Fisheries New Zealand
Tini a Tangaroa

Public Submissions Received for the 2023 October Sustainability Round

August 2023

New Zealand Government

Table of submissions and responses on 2023 October sustainability round proposals[1]

#	Name/Organisation	Relevant stock proposals
Submissions on multiple proposals		
1	Te Ohu Kaimoana	GLM 9, SUR 1A & 1B, SKI 1 & 2, TRE 2, GUR 3, STA 7, SWA 3
2	Iwi Collective Partnership (**ICP**)	GLM 9, SUR 1A & 1B, SKI 1 & 2, TRE 2, SWA 3
3	New Zealand Sport Fishing Council (**NZSFC**) and LegaSea, joint recreational submission with the New Zealand Angling & Casting Association (NZACA)	DV proposals, TRE 2, GUR 3
4	Royal New Zealand Society for the Prevention of Cruelty to Animals Inc. (**RNZSPCA**)	DV proposals, GLM 9, SUR 1A & 1B, SKI 1 & 2, TRE 2, GUR 3, STA 7, SWA 3
5	Seafood New Zealand – Inshore Council (**Inshore Council**)	DV proposals, TRE 2, SKI 1 & 2
6	Southern Inshore Fisheries Co. Ltd. (**Southern Inshore Fisheries**)	DV proposals, GUR 3, STA 7
7	Sealord Group Ltd.	SKI 1 & 2, SWA 3
8	Ngāti Tama ki Te Waipounamu Trust (**Ngāti Tama**)	STA 7, SWA 3
9	Rangitāne o Wairau	STA 7, SWA 3
10	Ngātiwai Holdings Ltd.	SUR 1A & 1B, SKI 1, SWA 3
11	Te Aitanga a Mate Te Aowera & Te Whanau a Hinekehu Takutai Kaitiaki Trust	TRE 2, SKI 2
12	Ngati Wakarara Ngati Hau Takutai Kaitiaki Trust	TRE 2, SKI 2
13	Ngāti Mutunga o Wharekauri Asset Holding Company Ltd.	GUR 3, SWA 3
14	NZ Federation of Commercial Fishermen Inc.	General submission
15	Ben (last name not provided)	General submission
Submissions on individual proposals		
16	Egmont Seafoods Ltd.	DV proposals
17	Prof. A. Jeffs, University of Auckland	GLM 9
18	Coromandel Marine Farmers Association (CMFA)	GLM 9
19	Moana Project - Dr. Romain Chaput	GLM 9
20	Aquaculture New Zealand	GLM 9
21	The Mussel Reef Restoration Trust	GLM 9
22	Mai i Ngā Kuri a Wharei ki Tihirau Iwi Customary Fisheries Forum	SUR 1B
23	Te Mana o Ngati Rangitihi Trust	SUR 1B
24	Hauraki Gulf Forum	SUR 1B
25	Kina Industry Council	SUR 1A & 1B
26	Pāua Industry Council	SUR 1A & 1B
27	New Zealand Rock Lobster Industry Council	SUR 1A & 1B
28	Specialty and Emerging Fisheries Group	SUR 1A & 1B
29	Cando Fishing Ltd.	SUR 1A & 1B
30	P. Herbert (Herb)	SUR 1A & 1B
31	EnviroStrat/Kinanomics NZ Ltd.	SUR 1A & 1B
32	Dr. A. Spyksma, Dr. P. Caiger, C. Balemi, & K. Miller	SUR 1A & 1B
33	Stet Ltd. (S. Lee)	SUR 1A & 1B
34	A. Spence	SUR 1A & 1B
35	M. Caldwell	SUR 1A & 1B

[1] Some individuals/organisations generally endorsed submissions from another organisations. In those cases only the stocks that were specifically submitted on are listed in the relevant stock proposals column.

36	Chatham Islands Enterprise Trust	GUR 3
37	Seafood New Zealand – Deepwater Council	SWA 3
38	Maruehi Fisheries Ltd.	SWA 3
39	Te Paataka o Tangaroa Ltd.	SWA 3
40	Taranaki Iwi Fisheries Ltd.	SWA 3
41	Raukawa Asset Holding Company Ltd.	SWA 3

Te Ohu Kaimoana's Response to the Review of Sustainability Measures for the 1 October 2023/2024 fishing year

Te Ohu Kaimoana

Our response to this year's sustainability review

1. E te Minita, tēnei te mihi ki a koe i tēnei āhuatanga o te wā. This document provides Te Ohu Kaimoana's advice for your review of the sustainability measures for October 2023/24.

2. Our role in this review process arises from our responsibility to protect the rights and interests of iwi/Māori and to assist the Crown to discharge its obligations under both Te Tiriti o Waitangi and the Deed of Settlement[1]. We note in particular that Te Tiriti guaranteed that Māori would maintain tino rangatiratanga over our fisheries resources, the need for both parties to work toward furthering the fisheries settlement, and the requirement to interpret and use powers under the Fisheries Act in a manner consistent with the fisheries settlement[2]. Our response to the sustainability round and the fisheries management measures proposed by Fisheries New Zealand (FNZ) is shaped by the following:

Te Ao Maori-centred fisheries management

3. 'Te Hā o Tangaroa kia ora ai tāua' is the guiding principle of Te Ohu Kaimoana and endorsed by iwi. It translates to the 'breath of Tangaroa sustains us'. Māori rights in fisheries are not just a right to harvest but also to use the resource in a way that provides for social, cultural, and economic well-being now, and for future generations. 'Te Hā o Tangaroa kia ora ai tāua', the basis for our advice, does not mean that Māori have a right to use fisheries resources to the detriment of other children of Tangaroa: rights are an extension of responsibility and are enduring through generations to come. It is an expression of the unique and lasting connection Māori have with the environment and contains the principles we use to analyse and develop modern fisheries policy, including the positions we have provided in this response.

Protection of the settlement

4. Any regulatory decision that may potentially undermine the settlement without very clear reasoning as to how it will remain consistent with Te Tiriti and the fisheries settlement is a cause for concern. An enduring fisheries settlement is not supported by low-level regulatory decision-making that diminishes the value of settlement assets[3].

[1] Māori Fisheries Deed of Settlement 1992. The Deed is, in part, given effect to by the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 and the Māori Fisheries Act 2004. The Ohu Kaimoana's statutory purpose is set out in s 32 of the Māori Fisheries Act 2004.

[2] See Article 2 of te Tiriti o Waitangi, s 32(b) of the Maori Fisheries Settlement Act 2004, and Fisheries Act 1996, s 5.

[3] Note s 32(d) of the Maori Fisheries Settlement Act 2004.

Ki uta ki tai – A mountains to sea approach

5. There is growing awareness and concern over the impacts that human land-based activities have on our marine ecosystems. The connectivity between the land and sea means that onshore activities have flow-on effects to freshwater and marine environments—negative impacts such as sedimentation, nutrification and deforestation affect the ability for Māori to maintain aspects of their relationship with Tangaroa. This is especially pertinent with the recent impacts of Cyclone Gabrielle on Te Tairāwhiti and Te Matau-a-Māui. The principles of Te Hā o Tangaroa require a reciprocal relationship with Tangaroa and the aquatic life within it. In essence, marine health degradation directly reduces people's ability to sustain their economic, cultural, and social wellbeing from the marine environment.

Whānau Māori accessing kaimoana under the recreational regulations

6. We acknowledge the integral role of recreational fishing as the lifeblood for many of our coastal communities, particularly for Māori. In our view, our communities that fish for their whānau, hapū and iwi sit outside our conceptualisation of the recreational sector. We note that some iwi actively encourage this form of fishing to occur in accordance with customary fishing regulations, but in other situations individuals are able to make an open choice.

