SC5-JM01

Trachurus murphyi catch history and predicted 2017 catches

Secretariat

Summary paragraph

The Secretariat has provided an updated historical catch data series to 2016 and has also provided an initial estimate of 2017 catches for use in the assessment (Annex 1). Notable changes to the previous catch history are limited to the 2016 data (as advised by Members) as well as updates to Ecuador's 2013-2015 catch history.

2017 initial estimates have been created by:
- calculating the mean observed ratios (by fleet) between the provisional 2010-16 catches and the final 2010-16 catches and;
- applying those observed ratios to the latest available 2017 monthly catches.

The initial 2017 estimates may be adjusted during SC5 based _inter alia_ on participant's knowledge of current fishing conditions and/or catch entitlement availability.

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's[1]. 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 02-2017 (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 2015. The 2016 annual catch totals are due 30 September 2017 (Just after to the SC5 meeting); thus, where needed 2016 catches from Annual SC reports are used.

As previously mentioned most updates to the historic catch series relate to the replacement of last year's 2016 preliminary figures with the latest available figures. The size of the 2016 changes are discussed below

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[1] The earliest CJM catch record is from 1939.

as part of the section on accuracy of previous predictions. However, Ecuador, the EU and the Russian Federation also updated other historic figures during 2017 as shown in Table 1.

Member	Year	Previously (t)	Update (t)
European Union	2013	10 102	10 101
Russian Federation	2015	2 606	2 561
Ecuador	2013	3 564	3 567
Ecuador	2014	4	9
Ecuador	2015	289	169

Table 1: Updates for catch histories received during 2017

Monthly catch reports

CMM 01-2017 (*Trachurus murphyi*) requires Members and CNCPs to report monthly catches to the Secretariat within 20 days. At the time of the SC5 meeting the Secretariat expects to have access to catch reposts for the first 8 months of 2018 (Jan – Aug). This is like previous years where information for the first 8 or 9 months was available. Annex 1 currently shows data up to July.

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.

Annex 1

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 the SC4 report, Annex 7).

Tab 2 (2017 Catch projections) shows the how the initial 2017 catch estimates will be calculated during the SC5 meeting.

Tab 3 (Previous prediction accuracy) shows how accurate past catch projections have been. For the whole fishery, initial catch projections have always been within 10% of the final annual catch totals. Fleets 1 and 3 have generally exhibited the highest variation.