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The Implementation of UNGA resolutions in the South Pacific deep sea

DSCC



The implementation of UNGA resolutions in the South Pacific deep sea: applying precaution and best available science

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Observer paper from the Deep Sea Conservation Coalition to SPRFMO SC-12

Abstract

The South Pacific Regional Fisheries Management Organisation (SPRFMO) is responsible for the conservation and management of high seas fisheries in the South Pacific Ocean, and for safeguarding the marine ecosystems of this area. It must do so following an ecosystem approach and the precautionary principle. SPRFMO is also responsible for implementing international commitments including United Nations General Assembly resolutions that call on countries to prevent significant adverse impacts (SAIs) on vulnerable marine ecosystems (VMEs). Significant adverse impacts from bottom trawl fishing have occurred and continue to occur, as recently as 2020. It is the role of the SPRFMO Scientific Committee (SC) to advise the Commission on how to prevent such impacts, and how to manage fishing according to best available science, at all times applying the precautionary approach to deal with uncertainties such as the impacts of climate change and gaps in information on the deep sea.

SPRFMO measure [CMM 03-2023](#) in para. 19 adopted a minimum level of 70% for the protection of indicator taxa of VMEs and while the Commission in the 12th Meeting was unable to make necessary modifications to the Bottom Trawl Management Areas (BTMAs) established in the measure, it is the task of the Commission to do so in its 13th meeting in 2025. There is nothing further for the SC-12 to do in this regard. Its consensus-agreed advice has been followed and the measure adopted. The SC has no reason to relitigate its advice and should resist any attempts to redefine significance by reference to a larger area than the BTMA level, such as the FMA or a bioregion.

With respect to VME thresholds, there are uncertainties associated with establishing reliable VME thresholds, with catchability being the key uncertainty and best available estimates are insufficient to produce quantitative estimates of catchability. Precautionary threshold limits for these taxa should be adopted to ensure adequate protection until more precise data is available.

With respect to stock limits and total allowable catches (TACs), there are currently no validated stock assessments for orange roughy stocks within SPRFMO. The last full assessments carried out, covering the period from 2017 to 2020, in 2022 were deemed unreliable and were rejected for use in setting catch limits. The 2024 stock assessment by New Zealand for ORH 7A - a straddling stock of orange roughy which includes the SPRFMO Southwest Challenger Bank (formerly Westpac Bank) - indicates that the biomass is below the SPRFMO management range and not projected to increase in the coming 5 years. If the most recent survey data is included, the biomass could be as low as 16% B₀. No TAC, or a zero limit, should be adopted in line with the precautionary approach.

Dr. Lissette Victorero's paper 'Seamounts as Vulnerable Marine Ecosystems' submitted to SC-12 provides the scientific foundation for classifying seamounts as VMEs, demonstrating that, based on the best available science, surveyed seamounts consistently meet at least four of the five VME criteria outlined in the FAO Deep-Sea Guidelines and subsequent UNGA resolutions. Seamounts should be formally recognised as VMEs and listed in Annex 9 of CMM 03-2023.

A separate paper on climate change underpins our recommendation that all SC advice and recommendations, including models and scientific papers, should fully consider the impacts of climate change and ocean acidification. In particular, a highly precautionary approach should be taken when establishing reference points and strategies to ensure resilience in the face of these challenges.

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1. Introduction and context

The United Nations General Assembly Resolution [61/105](#) (2006) laid down a number of steps to be taken by States and RFMO/As:¹ assessments; the identification of vulnerable marine ecosystems (VMEs); closing areas where VMEs, including seamounts, hydrothermal vents and cold water corals, are known to occur or are likely to occur; and establishing an encounter protocol. In 2009, the Food and Agriculture Organization (FAO) adopted the Deep-Sea Fishing Guidelines² to assist in implementing UNGA resolution 61/105.

Over the subsequent 18 years, the Deep Sea Conservation Coalition (DSCC) has held observer status at deep-sea RFMOs, actively supporting their fisheries management efforts, and advocating for the full implementation of UNGA resolution 61/105 and subsequent resolutions.

The SPRFMO Convention, following the lead of UNGA resolution 61/105,³ mandates the Scientific Committee to “provide advice and recommendations to the Commission and its subsidiary bodies on the impact of fishing on the marine ecosystems in the Convention Area, including advice and recommendations on the identification and distribution of vulnerable marine ecosystems, the likely impacts of fishing on such vulnerable marine ecosystems and measures to prevent significant adverse impacts on them.” Measures⁴ are to “protect the habitats and marine ecosystems in which fishery resources and non-target and associated or dependent species occur from the impacts of fishing, including measures to prevent significant adverse impacts on vulnerable marine ecosystems and precautionary measures where it cannot adequately be determined whether vulnerable marine ecosystems are present or whether fishing would cause significant adverse impacts on vulnerable marine ecosystems.”

