

7TH MEETING OF THE COMMISSION

The Hague, The Netherlands, 23 to 27 January 2019

COMM 7 – Prop 16.1

**A proposal for a Deepwater species Conservation and Management Measure
for SPRFMO
*New Zealand***

South Pacific Regional Fisheries Management Organisation

7th Meeting of the Commission

**A proposal for a Deepwater species Conservation
and Management Measure for SPRFMO**

New Zealand

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Purpose

The purpose of this paper is to accompany the proposal for a new deepwater species conservation and management measure (CMM COMM7-Prop16), jointly submitted by New Zealand and Australia, providing further background and rationale for the proposal. This paper should be read in conjunction with the proposal for a revised bottom fishing CMM (COMM7-Prop03) and its accompanying info paper.

Rationale for a Conservation and Management Measure

The new deepwater species CMM and the proposed revisions to CMM 03-2018 provide a comprehensive set of rules based on a spatial management approach that aims to ensure the long-term conservation and sustainable use of deep sea fishery resources by setting catch limits for deepwater fish species at an appropriate spatial scale. Following feedback received from Members on the New Zealand-Australia proposal for a new CMM on Bottom Fishing Information Paper ([COMM6-INF09](#)) provided to the Commission in 2018, Australia and New Zealand have decided to separate out the provisions relating to catch limits for deepwater species into a standalone CMM. The CMM gives effect to advice from the SPRFMO Scientific Committee. The proposal includes:

- a) Three Management Areas within the Evaluated Area in which bottom fishing may be conducted, differentiated by gear type (bottom trawl, midwater trawl and bottom line) according to their relative benthic impact;
- b) Measures to ensure the long-term conservation and sustainable use of deep-sea fishery resources, including catch limits for target fish stocks as well as non-target or associated and dependent species; and
- c) Measures that address how any catch of target deep sea fish stocks will be shared amongst members.

Catch Limits and Monitoring for deep sea fish stocks

The new CMM implements advice of the Scientific Committee with regards to sustainable catch limits for orange roughy stocks, and implements catch limits for other species consistent with the previous approach taken in the Bottom Fishing CMM (03-2018).

Management Areas

Consistent with the proposal for a revised bottom fishing CMM (COMM7-Prop03), fishing is only allowed in identified Management Areas (see Appendix). This CMM categorises the Management Areas into biologically relevant areas for the implementation of catch limits for orange roughy based on advice of the Scientific Committee.

These comprise:

- 'Louisville' area, defined as all Management Areas east of 178° E
- 'Tasman' area, defined as all Management Areas west of 178° E except for 'Westpac Bank' and 'South Tasman Rise'
- 'Westpac Bank', defined as the Management Area within the area the high seas area adjacent to the New Zealand EEZ bounded by a line beginning at the intersection of the outer limit of the New Zealand EEZ at 39° S and 168° 34E; and extending:
 - (i) from there west to 39°S and 166° 30E; and
 - (ii) from there south to 40° 30S and 166° 30E; and
 - (iii) from there due east to 40° 30S and 167° 24E; and
 - (iv) from there generally north east to the point where the line began
- 'South Tasman Rise', defined as the part of the Australian EEZ and the high seas area adjacent to the Australian EEZ within and bounded by a line beginning at the point of latitude 46°26' 07" S, longitude 146°30 E; and running:
 - (i) From there east along that meridian to its intersection with the meridian of longitude 150° 00 E;
 - (ii) from there south along that meridian to its intersection with the parallel of 48°30 S; and
 - (iii) from there west along that parallel to its intersection with the meridian of longitude 146°30 E; and
 - (iv) from there north along that meridian to the point where the line began.
- "the portion of the South Tasman Rise occurring in the Convention Area", defined as Management Areas within the high seas area adjacent to the Australian EEZ bounded by a line beginning at the intersection of the outer limit of the Australian EEZ with the meridian of longitude 150°00 E; and running:
 - (i) from there south along that meridian to its intersection with the parallel of 48°30 S; and
 - (ii) from there west along that parallel to its intersection with the meridian of longitude 146°30 E; and
 - (iii) from there north along that meridian to the intersection with the outer limit of the Australian EEZ; and
 - (iv) from there generally north easterly along that outer limit to the point where the line began.