Improved recreational catch information

7. Because recreational take is so poorly understood, management focuses on constraining commercial catch rather than understanding total harvest. A more accurate understanding of recreational catch across all stocks within this consultation process, including amateur charter vessels, will strengthen the current assessment process and provide a better insight into the health of these stocks to support improved management. We urge FNZ to address these reoccurring concerns and explore different methods and initiatives for understanding recreational catch. Potential avenues may include reporting catch and managing what fish can be returned to Tangaroa and under what circumstances.

He māngai mō ngā iwi Māori

8. We work on behalf of 58 Mandated Iwi Organisations[4] (MIO) who represent iwi throughout Aotearoa me Te Waipounamu. Further to this we support the Asset Holding Companies (AHCs) who hold Māori Fisheries Settlement Assets on behalf of their MIOs. Those assets include Individual Transferable Quota (ITQ) and shares in Aotearoa Fisheries Limited (trading as Moana New Zealand), which owns 50% of Sealord Group Limited.

[4] MIO as defined in The Maori Fisheries Act 2004: in relation to an iwi, means an organisation recognised by Te Ohu Kai Moana Trustee Limited under section 13 (1) as the representative organisation of that iwi under this Act, and a reference to a mandated iwi organisation includes a reference to a recognised iwi organisation to the extent provided for by section 27.

9. We do not intend for our response to conflict with or override any response provided independently by iwi, through their MIOs or AHCs.

Summary

10. Based on our analysis and engagement with representatives from iwi relevent to the stocks below, Te Ohu Kaimoana's positions can be found in the table below.

Fish stock	FNZ's Proposal	Our Position
Kūtai (GLM9)	-	We support setting the TACC for the transition period to 50% of the current annual TACC.
Araara (TRE2)	↑	We support Option 3.
Kina (SUR1A and SUR1B)	↑	We support Option 2 in both SUR1A and SUR1B.
Kumukumu (GUR3)	↑	We support Option 2.
Tiikati (SKI1 and SKI2)	↑	We support Option 3 in both SKI1 and SKI2.
Pūwhara (STA7)	↓	We support Option 2.
Silver Warehou (SWA3)	↑	We support Option 2.

Landings and Discards

11. We support the ability for fish to be returned to the moana. Our position is that as long as there is accurate records of the catches then it is preferred for additional catch to not be landed on shore. If they are unable to be sold or eaten it is best to return to Tangaroa. This especially applies to fish below minimum legal size.

12. This is not to say that harvest should be excessive or that poor bahaviour should go unchecked. The tikanga of 'kaua e moumou' (do not be wasteful) is important and ensuring that there is best practice for ensuring minimal fish are required to be discarded is paramount. We believe this is met by current reporting requirements (including cameras on boats) that all fish caught must be recorded. This will in turn trigger existing mechanisms to minimise excess harvest.

13. In te ao Māori, this concept is captured by "mā Tangaroa āna uri e tiaki" (Tangaroa shall care for its descendants), which encapsulates the ocean ecosystem as the appropriate place for any unwanted catch to be returned rather than landed and alienated from its whakapapa.

Inshore Stocks

Kūtai – Green Lipped Mussel (GLM9)

West Coast, Te Oneroa-a-Tōhē

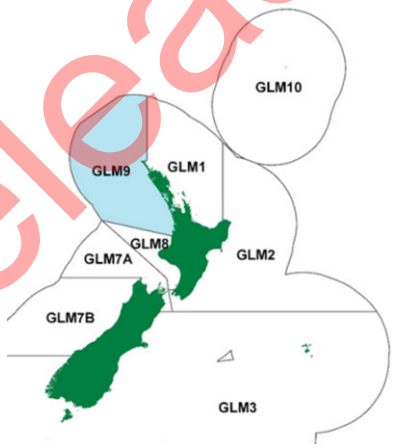
Our view

- We support Option 1, providing that commercial harvesters comply with the Te Onerora-a-Tōhē Mussel Spat Beach Collecting and Loader Code of Practice.

Proposed Options

Table 1: Proposed management options (in tonnes) for GLM 9 from 1 October 2023 to 31 March 2024.

Option	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
Current annual settings (12 months)	233	135	59	39	0
Option 1 (6 months)	140.5	67.5	44	29	0
Option 2 (6 months)	122	49	44	29	0



Ngā whakaaro matua - rationale

Allowing flexibility to avoid harvest intensification.

15. Setting the TACC at 50% of the current annual settings will allow commercial spat harvesters more flexibility during the six-month transition period to spread fishing effort when spat becomes available. This option would provide for unexpected variability in available spat, as well as avoiding the incentive for intensive fishing practices during peak spat falls heading into the summer months. Noting that the primary drivers of moving GLM9 harvesting to the April fishing year was to mitigate a race for catch and improve utilization of the fishery. Option 1 is consistent with these drivers and supports the active management of these activities. This will also ensure there is a more seamless transition for commercial harvesters to transition into the April fishing year.

Complying with the Code of Practice supported by Te Oneroa-a-Tōhē iwi.

16. Supporting Option 1 is dependent on commercial spat harvesters complying with the conditions of the code of practice that was signed by the spat harvesting companies and supported by iwi entities who first and foremost are mana whenua and tāngata tiaki of Te Oneroa-a-Tōhē, as well as GLM9 quota holders. The conditions of the Code of Practice include, but not limited to upholding the voluntary closure to mechanical loader harvesting from 15 December to 31 March. Hand gathering of spat is still permitted during this time. This condition allows for some commercial utilisation and provides for the influx of whānau and recreational fishers to undertake kaimoana harvesting and other activities along Te Oneroa-a-Tōhē.

17. We support the proposed customary and recreational allowances to be set to 75% of the current annual allowance settings.

Araara – Trevally (TRE2)

Central East Coast to Wellington

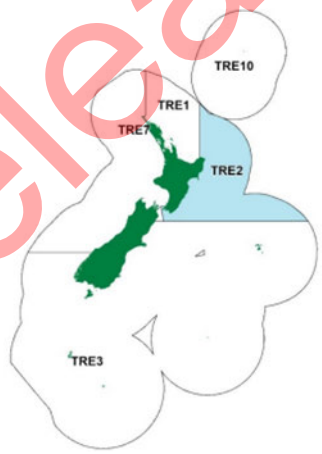
Our view

- We support Option 3.
- We encourage Fisheries New Zealand to target research efforts in Area 2 inshore fisheries to increase knowledge of the impacts of Cyclone Gabrielle.

Proposed Options

Table 1: Proposed management options (in tonnes) for TRE 2 from 1 October 2023.

Option	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
Current settings	349	241	1	100	7
Option 1 (modified *status quo*)	366 (↑ 17 t)	241	1	100	24 (↑ 17 t)
Option 2	387 (↑ 38 t)	260 (↑ 19 t)	1	100	26 (↑ 19 t)
Option 3	408 (↑ 59 t)	279 (↑ 38 t)	1	100	28 (↑ 21 t)



Ngā whakaaro matua – Rationale

Setting the TAC

18. We support the setting of a TAC limit to reflect the abundance of TRE2 biomass that has consistently been caught in the last 10 years. Option 3 will see a modest increase in the TACC and appropriate settings to the allowance of all other mortality caused by fishing. The best available information, as well as past catch efforts reflects the need and opportunity for further utilisation, and there is a likelihood that catch efforts will further exceed the proposed 279 tonnes.

19. In addition, we also support the alternative Option (Option 4) for TRE2 as proposed by Fisheries Inshore New Zealand, increasing the TACC by 20%. This option is supported by the best available information on TRE2 stock and better reflects the current abundance levels.