The FAO Deep-Sea Guidelines, developed following UNGA resolution 61/105 and to assist States and RFMOs in implementing it, specifically address the identification of significant adverse impacts (SAIs) on vulnerable marine ecosystems (VMES) in paragraphs 17 and 18:

Significant adverse impacts

17. Significant adverse impacts are those that compromise ecosystem integrity (i.e. ecosystem structure or function) in a manner that: (i) impairs the ability of affected

¹ See UNGA resolution 61/105 para. 83.

² FAO International Guidelines for the Management of Deep-sea Fisheries in the High Seas. 2009. At <https://openknowledge.fao.org/handle/20.500.14283/i0816t>. Developed at the request of the Food and Agriculture Organization of the United Nations (FAO) Committee on Fisheries (COFI) at its twenty-seventh session (March 2007) in order to assist States and regional fisheries management organizations and arrangements (RFMO/As) in sustainably managing deep-sea fisheries and in implementing the United Nations General Assembly (UNGA) Resolution 61/105.

³ SPRFMO Convention article 10(2)(c)

⁴ SPRFMO Convention article 20(1)(d)

populations to replace themselves; (ii) degrades the long-term natural productivity of habitats; or (iii) causes, on more than a temporary basis, significant loss of species richness, habitat or community types. Impacts should be evaluated individually, in combination and cumulatively.

18. When determining the scale and significance of an impact, the following six factors should be considered:

- i. the intensity or severity of the impact **at the specific site being affected**;
- ii. the spatial extent of **the impact** relative to the availability of the habitat type affected;
- iii. the sensitivity/vulnerability of the ecosystem to **the impact**;
- iv. the ability of an ecosystem to recover from harm, and the rate of such recovery;
- v. the extent to which ecosystem functions may be altered by **the impact**; and
- vi. the timing and duration of **the impact** relative to the period in which a species needs the habitat during one or more of its life-history stages.

These should be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the provisions in their context and in the light of their object and purpose.⁵ The context is the intention to operationalise UNGA resolution 61/105, para 80 of which calls on States and RFMO/As to: “consistent with the precautionary approach and ecosystem approaches, to sustainably manage fish stocks and protect vulnerable marine ecosystems, including seamounts, hydrothermal vents and cold water corals, from destructive fishing practices, recognizing the immense importance and value of deep sea ecosystems and the biodiversity they contain.” A plain language reading of paragraphs 17 and 18 of the Guidelines is that they are addressing impacts on the VME at the specific site of the impact. This is discussed below. There is no doubt that bottom trawling impacts VMEs at the site of impact.⁶

The context of the issue of significant adverse impacts on VMEs must frame the discussion in the SC, which draws its mandate from the Convention. The issue has been extensively discussed in the SPRFMO Intersessional Working Group. This discussion led to the adoption of CMM 03-2023. The issues that have arisen in the SC must be considered in this context.

Specifically, the SC should take a precautionary and ecosystem approach in its considerations and advice to the Commission. Under Article 3(1), “[i]n giving effect to the objective of this Convention and carrying out decision-making under this Convention, the Contracting Parties, the Commission and subsidiary bodies established under Article 6 paragraph 22 and Article 9 paragraph 13 shall: (b) apply the precautionary approach and an ecosystem approach in accordance with paragraph 2.” So there is no doubt that the Scientific Committee shall apply the precautionary approach and an ecosystem approach.⁷

⁵ Following the rule in the Vienna Convention on the Law of Treaties, article 31(1):

A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose. While not treaties, the provisions should still be interpreted in this manner.

⁶ Anderson and Clark, M. (2003); Bilewitch and Tracey (2020); Clark *et al* (2021); Clark *et al* (2019), Meyer (2023).

