

6th Meeting of the Scientific Committee Puerto Varas, Chile, 9 - 14 September 2018

SC6-JM01

Trachurus murphyi catch history

Secretariat

Summary paragraph

The Secretariat has provided an updated historical catch data series to 2018 (Annex 1).

There are no notable changes to the previous catch history. As final catch figures are not due until September 30th in many cases the 2017 data remain catch estimates.

Initial 2018 catch estimates were provided by applying the mean observed ratio, by fleet, from the provisional 2010-2017 figures and the final 2010-2017 figures, to the available 2018 monthly catches. Members were asked to either accept the initial estimates or provide adjustments based upon their knowledge of the current fishing season. Previous estimates for total current catches have been within 10% of the final figures with Fleets 1 (Northern Chile) and 4 (far North) showing higher variance.

Box-plots showing historic monthly catch variations for the major fleets are presented and compared with the monthly catches for the first half of 2018.

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

Annual catch totals

Historic catch data for the years prior to 2007 were initially 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 reaching back to the 1970's¹. The 2007 interim data standards were revised and the term "annual catch total" was introduced in the [2012 interim data standards](#). This term persists in the current [Conservation and Management Measure 02-2018](#) (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 is [updated annually](#).

Annual catch totals are used to create the historic catch data series for the CJM stock assessment up to and including 2016. The 2017 annual catch totals are due 30 September 2018 (After the SC6 meeting); thus, monthly catch reports are used to provide the 2017 estimates.

¹ The earliest CJM catch record that the Secretariat holds is from 1939.

Monthly catch reports

[CMM 01-2018 \(*Trachurus murphyi*\)](#) requires Members and CNCPs to report monthly catches to the Secretariat within 20 days. At the time of SC6 the Secretariat expects to only have access to catch reports for the first 7 months of 2018 (Jan – July).

Figures 1 through to 3 below compare previous monthly catch reports with catch reports received for this year’s fishery by fleet.

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 EEZ’s and Territorial waters of Ecuador and Peru. Finally, Fleet 4 corresponds to the offshore trawl fleet operating solely in the SPRFMO Area.

Data submitted to the Secretariat can be assigned to the correct Fleet in most cases. A notable exception occurs in Fleets 1 and 2 (northern and central-south Chile). This is because 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. At previous SC meetings, Chile has provided those estimates.