Research efforts put towards understanding cyclone impacts in FMA2

20. The environmental impacts of Cyclone Gabrielle are believed to be extensive and are considered to have long-term fishery implications. This is a source of concern in the gaps of knowledge currently utilised to determine

changes in fisheries management, particularly in FMA2 fish stocks. As the FMA2 trawl fleet efforts are centralised within the inshore waters of Poverty Bay and Hawkes Bay, it is critical that scientific and localised mātauranga research is undertaken to mitigate the uncertainty in long-term trends in TRE2 recruitment. There is a need to prioritise and commit funding to a long-term research plan addressing the cyclone impacts upon the marine environment, and we urge Fisheries New Zealand to work collaboratively with the impacted coastal communities, iwi quota holders and the commercial sector to do so.

Kina – Sea Urchin (SUR1A and SUR1B)

Northland East Coast, Hauraki Gulf and Bay of Plenty

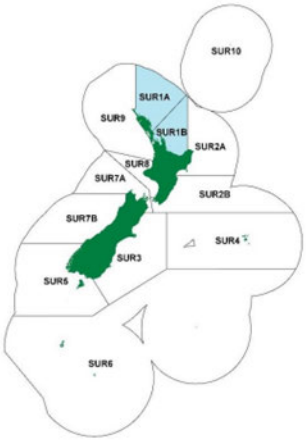
Our view

- We support Option 2 in both SUR1A and SUR1B.
- We strongly encourage Fisheries New Zealand to work directly with iwi in the management of their moana.

Proposed Options

Table 1: Proposed management options (in tonnes) for SUR 1A and SUR 1B from 1 October 2023.

Stock	Option	TAC	TACC	Allowances		
				Customary Māori	Recreational	All other mortality caused by fishing
SUR 1A	Option 1 *(Status quo)*	172	40	65	65	2
	Option 2	247 (↑ 75 t)	80 (↑ 40 t)	100 (↑ 35 t)	65	2
	Option 3	267 (↑ 95 t)	100 (↑ 60 t)	100 (↑ 35 t)	65	2
SUR 1B	Option 1 *(Status quo)*	324	140	90	90	4
	Option 2	439 (↑ 115 t)	210 (↑ 70 t)	135 (↑ 45 t)	90	4
	Option 3	509 (↑ 185 t)	280 (↑ 140 t)	135 (↑ 45 t)	90	4



Ngā whakaaro matua - Rationale

We support TAC increases as part of a kete of management actions to address kina barrens

21. The TAC for SUR1A and SUR1B have remained the same since their introduction into the quota management system (QMS) in 2003. Recent implementation of digital technology has resulted in fine scale information on commercial kina catch and fishing effort. Due to the improvements in kina data, we consider it appropriate to increase the TAC to the level outlined in Option 2 with the opportunity for greater utilisation and potential for wider ecosystem benefits.

22. Kina barrens present a major risk to the many interdependent reef species that rely on the valuable kelp habitat. Increasing commercial utilisation of the stocks is likely to support some reduction in kina barrens. We do, however, caution the siloed application of the TAC increases as an isolated management action to reduce kina barrens. A wide range of management tools must be used, for instance the special permits provided to Ngāti Porou for research and management purposes. It is expected a broader range of approaches beyond increases in TACC will be needed to address kina barrens that requires FNZ to work directly with iwi in the management of their moana.

Kumukumu – Red Gurnard (GUR3)

East Coast of Te Wai Pounamu, Chatham Rise, sub-Antarctic

Our view

- We support Option 2

Proposed options

Table 1: Proposed management options (in tonnes) for GUR 3 from 1 October 2023.

Option	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
Option 1 *(Status quo)*	1,695	1,575	3	6	111
Option 2	1,779 (↑ 84 t)	1,654 (↑ 79 t)	3	6	116 (↑ 5 t)

Ngā whakaaro matua – Rationale

23. We support a modest increase for this stock. We do note however that there has been a decrease in red gurnard pre-recruit biomass. This could possibly suggest a decline in stock numbers in the future so a cautious approach is necessary.

Tiikati – Gemfish (SKI1 and SKI2)

Waikato, Northland, Cape Reinga down Te Ika-a-Māui East Coast

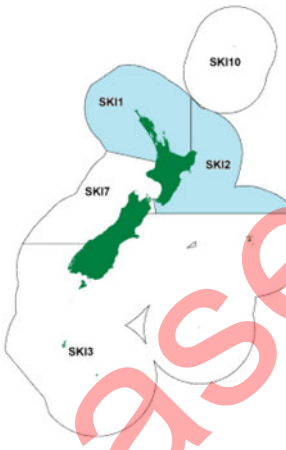
Our view

- Of the options provided we support Option 3 in both SKI1 and SKI2.
- However, if an alternate option was to be considered we would prefer the alterrnative Option for SKI1 as proposed by Fisheries Inshore New Zealand.
- We encourage Fisheries New Zealand to target research efforts in Area 2 inshore fisheries to increase knowledge of the impacts of Cyclone Gabrielle.

Proposed options

Table 1: Proposed management options (in tonnes) for SKI 1 and SKI 2 from 1 October 2023.[5]

Stock	Option	TAC	TACC	Allowances		
				Customary Māori	Recreational	All other mortality caused by fishing
SKI 1	Option 1 *(Status quo)*	307	252	3	27	25
	Option 2	362 (↑ 55)	302 (↑ 50)	3	27	30 (↑ 5)
	Option 3	418 (↑ 111)	353 (↑ 101)	3	27	35 (↑ 10)
SKI 2	Option 1 *(Status quo)*	325	288	3	5	29
	Option 2	389 (↑ 64)	346 (↑ 58)	3	5	35 (↑ 6)
	Option 3	451 (↑ 126)	403 (↑ 115)	3	5	40 (↑ 11)



Ngā whakaaro matua – Rationale

We support increasing the TAC for SKI1 and SKI2 to provide for increased utilisation

24. Gemfish is predominantly caught as a non-target stock in trawl fisheries (including hoki, tarakihi, scampi and ling). A 2023 stock assessment suggested the biomass has seen a significant increase. This is corroborated by an increase in gemfish bycatch, in line with the upturn in abundance. This is off of the back of the 2020 CPUE update that found that gemfish biomass within the stocks had increased.

25. There is a greater than 90% probability that the spawning biomass is above target biomass level. Projections suggest that an increase in the TAC for gemfish would be very unlikely (less than a 10% chance) to cause the stock to decline below the target level in the next nine years. These factors support the theory that a utilisation opportunity is available within the fishery at a time of higher abundance. We consider that option 3 is an appropriate response to the heightened gemfish biomass.

26. The option also has the potential to provide inshore fishers with some relief from the effects of Cyclone Gabrielle who are more likely to encounter gemfish due to behavioural changes. While the impacts of the Cyclone are uncertain, projections of Option 3 are not thought to pose a risk to stock sustainability in the next five years.

Pūwhara – Giant Stargazer (STA7)

Te Tai Poutini and Te Tau Ihu

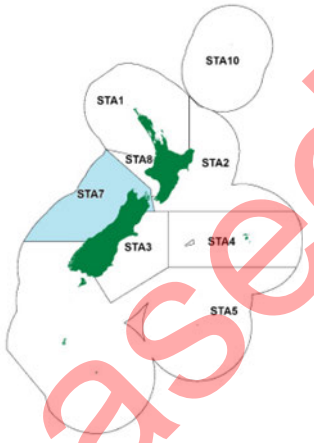
Our view

- We support Option 2.