⁷ See DSCC 2021 - Precautionary approach and ecosystem approach in the context of prevention of SAI on VME. SC9-Obs01

2. The status of deep-sea science in SPRFMO

Implementation of CMM 03-2023

Adopted by consensus by SPRFMO Members, [CMM 03-2023](#) (para. 19) provides that:

“From 2024, the Commission shall apply a minimum of 70% protection of suitable habitat for each modelled VME indicator taxa. The Commission, taking into account the advice and recommendations of the Scientific Committee, shall review the boundaries of the Management Areas established in paragraph 14 and Annex 4 of this CMM and make any modifications necessary to achieve this level of protection at its 12th annual meeting in 2024.”^[1]

[1] Recognising that the minimum level of protection is an interim approach recommended in COMM11-Doc07, and notwithstanding paragraph 19, the Commission may, in 2024 or any year thereafter, adopt a different level of protection to prevent significant adverse impacts on VMEs. The Commission will receive further advice on thresholds for SAIs, multi-spatial scale risk assessments to assess encounters, and how to reduce uncertainties in these risk assessments based on the fulfilment of the work set out in the Scientific Committee’s multi-annual work plan including to assess the feasibility of developing catchability estimates for VME indicator taxa.

The CMM followed on from the Bottom Fishing Intersessional Working Group and its report to the 2023 SPRFMO Commission 11 ([Comm11-Doc07](#)). The [Report of the 2023 Commission meeting](#) noted the following discussion over paragraph 19:

58. Many Members emphasised the importance of fulfilling the Commission’s obligations and highlighted the fact that CMM 03-2023 was agreed by consensus during the previous annual meeting. Those Members reiterated that paragraph 19 of CMM 03-2023 is clear and unambiguous regarding the Commission’s obligations, and derogating from this would require consensus from the Commission to amend the protection thresholds in CMM 03-2023, which was not proposed to the Commission.

59. New Zealand noted that it was unable to support this proposal at this Commission Meeting, as it needed more time for its new government to understand the implications of this proposal and to undertake consultations with stakeholders. New Zealand disagreed with the characterisation of the proposed amendments as a mechanical change. New Zealand noted that the proposal would dramatically decrease the areas open for bottom trawling by 47%, to 0.05% of the Convention Area. New Zealand noted that bottom trawling under this CMM requires 100% observer coverage, has an encounter protocol that includes a move-on rule, and additional area closures.

60. New Zealand disagreed with the interpretation of paragraph 19 and CMM 03-2023 expressed by many Members.

61. The Faroe Islands expressed support for New Zealand’s position in its entirety.

62. Many Members expressed disappointment with the objections raised by New Zealand, reiterating the importance of ensuring that the Commission implements its existing obligations regarding bottom fishing. The United States emphasised that all Members experience changes in government, but that fact cannot undermine decisions the Commission has already taken.

63. Australia noted that, in its view, the decision made at SC11 to establish 70% protection thresholds for VME indicator taxa continues to be an appropriate decision that is precautionary, provides for sustainable fishing and is consistent with UN General Assembly Resolutions, the Fish Stocks Agreement, and the SPRFMO Convention.

64. New Zealand noted that the Commission already takes a highly precautionary approach to bottom trawling.

65. HSTG shared a statement (Annex 10d) in opposition to Australia's proposal.

66. DSCC shared a statement (Annex 10e) on the blocking of this proposal by some Members.

67. The Commission did not adopt the proposal (COMM12-Prop10) from Australia.

The commitment in para 19 of the measure was for:

“The Commission, taking into account the advice and recommendations of the Scientific Committee, shall review the boundaries of the Management Areas established in paragraph 14 and Annex 4 of this CMM and make any modifications necessary to achieve this level of protection at its 12th annual meeting in 2024.”

Based on the above sequence of statements and decision-making there is nothing further for the SC-12 to do: it is for the Commission, taking into account the advice and recommendations of the SC, to review the boundaries of the Bottom Trawl Management Areas (BTMAs) established in paragraph 14⁸ of the measure and Annex 4 (with the BTMA coordinates) and make any modifications necessary to achieve the 70% level of protection. The DSCC emphasises that it does not consider that the protection of 70% of VME indicator taxa from significant adverse impacts is enough, but it is the minimum required by CMM-03.

The implication of continued failure to implement CMM 03-2023 para 19

It is important to note that [CMM 03a-2023](#) on Deepwater Species in the SPRFMO Convention Area provides in paragraph 4 that “*All activities conducted under this CMM must be conducted in accordance with CMM 03-2023 (Bottom Fishing).*” Therefore for as long as para 19 of CMM 03-2023 is not implemented, no bottom fishing can be carried out under CMM 03a-2023.

Bioregionalisation

The SC should resist any attempts to redefine significance by reference to a larger area than the BTMA level, such as the FMA or a bioregion. The BTMA level was chosen for good reason: measuring the significance of impacts at the level of the specific management area for bottom trawling (BTMA).

⁸ CMM 2023-03 para 14. The Commission hereby establishes within the Evaluated Area the following Management Areas, the coordinates for which are provided in Annex 4:

- a) Bottom trawl Management Area
- b) Mid-water trawl Management Area
- c) Bottom line Management Area

The Bottom Fishing Intersessional Working Group (BF-IWG)⁹ found that Management Area boundaries should continue to be the first line of defence, supplemented by the Encounter Protocol (page 3).