Catch limits

Work to inform the setting of catch limits as part of the new CMM has been ongoing for several years. At the third meeting of the Scientific Committee (SC-03) in 2015, Australia, New Zealand, and Chile agreed to work together on finalising the various components. After SC-04, a detailed update was provided to the Commission in early 2017 (see [COMM6-INF09](#)), indicating that a revised bottom fishing CMM would be prepared for consideration by the Commission meeting in early 2018. That paper briefly described progress on the two key pieces of work required to inform catch limits for all species taken in bottom

fisheries: the development of a stock assessment framework; and stock assessment modelling where sufficient data are available. These two aspects are covered below.

SC-05 considered and **adopted** (para 83) the generalised assessment framework for bottom fisheries proposed by Australia and New Zealand to provide direction for future assessment work and speed the committee's processes in developing advice for the Commission. SC-05 also **recommended** to the Commission that it agrees to the nature and structure of advice on precautionary catch limits for bottom fisheries that will stem from such an assessment framework. This framework has not been populated with the relevant assessment methods, reference points, and harvest control rules that would make it operational and SC-05 therefore **requested** Members with bottom fisheries to work together on developing this detail and included the tasks in its draft workplan. Until such time as the Commission agrees to the framework and it is populated, Scientific Committee will develop advice on catch limits as required using the best available information.

The information available for the key target species, orange roughy, is insufficient to support sophisticated age-structured models. New Zealand has therefore developed Bayesian biomass dynamic models for each stock using spatially-disaggregated catch per unit of effort (CPUE) as an index of abundance. These models use the catch history from all nations and CPUE from Australian and New Zealand vessels. An alternative low-information stock assessment approach using an age-structured model was also applied using biological parameters borrowed from stock assessments of five New Zealand orange roughy stocks. That method used the catch history from all nations and an assumed maximum annual exploitation rate of 67% to estimate the minimum unfished biomass that would allow the historical catches to have been taken.

The second 2017 Workshop of the SC's Deepwater Working Group (held immediately before SC-05) considered these two assessment approaches, together with a separate model exploring the reasons for differences in results between the two approaches, and **recommended** to SC-05 that all science presented to the workshop was **considered acceptable** and should be considered by the SC when providing scientific advice to support the development of a new bottom fishing conservation and management measure. After considering the advice of its Deepwater Working Group and two summary papers from New Zealand and Australia, SC-05 **agreed** (para 114) that the scientific approach was appropriate ([report](#)).

With respect to the assessment of SPRFMO orange roughy stocks and ensuring sustainable fisheries, the fifth meeting of the Scientific Committee:

- **Noted** that the stocks on the Louisville Ridge (Louisville North, Central and South) have a lower potential of having low stock status, **recommended** a catch limit for the whole of the Louisville Ridge based on the sum of the 50th percentile yield estimates provided in SC5-DW14, the CHA stock assessment method, of **1,140 tonnes to apply for the area for no more than 2 years**. A significantly more precautionary approach is recommended if insufficient advancement is made in data collection and stock assessments for the relevant stocks within 2 years. The SC

recommends that, within this group, the Louisville Central stock should be prioritised for improved data collection and stock assessment.