Proposed options

Table 1: Proposed management options (in tonnes) for STA 7 from 1 October 2023.

Option	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
Current Settings	1,271	1,208	1	4	58
Option 2 *(~15% TAC reduction)*	1,080 ↓ (191 t)	1,025 ↓ (183 t)	1	4	50 ↓ (8 t)
Option 3 *(~30% TAC reduction)*	890 ↓ (381 t)	844 ↓ (364 t)	1	4	41 ↓ (17 t)



Ngā whakaaro matua – Rationale

We support a moderate reduction in the TAC

27. Stargazer is a moderate value commercial fishery, with approximately 75-80% of annual landings caught as bycatch. The stock is assessed using the West Coast South Island (WCSI) trawls. The preliminary results from the 2023 WSCI survey suggest the biomass is low. This is off of the back of the last 2021 WCSI survey, which when assessed in 2022 found it unlikely that the stock is at or above the target level, and about as likely to be below the soft limit. Overfishing was found likely to be occurring with more than a 60% chance, suggesting a significant decrease since the 2019 WSCI survey. At present the results of the 2023 WCSI survey are preliminary and require review, however the findings align with that of the previous survey.

28. When considering the trend set by the 2021 and the preliminary 2023 WCSI surveys, a reduction in the TAC for stargazer in STA7 seems advisable. We support Option 2 given the preliminary state of the 2023 WCSI survey and the regular nature of the surveys.

Deepwater Stocks

Silver Warehou – (SWA3)

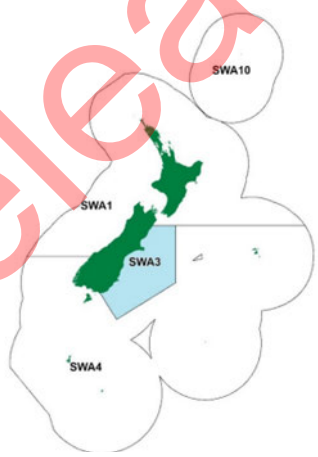
Te Wai Pounamu East Coast

Our view

- We support Option 2

Proposed options

Option	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
Option 1 *(Status quo)*	3,646	3,610	0	0	36
Option 2	4,040 (↑ 394 t)	4,000 (↑ 390 t)	0	0	40 (↑ 4 t)



Ngā whakaaro matua – Rationale

29. The best available information indicates that there was an increase in the biomass of silver warehou across the SWA 3 QMA that peaked during the early 2000s. Although the peak was followed by a decline, biomass appears to have remained relatively high. The Chatham Rise trawl survey index shows a broadly similar trend. In 2023, the Fisheries Assessment Plenary (the Plenary) concluded that there were no sustainability concerns with silver warehou in SWA 3. We are supportive of option 2.

20 July 2023

IWI COLLECTIVE PARTNERSHIP

Review of Sustainability Measures 2023/24
Fisheries Management
Fisheries New Zealand
P O Box 2526
Wellington 6140

By email only: FMSubmissions@mpi.govt.nz

REVIEW OF SUSTAINABILITY MEASURES FOR OCTOBER 2023

Tena koe,

1. The Iwi Collective Partnership

This submission is presented on behalf of the Iwi Collective Partnership (ICP), a collaboration of 19 iwi (see table one) who believe that working together toward a common vision, based on shared Māori values, achieves superior outcomes over working alone. As a business ICP creates value by collectivising the annual fishing rights that derive from iwi quota and taking a more strategic approach to management of the portfolio.

Table one: Iwi Collective Partnership shareholders

Iwi Member	Iwi Entity
Ngāti Porou	Ngati Porou Seafoods Limited
Te Arawa	Te Arawa Fisheries Holding Company Limited
Ngāti Tūwharetoa	Ngāti Tūwharetoa Fisheries Holdings Limited
Ngāi Te Rangi	Ngāi Te Rangi Fisheries AHC Limited
Ngāti Awa	Ngāti Awa Asset Holdings Limited
Whakatōhea	Whakatōhea Fisheries Asset Holding Company Limited
Te Rarawa	Te Waka Pupuri Putea Limited
Taranaki Iwi	Taranaki Iwi Fisheries Limited
Ngāti Ruanui	Ngāti Ruanui Fishing Limited
Ngaa Rauru Kiitahi	Te Pataka o Tangaroa Limited
Te Aitanga ā Māhaki	Te Aitanga ā Māhaki Trust Asset Holding Company Limited
Rongowhakaata	Rongowhakaata Iwi Asset Holding Company Limited
Ngaitai	Te Kumukumu Limited
Ngāti Manawa	Ngāti Manawa Tokowaru Asset Holding Company Limited
Ngāti Whare	Ngāti Whare Holdings Limited
Tapuika	Tapuika Holdings Limited
Ngati Maru (Taranaki)	Ngati Maru (Taranaki) Fishing Company Limited
Rangitane	Rangitane o te Ika a Maui Limited
Ngai Tāmanuhiri	Ngai Tāmanuhiri Asset Holding Company Limited

2. Background

Fisheries New Zealand seeks feedback on proposed changes to the sustainability measures for various selected fish stocks from 1 October 2023.

The ICP has interests in, and submit on, the following stocks under review:

- Green Lipped Mussel - GLM9.
- Trevally - TRE2.
- Kina - SUR1A, SUR1B.
- Gemfish - SKI1, SKI2.
- Silver Warehou - SWA3.

3. Submission Views

We provide our views in this section. We also support the individual submissions of our iwi members and Te Ohu Kaimoana who we have had dialogue with.

3.1. GLM9

In 2022, the Fisheries Act was amended to change the fishing year for Green-lipped Mussels in GLM 9 from October to April. This proposal to set the TAC for GLM 9 during the six-month transitional period. Feedback is being sought on the appropriate allowances for this period. After the transition, starting from April 2024, the TAC and settings will revert to the current full-year settings as per Cabinet decisions.

The ICP **supports Option 1**, which suggests setting the transitional TAC of 140.5 tonnes. This option provides flexibility for the harvesters during this transitional period. Additionally, the ICP approves of the proposed allowances for Customary and Recreational take, which are set at 44 tonnes and 29 tonnes, respectively.

3.2. TRE2

Despite consistent catches exceeding the TACC for Trevally in recent years, the TACC has remained unchanged since 1992. Trevally is predominantly caught as by-catch in the bottom trawl fishery in the Tairawhiti and Hawkes Bay regions. Catch Per Unit of Effort indices have shown stability, and an assessment indicates that the TRE 1 Bay of Plenty sub-stock and TRE 2 can be considered the same stock. Considering scientific evidence, catch history, and anecdotal information, there are no sustainability concerns with increasing the TACC to promote greater utilisation.

The ICP supports Option 3, which proposes increasing the TACC from 241 tonnes to 279 tonnes. Additionally, the ICP acknowledges the significant impacts of Cyclone Gabrielle on the North Island Eastern Seaboard and encourages targeted research and monitoring projects to assess the cyclone's effects on the marine environment, including factors such as slash and sediment. The ICP emphasises the importance of considering and supporting hapu kapata kai areas affected by the cyclone.

3.3. SUR1A and SUR1B

The current management settings for Kina in SUR 1A and SUR 1B have remained unchanged since 2003, initially set conservatively due to limited information. However, the implementation of new digital technologies has greatly improved monitoring and reporting, providing timely information on Kina catch and fishing effort. Although formal stock assessments are unavailable, catch trends indicate a stable or increasing overall Kina biomass.