The BF-IWG also found that “Area closures are the only reliable management measures that will prevent SAIs on VMEs from fishing methods with substantial bottom contact” (para 81), and noted that closures are disproportionately distributed across Fishery Management Areas, with no complete closures of open areas in 7 of 9 Fishery Management Areas. (para 90)(c)).

The BF-IWG cited the SC8 and SC9 findings that the “smaller scale of the Fishery Management Areas is likely to be a more biologically appropriate scale at which to assess and manage these impacts than larger scales.”¹⁰ It is important not to misquote this and erroneously state it as a conclusion that FMAs are more appropriate than smaller scales. That is not what the SC advised in 2020.¹¹

A bioregionalisation approach attempts to redefine significance over a much larger area, yet, it is at variance with the precautionary approach, due to the paucity of data. It also conflicts with the ecosystem approach by overlooking connectivity, and the development of CMM 03-2023 and work done in the SC to date.

The SC has advised that the spatial scale of the assessment of fishing impacts on VMEs should be: relevant to the life history traits of component VME species that limit recovery; the spatial extent of VME habitat type; and the connectivity between populations to ensure viable VME populations at a given spatial scale.¹²

The BF-IWG noted the limitations of the current habitat suitability index (HSI) modelling approach:¹³

- a. The relationship (if any) between habitat suitability models and taxa abundance is uncertain and difficult to estimate, meaning there is a risk that the amount of “protected” VME (e.g., outside the area open to fishing) is less than predicted by the current presence-only models;
- b. The incompleteness of VME indicator taxa modelled – there were then no habitat suitability models for 4 of the VME indicator taxa listed in Annex 5 of CMM 03-2022;
- c. The coarse taxonomic resolution of the modelled VME indicator taxa, which may mask ecological patterns and vulnerabilities at the scale of populations;
- d. The scale of habitat suitability predictions, which may not relate to all VME distributions and means the habitat suitability index models are limited in their ability to inform assessment and prevention of SAIs at the scales of populations.

⁹ [SPRFMO Bottom Fishing Intersessional Working Group \(2023\)](#) Review of CMM 03 Bottom Fishing. (BF-IWG Report)

¹⁰ BF-IWG report, citing paragraph 73 of the SC8 Report, 2020. The Scientific Committee reiterated this advice at SC9 in 2021 (paragraph 68 of the SC9 Report, 2021) and further recommended that that ecologically relevant spatial scales for assessing protection levels to prevent SAIs on VME indicator taxa still remain to be agreed, but that the existing information at the FMA is likely to be more biologically appropriate compared with larger scales (paragraph 78(e) of the SC9 Report, 2021).

¹¹ Paragraph 73 of the [SC8 Report](#), 2020: “Agrees that, although the appropriate scale to assess and manage impacts on VMEs has not been defined in SPRFMO, the smaller scale of the Fishery Management Areas is likely to be a more biologically appropriate scale at which to assess and manage these impacts than larger scales.”

¹² SC9 Report, 2021, paragraph 71.

¹³ BF-IWG Report, para. 19.

The BF-IWG also acknowledged¹⁴ that a plain reading of paragraph 18 of the FAO Deep-Sea Guidelines suggests that there should be some level of scientific enquiry undertaken at the site-level, in addition to the other 5 factors specified. The paragraph also addresses “significant adverse impacts” and states that: “*When determining the scale and significance of an impact, the following six factors should be considered: i. the intensity or severity of the **impact at the specific site being affected***” (Our emphasis). “Impact” is referred to throughout para 18.¹⁵

The bioregionalisation approach fails to address the ‘impacts’ in the task of assessing significant adverse impacts. The Scientific Committee should resist the attempts to turn away from assessing impacts of bottom trawling on vulnerable marine ecosystems.

Recommendation: The bioregionalisation approach should be rejected and the Scientific Committee should resist the attempts to turn away from assessing impacts of bottom trawling on vulnerable marine ecosystems.

VME Thresholds and catchability

The BF-IWG found that there are uncertainties associated with setting reliable VME thresholds and that catchability is the key uncertainty (para 119). Despite this, the BF-IWG found that “*the methods underpinning the way VME thresholds are derived continue to be acceptable to the Scientific Committee and represent the best available science.*” (para 120) At the same time, SC 9¹⁶ advised that the best available estimates are insufficient to yield quantitative estimates of catchability.¹⁷ As such, choosing one percentile over another is an inherently arbitrary decision, without a scientific basis, given the limitations in the data and understanding until SPRFMO has an improved understanding of catchability (para 126) given that it is generally recognised as being low for VME taxa.