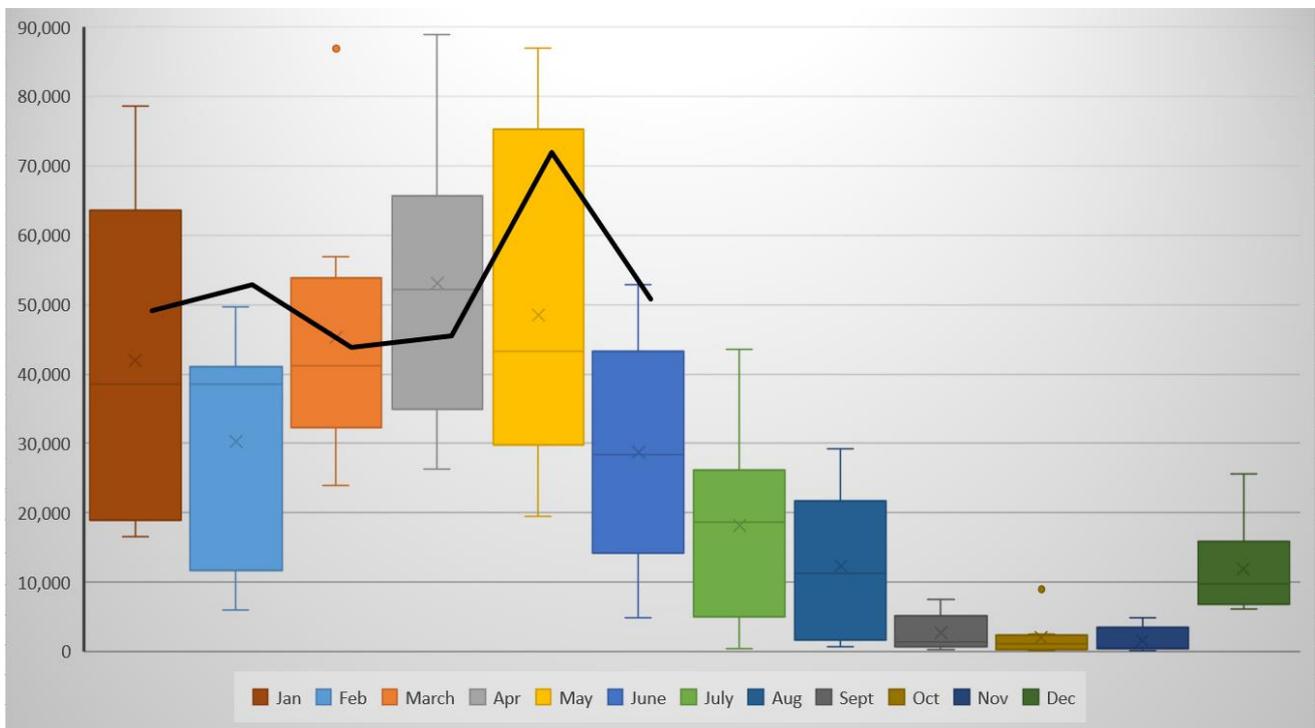


Figure 1: Box plots for 2010-2017 monthly catch reports of *Trachurus murphyi* from Fleets 1 & 2 combined (Northern and Central Chile). The Black line shows the current 2018 monthly catch reports.

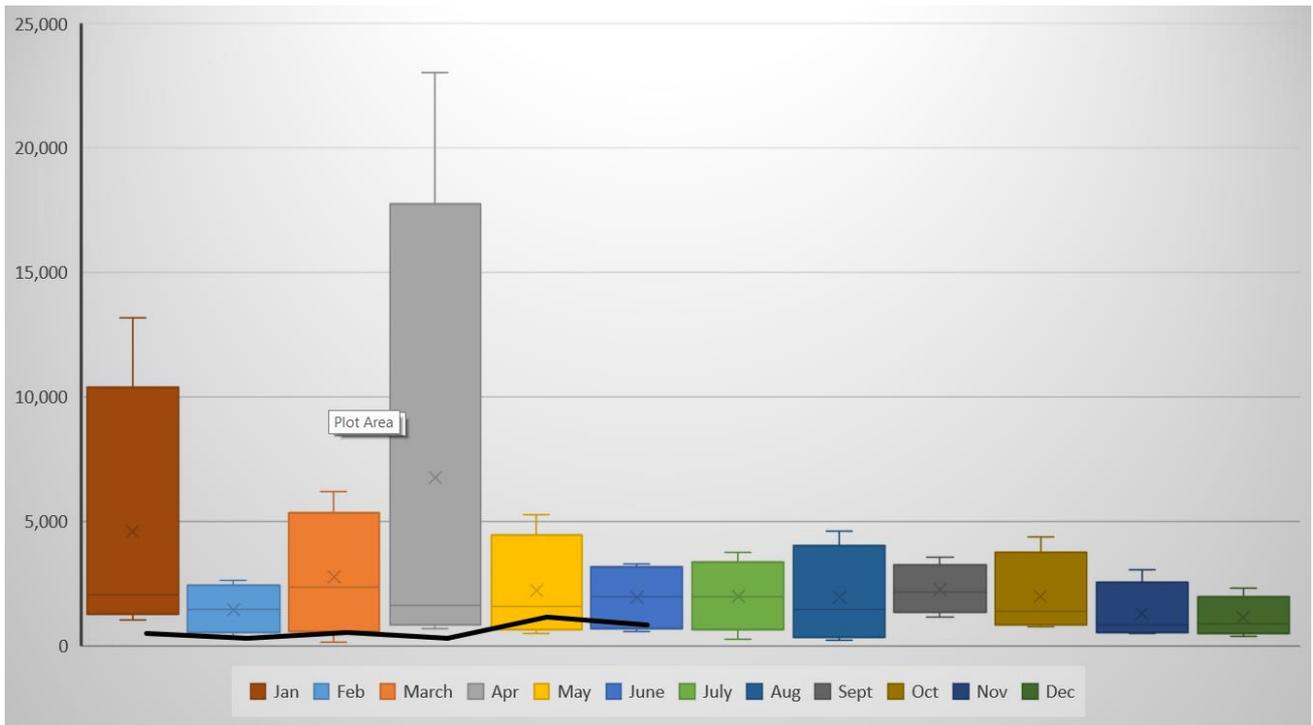


Figure 2: Box plots for 2014-2017² monthly catch reports of *Trachurus murphyi* from Fleet 3 (Far-North). The Black line shows the current 2018 monthly catch reports.