The ICP supports Fisheries New Zealand's cautious approach to increasing catch limits, considering the unknown absolute increase in Kina biomass and concerns regarding the overlap between commercial and customary harvest. **The ICP supports Option 2 for both SUR 1A and SUR 1B as a conservative approach.**

The ICP acknowledges the significant proliferation of Kina barrens, particularly in SUR 1A and SUR 1B, which pose a significant risk to reef ecosystems. However, the ICP does not believe that the proposed increase in catch limits will effectively address the issue. Instead, the ICP advocates for the development of tools and targeted projects, such as the Kinanomics Kina enhancement project, in which one of our members, Ngati Porou Seafoods, is involved.

Given the cultural importance of Kina to the ICP's members, the ICP emphasises the need for an integrated management approach to address the issue of Kina barrens. This approach should involve collaboration with tangata whenua and stakeholders to ensure the sustainable management of Kina resources and support the local communities that rely on them.

3.4. SKI1 and SKI2

Fisheries New Zealand (FNZ) is reviewing the sustainability measures for Gemfish in Quota Management Areas SKI 1 and SKI 2 for the upcoming fishing year. The stocks are managed together as a single biological stock based on stock assessments and reference points outlined in the Harvest Strategy Standard.

The current TAC for SKI 1 is 307 tonnes, and for SKI 2 is 325 tonnes. A recent stock assessment indicates a considerable increase in Gemfish biomass, with a high probability of being above the interim target biomass level. Bycatch of Gemfish in target fisheries has also increased. Projections suggest that increasing catch limits would unlikely cause the stock to decline below the target biomass level in the next nine years. As such, the **ICP support option** 3 as the appropriate catch setting for the both SKI1 and SKI2.

In support of Option 3, the ICP management acknowledges that Fisheries inshore has proposed two additional options that align better with the catch rates of each respective fishery and aim to reduce unnecessary deemed value expenses in the by-catch fishery. Due to time constraints, obtaining member support for these options was not possible. However, if these options are considered, they are likely to receive support from the ICP as long as they do not pose any sustainability risk.

3.5. SWA3

Based on the best available information, it is evident that the biomass of Silver Warehou in SWA 3 experienced a notable increase, reaching its peak in the early 2000s. Although there was a subsequent decline, the biomass has remained relatively high. This trend is consistent with the findings of the Chatham Rise trawl survey index. Notably, the Fisheries Assessment Plenary conducted in 2023 determined that there are no sustainability concerns associated with Silver Warehou in SWA 3. In light of these findings, the **ICP support option 2** as a suitable approach for managing the fishery.

4. ICP Position Summary

Stock	Position
Green Lipped Mussel - GLM9	Support option one
Trevally - TRE2	Support option three
Kina - SUR1A	Support option two
Kina - SUR1B	Support option two
Gemfish - SKI1	Support option three
Gemfish SKI2.	Support option three
Silver Warehou - SWA3.	Support option tow

The ICP takes the time to thank you for the opportunity to share our views and please do not hesitate to contact us if you have any further questions.

Naku noa na,

Ken Houkamau

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17 July 2023

Submission: Support FNZ's Option 2 for Snapper 7 & 8

Recommendations

1. **The Minister approves FNZ's Option 2 for Snapper 8,** to align deemed value rates applying in SNA 8 to those applying in SNA 7, given that some commercial catches are landing in the adjacent management area.

2. **The Minister approves FNZ's Option 2 for Snapper 7,** to maintain the existing deemed value rates so it aligns with the new rate applying in SNA 8.

3. **The Minister acknowledges that the deemed value regime is a failure** as it has consistently failed to constrain commercial catch to the statutory limits set by previous Ministers.

The Submitters

4. The New Zealand Sport Fishing Council (**NZSFC**) appreciates the opportunity to submit on the review of deemed value rates for Snapper 7 (**SNA 7**) and Snapper 8 (**SNA 8**) for 2023/24. Fisheries New Zealand (**FNZ**) released their Discussion Paper No: 2023/12 on 7 June 2023, with submissions due by 17 July 2023.

5. The NZ Sport Fishing Council is a recognised national sports organisation of 50 affiliated clubs with over 36,700 members nationwide. The Council has initiated LegaSea to generate widespread awareness and support for the need to restore abundance in our inshore marine environment. Also, to broaden NZSFC involvement in marine management advocacy, research, education and alignment on behalf of our members and LegaSea supporters. legasea.co.nz.

6. The New Zealand Angling and Casting Association (**NZACA**) is the representative body for its 24 member clubs throughout the country. The Association promotes recreational fishing and the camaraderie of enjoying the activity with fellow fishers. The NZACA is committed to protecting fish stocks and representing its members' right to fish.

7. Collectively we are '*the submitters'*. The joint submitters are committed to ensuring that sustainability measures and environmental management controls are designed and implemented to achieve the Purpose and Principles of the Fisheries Act 1996, including "maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations…" [s8(2)(a) Fisheries Act 1996].

8. Our representatives are available to discuss this submission in more detail if required. We look forward to positive outcomes from this review and would like to be kept informed of future developments. Our contact is Helen Pastor, secretary@nzsportfishing.org.nz.

Discussion

9. The deemed value regime is not working. The submitters have made comprehensive submissions on the deemed value regime for more than a decade. Many of the issues raised previously still exist today.

10. The submitters are concerned that even when deemed value invoices are issued, not all invoices are paid by the offender. In the past, FNZ has offered several reasons for non-payment. Our concern continues to be that the costs of overfishing are not attributed to the fishers responsible, the cost is externalised, paid by the fishery and other stakeholders.

11. We are also concerned that the deemed value system continues to incentivise either overfishing or dumping, depending on the landed and export price of the species captured. It has also driven up the Annual Catch Entitlement (**ACE**) price for some other species caught in Fisheries Management Area (**FMA**) 8 & 9. While this outcome might suit the major quota holders, particularly in FMA 8 & 9 (encompassed by SNA 8), it makes it harder for the smaller operators dependent on ACE to make a living.

12. We note and agree with the concerns raised by members of the Ngā Hapū o Te Uru o Tainui Iwi Fisheries Forum and noted by FNZ in the proposal paper, that "*there are inequities between large quota holders/fishing companies and small ACE fishers*...noting "*that it is easier for the larger operators and quota holders to obtain ACE from other holders, and they have the ability to extract more value from fish where deemed values are paid".* Forum members also suggested "*that non-quota owners should have a separate deemed value allowance with a different set of penalties than quota holders".*

13. These concerns are valid and need to be highlighted to the Minister as more serious signals that the deemed value regime is failing to achieve its purpose of balancing actual catch with the statutory limits set by the Minister. This is especially so in a fish stock where there is one major quota holder who does not traditionally sell its ACE, so smaller operators are forced to pay overs for any ACE made available by other owners.

Table 1: Current and proposed deemed value rates ($/kg) for selected stocks from 1 October 2023.

		Current				Proposed				
Species	**Stock**	Interim $/kg	Annual $/kg	Annual at maximum excess $/kg	Differential	Option	Interim $/kg	Annual $/kg	Annual at maximum excess $/kg	Differential
Snapper	**SNA 8**	4.03	4.48	8.96 (>200% ACE)	Standard	**1**	4.68	5.20	10.40 (>200% ACE)	Standard
						2	5.40	6.00	12.00 (>180% ACE)	Special
	SNA 7	5.40	6.00	12.00 (>180% ACE)	Special	**1**	4.68	5.20	10.40 (>200% ACE)	Standard
						2 (*status quo*)	5.40	6.00	12.00 (>180% ACE)	Special
School shark	**SCH 5**	1.13	1.25	2.50 (>200% ACE)	Standard	**1**	3.20	3.60	7.20 (>200% ACE)	Standard

14. While we support FNZ Option 2 for both SNA 7 & 8, we only agree on the basis that it will align the SNA 8 rates with SNA 7, which is important given the mix of fishing effort and landings between the two Quota Management Areas (**QMAs**) (see Table 1). However, we note that reported commercial catches in SNA 7 have exceeded the Total Allowable Commercial Catch (**TACC**) in 8 of the past 10 years despite two TACC increases in the same decade.