Continued reliance on the current percentile method of setting taxa limits flies in the face of the requirement in the Convention to apply the precautionary approach.

Recommendation: As is provided in the [SC Multi-Annual Plan](#) , SC should develop a research programme to allow the determination of taxon-specific estimates of catchability for VME indicator taxa.

Recommendation: In the meantime, precautionary VME threshold taxa limits should be adopted.

¹⁴ BF-IWG Report, para. 14.

¹⁵ 18. When determining the scale and significance of an impact, the following six factors should be considered:

- i. the intensity or severity of the impact at the specific site being affected;
- ii. the spatial extent of the impact relative to the availability of the habitat type affected;
- iii. the sensitivity/vulnerability of the ecosystem to the impact;
- iv. the ability of an ecosystem to recover from harm, and the rate of such recovery;
- v. the extent to which ecosystem functions may be altered by the impact; and
- vi. the timing and duration of the impact relative to the period in which a species needs the habitat during one or more of its life-history stages.”

¹⁶ SC 9 report, para 56(d) and para. 132(b) of SC10 Report 2022.

¹⁷ See also Stephenson et al (2022).

3. Orange Roughy Catch Limits

The current orange roughy catch limits for all orange roughy stocks, except Southwest Challenger Bank (formerly Westpac Bank) are based on a minimum biomass assessment in 2022 after the previous assessments were shown to “be unreliable” (SC10, para 113).

The last full assessments carried out and reported to the SC in 2017 to 2020 were found to be unreliable, insensitive to actual data, and driven by model assumptions, and were rejected for use in setting catch limits (See [SC10-DW01 rev1](#)). The SC:

b. noted that even with accurate age data to inform the previously accepted stock assessment modelling approach, misspecification of natural mortality rate or year class strength could produce substantially misleading biomass estimates. Error in age frequencies could result in the true biomass being outside of the 95% CI of the assessment model, even if the assessment model had perfect knowledge for all other parameters.

c. noted that error and bias in orange roughy age samples can be relatively high.

These uncertainties have not been resolved. In SC8 the SC noted, when considering orange roughy assessments “that a more precautionary approach should be taken if insufficient advancement is made in data collection to support stock assessments including acoustic surveys for the relevant stocks in that time.”

Similar problems with previous orange roughy assessments have occurred for stocks within the New Zealand EEZ. The unreliability of assessments on the East and South Chatham Rise¹⁸ led to major catch limit reductions and the self-suspension of MSC certification over the majority of the New Zealand orange roughy catch.¹⁹ The assessment for the Northwest Chatham Rise was also down-weighted and has yet to be revised. The Chatham Rise is the nearest in-zone orange roughy fishery to SPRFMO’s Louisville FMAs.

There are multiple issues with orange roughy stock assessments which are relevant to the status of orange roughy stocks in the SPRFMO area.²⁰ Issues raised in recent orange roughy stock assessments include: the likelihood that natural mortality is much lower than the default value of 0.045 used by New Zealand but closer to the M estimated in Australian assessments of 0.033,²¹ and ages at full maturity higher than were previously assumed, as well as indications of potential skipped spawning in younger fish are relevant to SPRFMO roughy stocks. The 2024 SW Challenger assessment estimated levels of natural mortality was below “the orange roughy default (0.045 per yr) in all model runs.” Seamounts and similar features play a crucial role in orange roughy spawning. Recent assessments of orange roughy stocks in New Zealand waters have found that spawning aggregations have disappeared from overfished and heavily trawled areas, with no signs of recovery.²² For some sub-stocks (e.g. Northwest Chatham Rise) the only known spawning aggregations now occur on seamounts that are closed to trawling.²³ In the Southwest

¹⁸ [Fisheries New Zealand \(2023\)](#)

¹⁹ [Daly, N. \(2023\)](#)

²⁰ See Fisheries New Zealand (2024)(b), Fisheries New Zealand (2023) and Fisheries New Zealand (2022).

²¹ Burch et al 2023

²² Escobar-Flores and Maurice (2024), Fisheries NZ (2024) (a) and (b)

²³ See page 917 of [Fisheries New Zealand \(2023\)](#)

Challenger fishery last year's acoustic survey only found a spawning aggregation on the high seas part of the fishery and none was found within the New Zealand EEZ.