- **Noted** that the stocks in the Tasman Sea (Lord Howe Rise, Northwest Challenger Plateau, and West Norfolk Ridge) are estimated to have a higher potential of being depleted, **recommended** a catch limit for the Tasman Sea stocks based on a 0.5 scaling of the 50th percentile yield estimates provided for relevant stocks in SC5-DW14 (690 tonnes) from the CHA stock assessment method, resulting in a catch limit of **346 tonnes for the area to apply for no more than 3 years**. A significantly more precautionary approach is recommended if insufficient advancement is made in data collection to support stock assessments for the relevant stocks in 3 years. The SC recommend that, within this group, the Lord Howe Rise and Northwest Challenger Plateau stocks should be prioritised for improved data collection and stock assessment.
- **Noted** that New Zealand will advise the Commission on an allowance for Westpac Bank which would be in addition to the limit proposed above.
- **Recommended** no allowance be included for the South Tasman Rise area which is closed to fishing by Australian and New Zealand vessels.

The sixth meeting of the Scientific Committee took place in September 2018. There was no updated stock assessment information presented, and the Scientific Committee:

- **Recommended** no changes to the catch limits for the Louisville Ridge and the Tasman Sea as generated at SC5.
- **Noted** that New Zealand's 2014 assessment of the biological orange roughy stock that includes the Westpac Bank was reviewed by New Zealand's working groups and is appropriate to support management.
- **Noted** that the stock assessment estimated the biomass of the stock to be 42% B₀, estimated an annual yield of 1 764 tonnes to maintain the biomass of the stock at or above 35% B₀, and that the current total allowable commercial catch limit for the entire area applied by New Zealand is 1 600 tonnes.

Based on SC advice, Australia and New Zealand propose precautionary catch limits in the new CMM as following:

- The total catch of orange roughy in the Louisville Ridge in the 2019 fishing year shall be limited to 1140 tonnes.
- The total catch of orange roughy in the Tasman Sea in the 2019 and 2020 fishing years shall be limited to 346 tonnes in each fishing year.
- The total catch of orange roughy throughout its range in the South Tasman Rise should not exceed 0 tonnes.

Following the New Zealand stock assessment of the biological orange roughy stock on the southern Challenger Plateau (which includes fish on the Westpac Bank and within the New Zealand EEZ), New Zealand reviewed the best available information from historic trawl surveys and catch data to estimate the proportion of the stock that is in the high seas

portion (on the Westpac Bank). This work, which was reviewed domestically, estimates that between 10-15% of the biological stock is resident outside of the New Zealand EEZ. Based on a mid-point of 12.5%, and the current sustainable catch limit of 1,600 tonnes for the whole stock, the catch limit for Westpac Bank is 200 tonnes.

[Provisions related to the application of catch limits to be included here]

