic catch data series for the CJM stock assessment up to and including 2018. The 2019 annual catch totals are due on 30 September 2020 (after this paper is being drafted); and so monthly catch reports are used to provide the 2019 estimates. The 2020 (current year) estimates will be developed during the meeting, but initial estimates based upon current information are provided.



3. Monthly Catch Reports

CMM 01-2020 (*Trachurus murphyi*) requires Members and CNCs to report monthly catches to the Secretariat within 20 days of the end of the calendar month, except that when total catches have reached 70% of the amount indicated in paragraph 10, Members and CNCs agree to implement a 15-day reporting period, in which the calendar month is divided into two reporting periods, day 1 to 15 and day 16 to the end of the month. In 2020 total catches reached 70% during the month of May, so the first 15-day reporting period was from the 1st until the 15th of June (see letter G67-2020). At the time of SC8 the Secretariat expects to have access to monthly/15-day catch reports through to the 15th of September.

4. Fleets used in the assessment

The Joint Jack Mackerel model (JJM) used by the SC to assess Jack mackerel stocks, recognises four distinct fleets. Fleet 1 is a coastal purse seine fishery in northern Chile. Fleet 2 is a purse seine fishery in central-south Chile that extends into the high seas. Fleet 3 combines the far-north coastal purse seine fisheries occurring in the EEZs and Territorial waters of Ecuador and Peru. Finally, Fleet 4 corresponds to the offshore trawl fleet operating solely in the SPRFMO Area.

In most cases, data submitted to the Secretariat can be assigned to the correct Fleet. However, while the Secretariat has an estimate for the total Chilean catch it can only be split into the High seas and EEZ portions and not into northern and central-south portions, so the Secretariat is not able to split the Chile catch between Fleets 1 and 2 (northern and central-south Chile). In previous years, Chile has provided these estimates at the SC meeting.

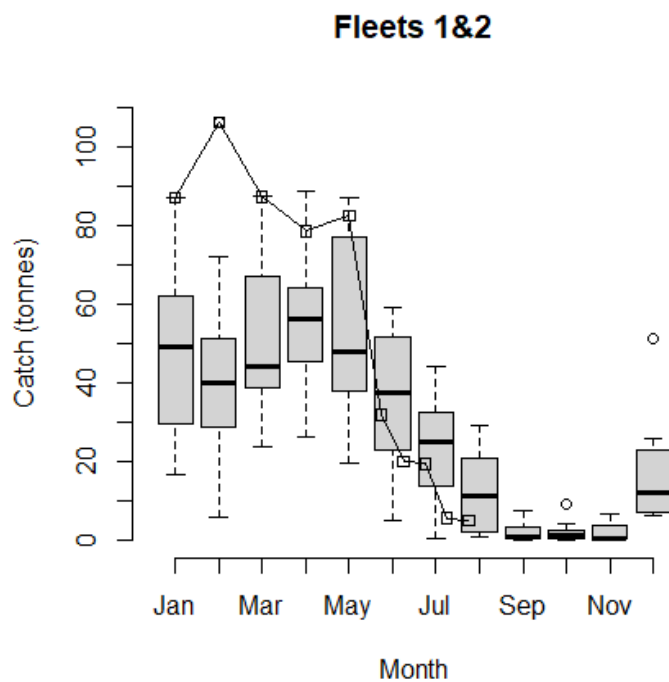


Figure 1: Box plots for 2010-2019 monthly catch reports of *Trachurus murphyi* from Fleets 1 & 2 combined (Northern and Central Chile). The line connecting squares shows the 2020 monthly catch reports.

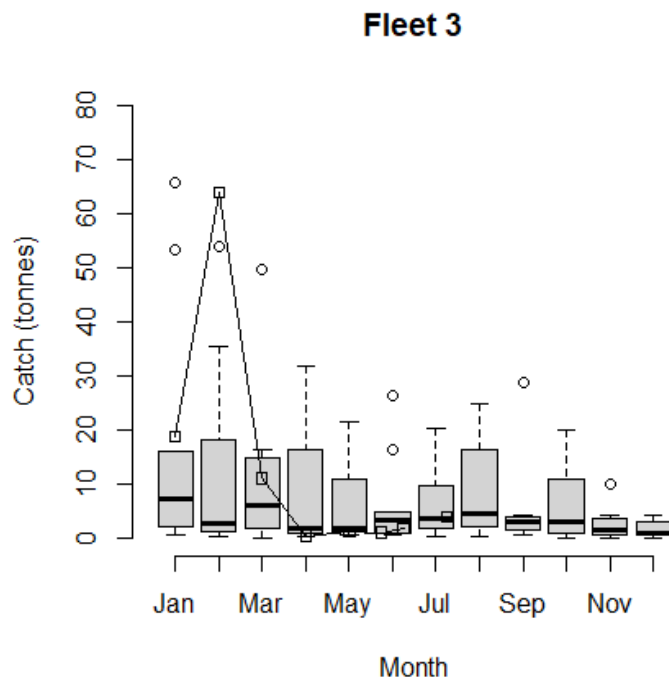


Figure 2: Box plots for 2011-2019¹ monthly catch reports of *Trachurus murphyi* from Fleet 3 (Far-North). The line joining squares shows the current 2020 monthly catch reports.

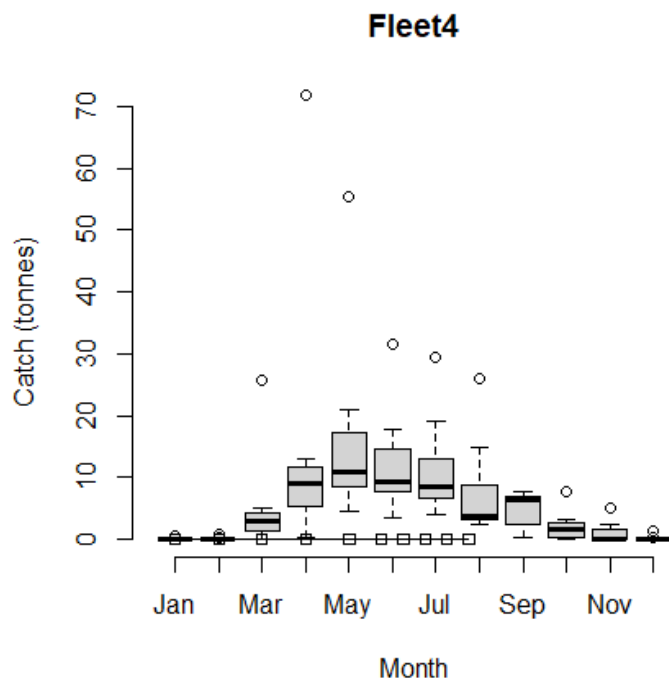


Figure 3: Box plots for 2010-2019 monthly catch reports of *Trachurus murphyi* from Fleet 4 (Offshore Trawl). The Black line shows the current 2020 monthly catch reports.

¹ Fleet 3 Monthly catches for 2010 are not available.



5. Excel attachment

An Excel workbook is annexed to this paper (**Annex 1**).

- Tab 1 (CJM Stock Assess input) contains the Jack mackerel annual catch totals by Member and CNCP and is structured by Fleet. There are various notes that reflect previous decisions taken by the SC about this data series. Underlined figures have been updated since last assessment (refer to table A8.1 of [SC7 Report Annex 8](#)).
- Tab 2 (2020 Catch projections) contains the initial catch estimates for 2020 and shows the underlying calculations.
- Tab 3 (Previous accuracy) shows the variance associated with each of the current year catch estimates used in previous SC meetings.