Southwest Challenger Bank (formerly Westpac Bank)

For the Westpac Bank (renamed Southwest Challenger Bank by the New Zealand Geographic Board in 2023), the TAC expires at the next Commission meeting. The Commission agreed in CMM 03a-2023 that:

“The total catch of orange roughy in Westpac Bank shall be limited to 258 tonnes (based on the assumption that 12.5% of the Southwest Challenger Plateau biomass resides in the Westpac Bank area) in each of the, 2023, 2024 fishing years but may be reviewed by the Commission following advice from the Scientific Committee based on a stock assessment undertaken by New Zealand and other relevant information.”

The catch limit for the Westpac Bank was extended for 1 year at the 2023 Commission meeting (para 45 CMM11) due to COVID-19 preventing an acoustic survey taking place.

An acoustic survey was undertaken in 2023 for the orange roughy straddling stock (ORH 7A)²⁴ (this includes the Southwest Challenger Bank within the SPRFMO area) during the orange roughy spawning season but it only found a spawning orange roughy aggregation on the Volcano feature on Westpac Bank. No spawning aggregations were found in the usual areas with the NZ EEZ. The loss of spawning aggregations is not new in orange roughy fisheries, eg the large spawning aggregation from the 1980s and 1990s on the Central Flats in the Challenger stock no longer occurring.²⁵

The 2024 stock assessment undertaken by New Zealand (ORH7A) indicates that this straddling stock is outside of the SPRFMO management range of "at or above 40% B₀". Even under the most optimistic of the three model runs considered in the New Zealand stock assessment, the ORH 7A orange roughy stock is only 35% B₀ in 2024 and not projected to increase in the next 5 years. The most pessimistic stock assessment uses all of the acoustic surveys including the 2023 survey. The “base case” does not use any abundance indices since 2013. “Recent acoustic surveys in 2018 and 2023 which have suggested lower abundance were not included in the base case.”²⁶

The model runs that used the most recent (2023) survey data indicated the stock could be much lower than the “base case” is (16% B₀ in 2024, and potentially declining to 10% B₀ in five years if the status quo catch limit continues).²⁷

A recent study (Edgar et al, 2024) indicated that, globally, stock assessments tend to have a positive bias which can indicate “phantom recovery” of overfished stocks. That study found that “85% more stocks than currently recognized have likely collapsed below 10% of maximum historical biomass.” and “66% had positive assessment bias, indicating that the full extent of biomass depletion was not known when management actions were considered.”²⁸

²⁴ [Fisheries New Zealand \(2024\) \(b\)](#)

²⁵ para 3.5 Orange Roughy May 2024, p881 May Plenary Report

²⁶ Page 967, May Plenary

²⁷ See tables 5 and 6 of [Fisheries New Zealand \(2024\) \(b\)](#). Model run “All6” includes the 2023 survey data.

²⁸ [Graham J. Edgar et al. \(2024\)](#)

All of the three model runs applied in the ORH7A assessment showed a peak in biomass-in 2015 and then an ongoing decline in biomass with catches equal to the current in-zone catch limit, no allocation was made for extra non-New Zealand catches.

Precaution must be applied by the SC in making recommendations to the Commission especially given the uncertainties in the assessment and the findings of Edgar et al 2024. The assessment issues include: the most pessimistic results in current biomass (16% B₀ in 2024) occurred in the model run using the latest acoustic results (2018 and 2023); the ongoing decline in biomass occurred in all three model runs at current TAC, and the absence of a spawning aggregation in zone. For all these reasons DSCC recommends that the TAC should be set at zero for this area.

Recommendation: That the SC recommends that the orange roughy catch limit (TAC) for the Southwest Challenger Bank (formerly Westpac Bank) should be zero.

4. Seamounts as VMEs

A separate paper by Dr. Lissette Victorero offers a scientific basis for classifying seamounts as VMEs, showing that, based on the best available science, all surveyed seamounts can consistently meet at least four of the five VME criteria established in the FAO Deep-Sea Guidelines.

Recommendation: That seamounts are recognised as VMEs and registered as such in Annex 9 of CMM 03-2023, following para. 48 of that CMM.

5. Bottom Fishery Impact Assessment

The Cumulative Bottom Fishery Impact Assessment for Australian and New Zealand bottom fisheries, 2023 (SC11-DW01_rev1) (BFIA)²⁹, due for review in 2026, needs to follow the SPRFMO [BFIA Standard](#) as approved by SC-7 in 2019. Members and CNCPs are to ensure that an assessment meeting the BFIA requirements is submitted to the Scientific Committee at least every 3 years, and also when a substantial change in the fishery has occurred, such that it is likely that the risk or impact of the fishery may have changed.³⁰ The SC is required to review, and update as required, the BFIA Standard every 5 years, starting in 2025, to ensure that it reflects, as appropriate, best practice.³¹ Therefore, the procedure should be that the BFIA Standard is reviewed next year, then the BFIA, taking into account the revised BFIA Standard, should be revised for 2026.