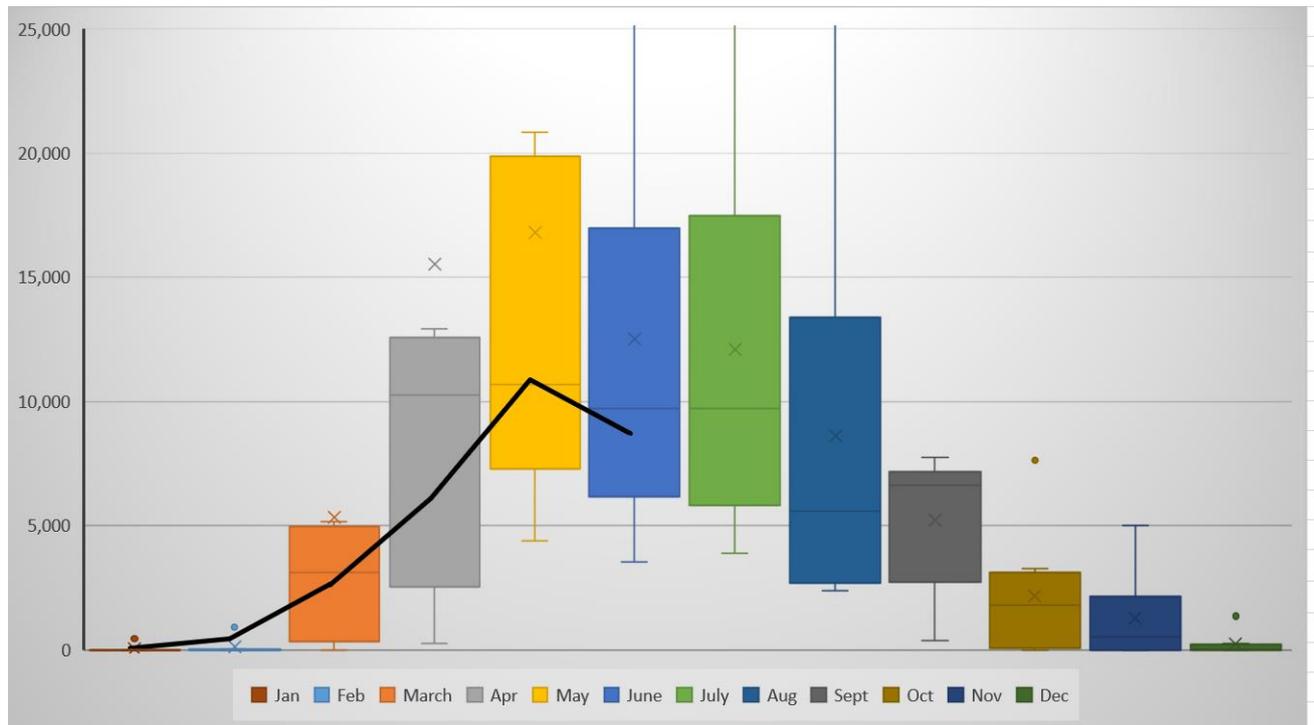


Figure 3: Box plots for 2010-2017 monthly catch reports of *Trachurus murphyi* from Fleet 4 (Offshore Trawl). The Black line shows the current 2018 monthly catch reports.

² Fleet 3 Monthly catches for the period 2010-2014 are either not available or grouped across multiple months making them unsuitable for comparing monthly variations.

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 A9.1 of the [SC5 report, Annex 9](#)).
- Tab 2 (2018 Catch projections) contains the initial catch estimates for 2018 and also 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.