15. So, deemed value rates seem to have limited influence on landed catches. Commercial fishing is more about economics. Current settings suit the corporate and larger fishing companies who set the port price, but they impoverish the ACE fisher who is trying to make a living and survive in the face of rising costs. The retail price of snapper has increased significantly in the last 18 months and the adjustment in deemed value should increase accordingly rather than decrease.

16. There has been no discussion from FNZ on what changes there may be to the deemed value regime when the land-all catch policy is applied across most QMS species. If some fishers are struggling to balance catches with existing ACE, they will be in more strife if they are expected to land all of their catch in future. Unless there is a major structural overhaul, the Minister can expect more instances of catches exceeding the TACCs in future. FNZ and the Minister need to consider these matters with urgency.

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17 July 2023

Submission: Support FNZ's Option 1 for Trevally 2

Recommendations

1. **The Minister approves FNZ's Option 1 for Trevally 2,** to provide for an increase in the TAC, and to increase the allowance for fishing related mortality to equate to 10% of the TACC.

2. **The Minister does not support Fisheries New Zealand's Options 2 or 3,** as catch alone is not a good indicator of abundance, and over-catch of the TACC is not a valid reason for TACC increases.

3. **The Minister retains the existing non-commercial allowances for Māori customary and recreational fishing interests,** noting the next National Panel Survey estimates will be available in 2024.

4. **The Minister makes a precautionary decision** by approving Option 1, as the present data showing large fluctuations in abundance between years is not possible at a population level for a species that lives in excess of 40 years.

FNZ Proposals

Option	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
Current settings	349	241	1	100	7
Option 1 (modified *status quo*)	366 (↑ 17 t)	241	1	100	24 (↑ 17 t)
Option 2	387 (↑ 38 t)	260 (↑ 19 t)	1	100	26 (↑ 19 t)
Option 3	408 (↑ 59 t)	279 (↑ 38 t)	1	100	28 (↑ 21 t)

The Submitters

5. The New Zealand Sport Fishing Council (**NZSFC**) appreciates the opportunity to submit on the review of management measures for Trevally 2 (**TRE 2**) for 2023/24. Fisheries New Zealand (**FNZ**) released their Discussion Paper No: 2023/06 on 7 June 2023, with submissions due by 17 July 2023.

6. The NZ Sport Fishing Council is a recognised national sports organisation of 50 affiliated clubs with over 36,700 members nationwide. The Council has initiated LegaSea to generate widespread awareness and support for the need to restore abundance in our inshore marine environment. Also, to broaden NZSFC involvement in marine management advocacy, research, education and alignment on behalf of our members and LegaSea supporters. legasea.co.nz.

7. The New Zealand Angling and Casting Association (**NZACA**) is the representative body for its 24 member clubs throughout the country. The Association promotes recreational fishing and the camaraderie of enjoying the activity with fellow fishers. The NZACA is committed to protecting fish stocks and representing its members' right to fish.

8. Collectively we are '*the submitters*'. The joint submitters are committed to ensuring that sustainability measures and environmental management controls are designed and implemented to achieve the Purpose and Principles of the Fisheries Act 1996, including "maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations…" [s8(2)(a) Fisheries Act 1996].

9. Our representatives are available to discuss this submission in more detail if required. We look forward to positive outcomes from this review and would like to be kept informed of future developments. Our contact is Helen Pastor, secretary@nzsportfishing.org.nz.

Discussion

10. The submitters are concerned that under-reported catch in the early years tends to underestimate current levels of depletion in trevally and other stocks, when compared to historic abundance.

11. There can be no doubt that trawlers and net fishers were catching trevally before 1950 and much of that catch was discarded or under-reported because there was little market for it, and catch reporting by fishers and monitoring by officials was poor.

12. In Option 1, Fisheries New Zealand (**FNZ**) propose to increase the Total Allowable Catch (**TAC**) so the allowance for other sources of mortality can be increased to equate to 10% of the Total Allowable Commercial Catch (**TACC**) in all options. The submitters support this approach as a minimum, in mixed and bottom trawl fisheries.

13. In Option 2, FNZ propose a 19 tonne (**t**) TACC increase. In Option 3, FNZ propose a 38 t increase to the TACC, to provide for greater utilisation. This is just above the 2022 landed

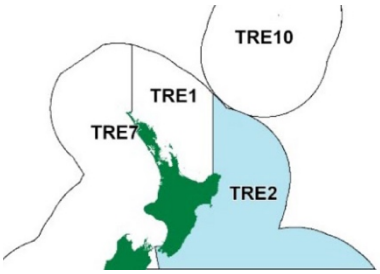
commercial catch. **The submitters do not support over-catch of the TACC as a valid reason to increase the TACC.**

14. In all FNZ options, no change is proposed for the tonnages set aside to allow for Māori customary and recreational fishing interests. This is supported as a new estimate of recreational harvest from the National Panel Survey (**NPS**) will be available in 2024. The TRE 2 recreational harvest estimate from the 2018 NPS was 17 t. The level of Māori customary harvest is unknown.

15. There was a proposal to increase the TACC and set aside allowances for non-commercial fishing in 2010. The then Minister decided to retain the TACC of 241 t and set aside 100 t for recreational fishing and 1 t for Māori customary fishing interests.

16. Most of the previous TACC increases in Fisheries Management Area 2 (**FMA 2**) have come about after the TACC has been over-caught for a few years. In some cases, it is the entities with the most quota targeting a species so there is insufficient Annual Catch Entitlement (**ACE**) to cover the bycatch caught by other fishers. The Quota Management System (**QMS**) incentivises this behaviour because it achieves two outcomes:
    a. The major quota holder squeezes the ACE fishers or smaller quota holder out of the fishery; and/or
    b. It is a deliberate ploy, and a successful strategy in the past, to insist on an increased TACC, in snapper, gurnard and tarakihi. Now it's trevally's turn.

17. Changes in sea temperatures and conditions may, over time, shift some fish further south. An increase in the TAC maybe warranted where there is good supporting data. In the meantime, FNZ acknowledge that Cyclone Gabrielle is expected to have had a significant impact on parts of the TRE 2 marine environment and an unknown impact on stock abundance. These impacts could be felt for several years. To assist us in understanding the effects of the cyclone and subsequent storms, there is a need to monitor the stocks and the ongoing impacts of sediment influx from land run-off on the marine environment. Ministerial precaution must apply given these circumstances.



18. There is no accepted stock assessment for the whole TRE 2 stock. There is an assessment for the Bay of Plenty that shows an increasing trend in trawl catch per unit of effort (**CPUE**) and biomass, and the FNZ Inshore Working Group note that there are similarities with the northern half of TRE 2.

19. Spatial patterns in CPUE and a single year of catch-at-age data indicate that trevally found in the northern portion of TRE 2, including Hawke Bay, are part of the TRE 1 Bay of Plenty sub-stock. A model that included TRE 2 north in the Bay of Plenty stock assessment was attempted, but was not accepted by the FNZ Working Group.

20. The commercial catch in TRE 2 is about one fifth of the landed catch in TRE 1. The TRE 2 TACC has either been fully caught or over-caught in 65% of the fishing years since the introduction of trevally to the QMS in 1986.