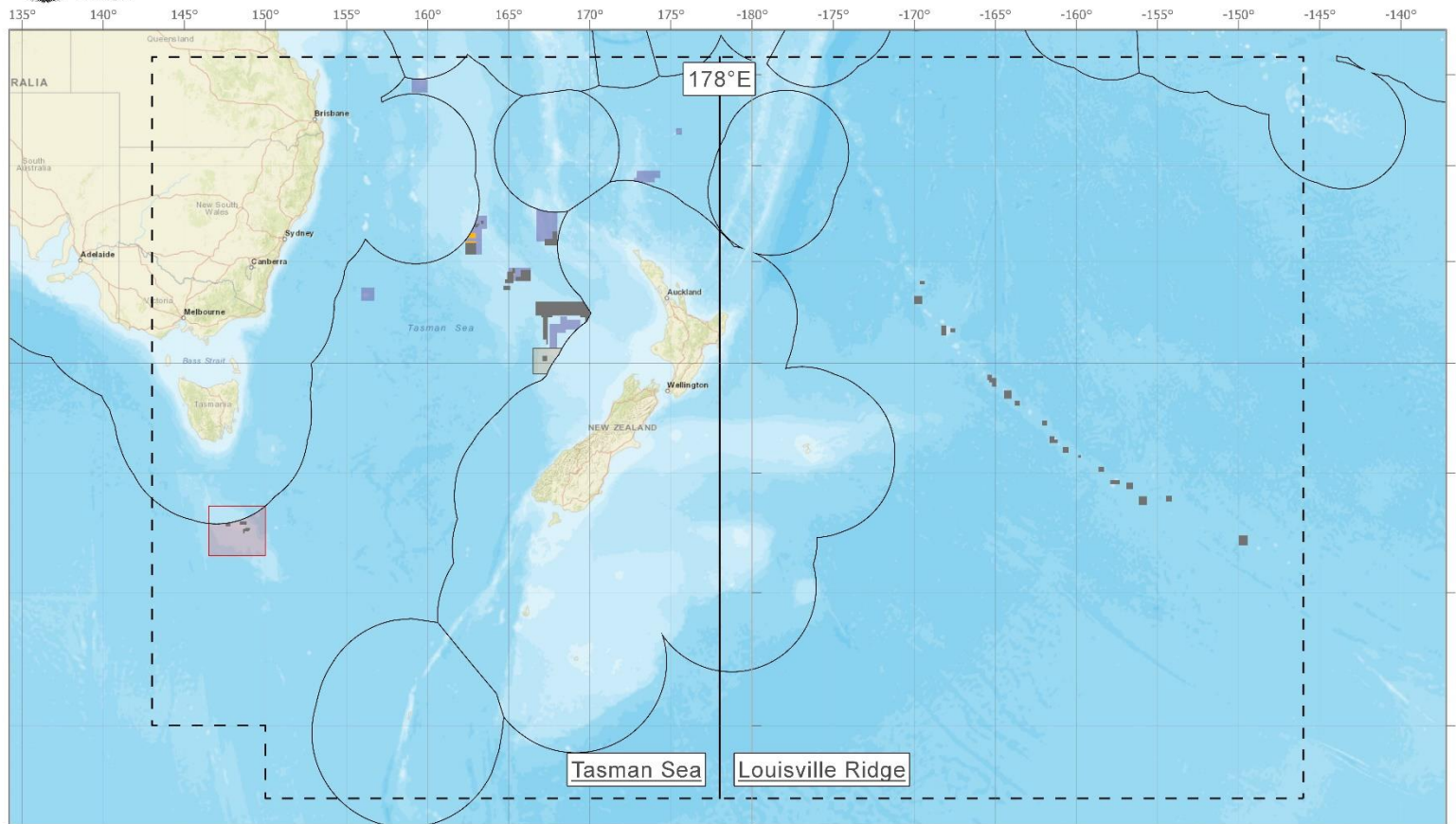
Catch limits of species other than orange roughy

Until the Scientific Committee recommends precautionary catch limits on the basis of its stock assessment framework, the catch of all other target and non-target fish species in the Evaluated Area shall be limited to a level that does not exceed the annual average catch levels of that Member or CNCP over the period 1 January 2002 to 31 December 2006. These years were used as there is no justification to take any other approach to setting non-orange roughy catch limits at the moment.

Appendix: SPRFMO Management Areas overview



Disclaimer: This map and all information accompanying it (the "Map") is intended to be used as a guide only, in conjunction with other data sources and methods, and should only be used for the purpose for which it was developed. The information on the Map is provided "as is" without any warranty, express or implied, and the user of the Map accepts no liability whatsoever in relation to any loss, damage or other costs relating to any person's use of the Map, including but not limited to any compilations, derivative works or modifications of the Map. Crown copyright ©. This map is subject to Crown copyright administered by Ministry for Primary Industries (MPI).



SPRFMO Management Areas: Overview

Date: 19/12/2018
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 Coordinate System: Mercator 41

- Bottom Trawl (Midwater Trawl & Bottom Line allowed)
- Midwater Trawl (Bottom Line allowed)
- Bottom Line Only
- Exclusive Economic Zones
- Evaluation Area
- South Tasman Rise
- the portion of the South Tasman Rise occurring in the Convention Area
- Wespac Bank



1:27,000,000

Data sources: Flanders Marine Institute (2018). Basemap data sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community.