

A quick Zoom on the outcomes of the 17th meeting of the WCPFC Scientific Committee

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The Scientific Committee (SC) meeting of the Western and Central Pacific Fisheries Commission (WCPFC) is held in August each year, prior to the annual WCPFC meeting in December. It is attended by the WCPFC's 33 member countries and territories, and by observers, and examines a range of scientific issues, including data and statistics, stock assessments, management issues, and ecosystem and bycatch mitigation.

The Oceanic Fisheries Programme (OFP) of the Pacific Community has been the WCPFC's scientific services provider and data manager for approximately 15 years, which means that the SC meeting is a key period for OFP to present all of its analyses and provide the SC with scientific advice that underpins fishery management decisions taken by the Commission. This year, OFP scientists authored nearly 50 papers that provided information and recommendations to the SC across the different issues covered.²

The COVID-19 pandemic continues to have a massive impact on regional fishery management processes in the Pacific, and this year's SC meeting did not escape its effects. Like last year, the SC was held online using Zoom, with a shortened agenda covering only those essential issues that required SC's advice to the Commission. To help deal with other important issues, an online forum was again set up by the WCPFC Secretariat prior to the meeting in order to get written responses from members. In general, while the level of discussion was more constrained and less free flowing than it typically is during an in-person meeting, and we could not discuss all the papers submitted, the process again worked well enough to develop key scientific advice.

A key component of the SC meeting is the presentation and discussion of the latest stock assessment results for Pacific tuna and tuna-like stocks, with SC reviewing the assessments and using them to provide advice for managers on stock status and potential issues of concern, and to provide recommendations for future work to improve the next assessments. This year, the three key SPC-led stock assessments were for South Pacific albacore, performed in collaboration with the Inter-American Tropical Tuna Commission (IATTC) to cover the whole of the South Pacific; southwest Pacific swordfish; and southwest Pacific blue shark.

A key area of discussion this year was how "uncertainty" in OFP's stock assessments is captured. While the work represents the best scientific information available, OFP does not have perfect knowledge of all our key inputs. These include:

- our understanding of the biology of a stock (e.g. how good is our estimate of growth, and how well does it apply across all fish in the Pacific region?);
- our understanding of the fishery and how it has changed over time (how representative is the time series of fishery data on catch rates – e.g. the number of fish caught per day fishing – that is assumed to reflect the amount of fish in the sea?); and
- how good our assessment models are at accurately capturing what is going on in both.

Traditionally, OFP has represented the impact of that uncertainty on scientific advice by presenting the results of different assessment model runs, where each run has a different setting for those key inputs that we do not know the true values of. For example, we might run different models with alternative settings for the pattern of growth, or with different sources of fishery data included, and the spread of estimates of stock status that results captures the consequences for advice.

This approach was taken in the South Pacific albacore stock assessment, with the results of 72 different models summarised to SC17 (see Fig. 1). A key area of uncertainty was how albacore moved between areas of the South Pacific during their life. The two different scenarios used within the assessment proved influential on management advice, and SC's discussions led to one of these movement scenarios being "down-weighted" during the provision of advice (results being given half the weight of the other scenario). That advice was generally positive, but particular concern about recent declining trends in the albacore stock was highlighted to managers.

A similar approach was taken for the blue shark, but reflecting the significant uncertainty arising from the lack of information and understanding around this stock, the results of almost 3900 different models were presented. While transparently indicating the limits of our knowledge,

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² See <https://meetings.wcpfc.int/meetings/sc17-2021>