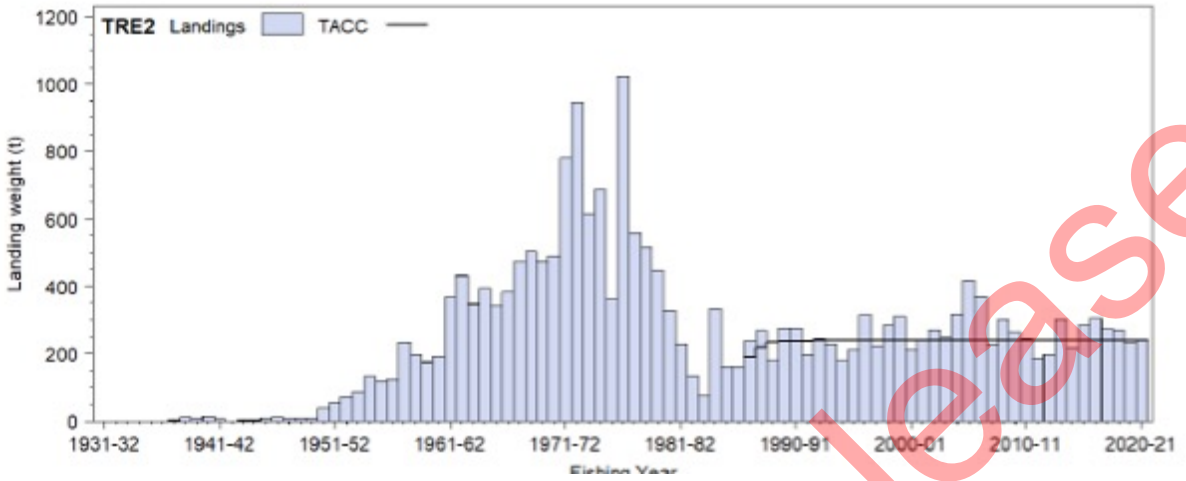


Figure 1: TRE 2 landed and reported commercial catch history since 1931 and the TACC since 1986.

21. Under the QMS, there are many factors that influence what fish are landed. It could be a change in fishing habits, a change in the availability of ACE or the port price. We reiterate our concerns that the Minister cannot rely just on reported catches to increase the TACC.

22. The Minister has a statutory obligation to act in a precautionary manner when information is uncertain, incomplete or unreliable, and we know from experience that **catch on its own is not a reliable indicator of changes in actual fish abundance. And there is no accepted stock assessment for TRE 2. Some time ago the FNZ Inshore Working Group considered "***High annual variability in standardised CPUE indices, and narrow confidence intervals led the Northern Inshore Working Group to conclude that trevally in TRE 2 are probably part of the TRE 1 biological stock in the Bay of Plenty, with abundance in TRE 2 fluctuating markedly according to the movement of fish into and out of this QMA*." (Fisheries Assessment Plenary Report May 2023).

23. We caution the Minister against relying on the TRE 2 standardised CPUE indices as a reliable indicator of abundance, as the large fluctuations in abundance between years are not possible or plausible at a population level for a species that live in excess of 40 years.

24. Trawl survey data provides information on stock abundance that is independent of commercial catch and effort reporting, and it is used to inform management decisions for a number of fish stocks. There is no trawl survey data for FMA 2, but there is recent survey data from the Bay of Plenty. This shows no significant change in trevally abundance since the 1990s.

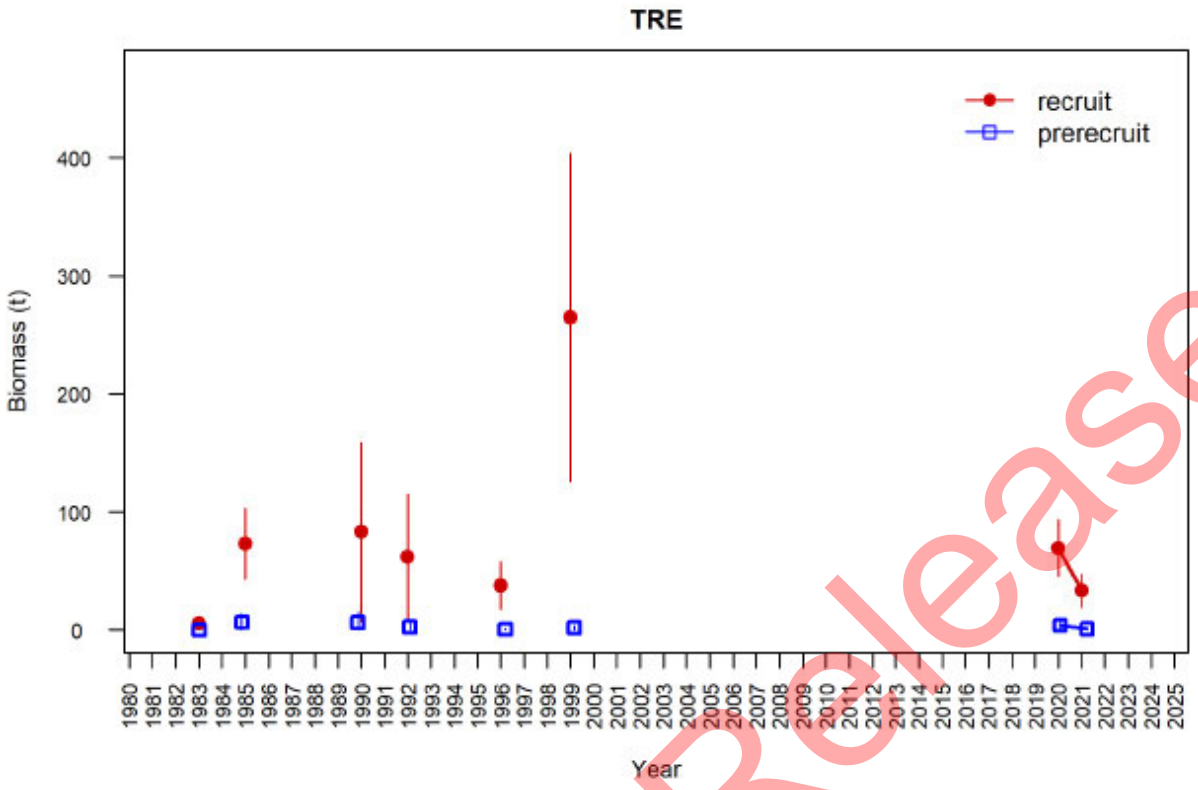


Figure 2: Bay of Plenty trawl survey trevally biomass estimates 1983-84 to 2020-21 (Fisheries Assessment Report 2022/10).

25. **We recommend** the Minister approves FNZ's Option 1 for Trevally 2, to provide for an increase in the TAC, and to increase the allowance for fishing related mortality to equate to 10% of the TACC.

26. **We recommend** the Minister does not support Fisheries New Zealand's Options 2 or 3, as over-catch of the TACC is not a valid reason for TACC increases.

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17 July 2023

Submission: Support amended Option 1 for Gurnard 3

Recommendations

1. **The Minister approves an amendment to FNZ's Option 1 for Gurnard 3,** to provide for an increase in the TAC, and to increase the allowance for fishing related mortality to equate to 10% of the TACC.

2. **The Minister rejects FNZ's Option 1 (status quo) and Option 2 for Gurnard 3,** on the basis that a TACC increase cannot be justified and a precautionary approach is required.

3. **The Minister acknowledges** the need to resist any changes that will result in an increase in inshore trawling due to the adverse effect on biodiversity and the aquatic environment, especially in the 10 m to 30 m depth range where a high proportion of gurnard and flatfish catch is taken.