Moreover, the BFIA Standard, and the BFIA should follow the BBNJ Agreement Part IV requirements, since equivalence between the BBNJ and SPRFMO assessments is required. That will mean a significant change to the way BFIA's have been implemented to date.

²⁹ See SPRFMO, [Benthic Impact Assessments](#).

³⁰ CMM 03-2024 para. 23.

³¹ CMM 03-2024 para. 25.

It is also essential that the VME indicator taxa encounter weight thresholds be updated in the BFIA review.

6. Climate Change and Ocean Acidification

In 2023, SPRFMO adopted [Decision 13-2023 on climate change](#). That decision requested the SC to make recommendations to the Commission on how existing CMMs could be designed or proposed new CMMs established for the adaptation and resilience to climate change impacts in the Convention Area. Practically, this implies that all SC advice and recommendations should take into account climate change and ocean acidification.

A separate paper sets out DSCCs proposals for approaches by the SC on Climate Change and Ocean Acidification.

Recommendation: All SC advice and recommendations, including models and scientific papers, take into account climate change and ocean acidification.

Recommendation: That any advice relying on set reference points or strategies is highly precautionary, given the lack of knowledge surrounding the effects of climate change on these agreements.

7. Recommendations

The Deep Sea Conservation Coalition recommends that:

1. The bioregionalisation approach should be rejected and the Scientific Committee should resist the attempts to turn away from assessing impacts of bottom trawling on vulnerable marine ecosystems.
2. As is provided in the [SC Multi-Annual Plan](#) for 2023, SC should develop a research programme to allow the determination of taxon-specific estimates of catchability for VME indicator taxa
3. In the meantime, more precautionary VME threshold taxa limits should be adopted.
4. The SC recommends no TAC be issued for the Southwest Challenger Bank (Westpac Bank).
5. All seamounts should be registered as VMEs in Annex 9 of CMM 03-2023, following para. 48 of that CMM.
6. All SC advice and recommendations, and models and scientific papers, take into account climate change and ocean acidification.
7. Any advice relying on set reference points or strategies is highly precautionary, given the lack of knowledge surrounding the effects of climate change.

8. References

- Anderson, O. and Clark, M. (2003) [Analysis of bycatch in the fishery for orange roughy, *Hoplostethus atlanticus*, on the South Tasman Rise](#). Marine and Freshwater Research 54(5):643-652
- Australian Fisheries Management Authority (2022) [Orange Roughy \(*Hoplostethus atlanticus*\) Stock Rebuilding Strategy 2022](#).
- Bilewitch, J.P. and Tracey, D. (2020) [Protected coral connectivity in New Zealand](#). Final Report for project POP2018-06 prepared by NIWA for the Conservation Services Programme, Department of Conservation. DOC19306-POP201806.
- Burch, P., S. Curin-Osorio, P. Bessell-Browne, G. N. Tuck, M. Haddon, N. C. Krueck, A. E. Punt (2023) Implications of the maximum modelled age on the estimation of natural mortality when using a meta-analytic prior: The example of eastern Australian orange roughy (*Hoplostethus atlanticus*), Fisheries Research, Vol 258, 2023, 106534, ISSN 0165-7836, <https://doi.org/10.1016/j.fishres.2022.106534> .
- Clark, M., Wood, B., Mackay, K., Anderson, O., Hart, A., Rickard, G. and Rowden, A. (2022) [Underwater Topographic Features in the New Zealand region: development of an updated 'SEAMOUNT' database and information on the extent and intensity of deep-sea trawl fisheries on them](#). New Zealand Aquatic Environment and Biodiversity Report No. 291. September 2022.
- Clark, M.R.; Bowden, D.A.; Stewart, R.; Rowden, A.A.; Goode, S.L. (2022) [Seamount recovery: analysis of 20 years of time-series data from the Graveyard Knolls, Chatham Rise, New Zealand](#). New Zealand Aquatic Environment and Biodiversity Report No. 292.
- Clark, M. R.; Bowden, D. A.; Rowden, A. A. and Stewart, R. (2019) [Little Evidence of Benthic Community Resilience to Bottom Trawling on Seamounts After 15 Years](#). Frontiers in Marine Science.
- Daly, N. (2023) [Seafood New Zealand "self-suspends" MSC certification of orange roughy fishery](#). Seafood Source, 4 December 2023.
- Deep Sea Conservation Coalition (2024) Implementing SPRFMO Decision 13-2023 on climate change requires a 'paradigm shift'. Observer paper submitted to SPRFMO SC12. Document number TBC.
- Deep Sea Conservation Coalition (2021) The precautionary approach and ecosystem approach in the context of the prevention of significant adverse impacts on Vulnerable Marine Ecosystems. [SC9-Obs01](#).
- Edgar, G. J. *et al.* (2024) Stock assessment models overstate sustainability of the world's fisheries. Science 385, 860-865. <https://www.science.org/doi/10.1126/science.adl6282>
- Escobar-Flores, P.C.; Maurice, A. (2024) [Estimation of the abundance of orange roughy on the southwest Challenger Plateau \(ORH 7A\) including Westpac Bank](#). New Zealand Fisheries Assessment Report 2024/26.
- Fisheries New Zealand (2024) (a) [Review of sustainability measures for orange roughy \(ORH 7A\) for 2024/25](#). Fisheries New Zealand Discussion Paper No: 2024/16. June 2024.
- Fisheries New Zealand (2024) (b) Fisheries Assessment Plenary, May 2024. Stock Assessments and Stock Status, Volume 2. [Orange Roughy Challenger Plateau \(ORH 7B\)](#).