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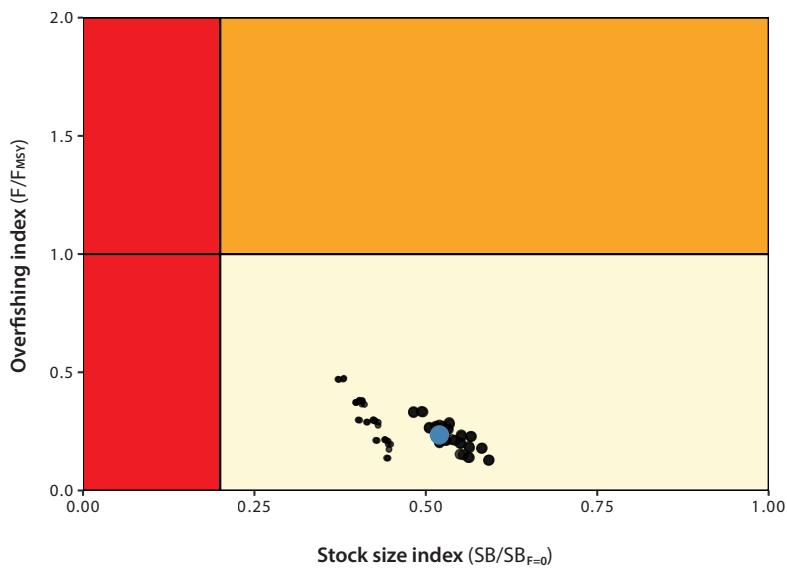


Figure 1. Stock status of albacore (*Thunnus alalunga*) in the western and central Pacific Ocean.

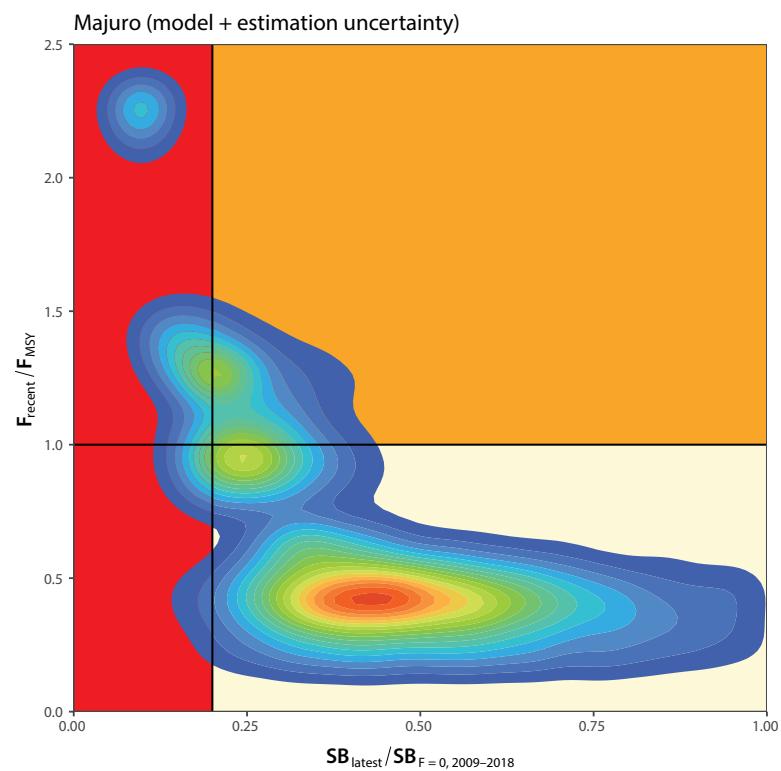


Figure 2. Stock status of the southwest Pacific swordfish (*Xiphias gladius*) in the western and central Pacific Ocean.

this was a volume of results that challenged SC members. Acknowledging that this assessment was an improvement on the last one, SC's advice for managers noted the general positive trends indicated by the models and data and identified further work to be done to refine this assessment over the coming year.

A new approach to capturing uncertainty was developed for the southwest Pacific swordfish, and discussed at SC17 (see Fig. 2). This improves on OFP's standard method and helps ensure that model settings capture more biologically plausible combinations. SC supported the approach, and OFP will be developing it further over the coming years. SC noted that the assessment results indicated that on average, this stock

was not currently overfished, nor subject to overfishing.

The second half of 2021 will be a busy time for WCPFC, with an additional meeting scheduled in early September to continue discussions on the development of the Commission's replacement of the tropical tuna conservation and management measure, which should be finalised in December. OFP will be there to present the results of their analyses to help inform member's decision-making – another busy few months of Zooming ahead. Let's hope that by this time next year, we will be able to meet face-to-face. Fingers crossed!