Fisheries New Zealand (2023) Fisheries Assessment Plenary, May 2023. Stock Assessments and Stock Status, Volume 2. [Orange Roughy, Chatham Rise and Southern New Zealand \(ORH 3B\)](#).

Fisheries New Zealand (2022) Fisheries Assessment Plenary, May 2022. Stock Assessments and Stock Status, Volume 2. [Orange Roughy, Cape Runaway to Banks Peninsula \(ORH 2A, 2B, 3A\)](#).

Food and Agriculture Organization of the United Nations (2009) [FAO International Guidelines for the Management of Deep-sea Fisheries in the High Seas](#). 2009.

Meyer, S. (2023) Report - Final results: INT2021-02 [Characterisation of protected coral interactions](#). Report for the Department of Conservation by Proteus.

New Zealand New Zealand Geographic Board (2023) [Notice of Decisions to Alter Undersea Feature Names as Official](#). 7 June 2023.

South Pacific Regional Fisheries Management Organisation (2023) Conservation and Management Measure for the Management of Bottom Fishing in the SPRFMO Convention Area. [CMM 03-2023](#).

South Pacific Regional Fisheries Management Organisation (2023) (a) Conservation and Management Measure for Deepwater Species in the SPRFMO Convention Area. CMM [03a-2023](#).

South Pacific Regional Fisheries Management Organisation (2022) [10th Scientific Committee meeting report](#). Wellington, New Zealand.

South Pacific Regional Fisheries Management Organisation (2021) [9th Scientific Committee meeting report](#). Wellington, New Zealand.

South Pacific Regional Fisheries Management Organisation (2020) [8th Scientific Committee meeting report](#). Wellington, New Zealand.

South Pacific Regional Fisheries Management Organisation (2019) [7th Annual Meeting of the Commission Meeting Report](#) 23-27 January 2019, The Hague, The Netherlands.

SPRFMO Bottom Fishing Intersessional Working Group (2023) [Report of the Bottom Fishing Intersessional Working Group](#). Review of CMM 03 Bottom Fishing. SPRFMO COMM 11 – Doc 07

South Pacific Regional Fisheries Management Organisation (2015) [Convention on the Conservation and Management of High Seas Fishery Resources of the South Pacific Ocean](#)

Stephenson, F., Geange, S., Rowden, A., Charsley, A., Anderson, O. and Biggerstaff, A. (2022) [Further analysis of the catchability of VME indicator taxa and the design of a related research programme](#). SPRFMO SC paper SC10-DW04.

United Nations (2006) Resolution 61/105 on [Sustainable fisheries](#), including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments.

United Nations (1995) [Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks](#). Adopted 4 August 1995. Entered into force 11 December 2001.

United Nations (2023) [Agreement](#) under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction. New York, 19 June 2023.

Victorero, L. *et al.* (2024) Seamounts as Vulnerable Marine Ecosystems. Observer paper submitted by the Deep Sea Conservation Coalition to SPRFMO SC12, August 2024. Document number TBC.

[Vienna Convention on the Law of Treaties](#) (1969) Concluded at Vienna 23 May 1969. Entered into force: 27 January 1980. UN Doc A/Conf 39/28, UKTS 58 (1980), 8 ILM 679. 1969.