4. **The Minister makes a precautionary decision given that** the 2022 survey that indicates pre-recruit biomass of gurnard has declined, indicating that recruitment to the Gurnard 3 fishery will decline in future.

The Submitters

5. The New Zealand Sport Fishing Council (**NZSFC**) appreciates the opportunity to submit on the review of management measures for Gurnard 3 (**GUR 3**) for 2023/24. Fisheries New Zealand (**FNZ**) released their Discussion Paper No: 2023/04 on 7 June 2023, with submissions due by 17 July 2023.

6. The NZ Sport Fishing Council is a recognised national sports organisation of 50 affiliated clubs with over 36,700 members nationwide. The Council has initiated LegaSea to generate widespread awareness and support for the need to restore abundance in our inshore marine environment. Also, to broaden NZSFC involvement in marine management advocacy, research, education and alignment on behalf of our members and LegaSea supporters. legasea.co.nz.

7. The New Zealand Angling and Casting Association (**NZACA**) is the representative body for its 24 member clubs throughout the country. The Association promotes recreational fishing and the camaraderie of enjoying the activity with fellow fishers. The NZACA is committed to protecting fish stocks and representing its members' right to fish.

8. Collectively we are '*the submitters*'. The joint submitters are committed to ensuring that sustainability measures and environmental management controls are designed and implemented to achieve the Purpose and Principles of the Fisheries Act 1996, including "maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations…" [s8(2)(a) Fisheries Act 1996].

9. Our representatives are available to discuss this submission in more detail if required. We look forward to positive outcomes from this review and would like to be kept informed of future developments. Our contact is Helen Pastor, secretary@nzsportfishing.org.nz.

Discussion

10. The submitters are concerned that Fisheries New Zealand (**FNZ**) is again proposing the Minister uses section 13(2)(c) of the Fisheries Act 1996 to justify an increase to a Total Allowable Catch (**TAC**), this time for Gurnard 3 (**GUR 3**).

11. About 80% of commercial catch of red gurnard comes from the inshore, multi-species trawl fishery. This mixed trawl fishery also catches flatfish, elephant fish, red cod, tarakihi, blue moki, rig, barracouta and leatherjackets. Maximising the catch of the most productive species will have a negative impact on all the less productive species in the area fished. Tarakihi is already subject to a time-bound rebuild plan. Until the impacts on other species is assessed and taken into account, any increase in the TAC and Total Allowable Commercial Catch (**TACC**) cannot be justified.

12. The only justified increase is to amend FNZ's Option 1, to increase the TAC to provide for an increase in the allowance for fishing related mortality to equate to 10% of the TACC in this trawl fishery.

Table 1: Proposed management options (in tonnes) for GUR 3, from 1 October 2023.

			Allowances		
Option	**TAC**	**TACC**	**Māori customary**	**Recreational**	**Other mortality**
FNZ Option 1 (status quo)	1695	1575	3	6	111
FNZ Option 2	1779 (+84)	1654 (+79)	3	6	116 (+5)
Submitters	1741	1575	3	6	157 (+46)

13. GUR 3 landings regularly exceeded the TACC between 1988/89 and 1995/96. The TACC was increased to 900 t in 1996 and landings dipped over the next 5 years. In 2002/03 the TACC for GUR 3 was reduced from 900 t to 800 t. Since 2000, commercial catches have steadily increased. Landings have consistently exceeded the TACC since 2004 despite 6 increases to the TACC over that time.

14. **The submitters do not support over-catch of the TACC as a valid reason to increase the TACC.**

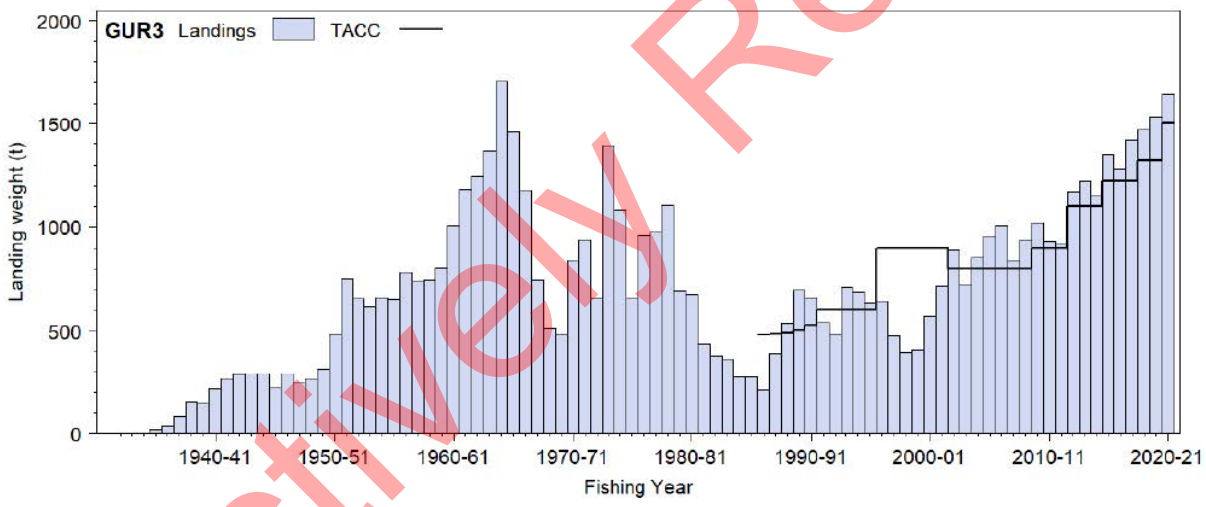

Figure 1: GUR 3 landed and reported commercial catch history to 2020/21 and the TACC since 1986.

15. Clearly, the TACC is not constraining landed catch of red gurnard, and the settings in the mixed trawl fishery are creating an economic advantage for commercial fishers to continually exceed the TACC. There is no minimum legal size for gurnard, yet illegal dumping has been tolerated by officials and the Minister since the QMS was introduced. FNZ acknowledge *"there is a commercial preference for red gurnard over 27 cm in length, with issues identified regarding discard of small red gurnard in the commercial inshore trawl fishery".* [At 11].

16. The south-eastern mixed trawl fishery has a history of dumping and wastage. This illegal behaviour was highlighted in 2016 by the Sea Around Us report and subsequent Heron inquiry into at-sea behaviour by commercial fishers. Despite the findings, successive Ministers have seen fit to increase the TACC for species within the mixed trawl fishery, without any substantive efforts by officials to constrain commercial catch to the legal limit set by the Minister. The acknowledgement and acceptance of this ongoing behaviour by

commercial fishers, from FNZ and successive Ministers, is not good enough and not acceptable.

17. An increase to the TACC for GUR 3 will just encourage more of these practices that are clearly wasteful. Any increase in retention rates of small gurnard will increase CPUE, which is routinely misinterpreted as increased abundance. A precautionary decision of no TACC increase must be applied to this review of GUR 3.

18. Another contributing factor the Minister must take into account is that the trawl survey results show an increase in gurnard abundance in the last survey year only. In the 10 years prior to that survey results have not increased (FNZ discussion document Figure 6). A high proportion of gurnard catch was recorded in the 10 m to 30 m depth range off the South Island's east coast. If the government is serious about taking an ecosystem based fisheries management approach the Minister cannot justify increasing the GUR 3 TACC given that –

    a. Leatherjacket in LEA 3 are caught in the same trawl fishery as red gurnard. The LEA 3 TACC has been exceeded 11 out of the past 13 years, so any increase to the GUR 3 TACC will impact on LEA 3 catches and other trawl species, including MOK 3 catch. Also, this is an area where a high proportion of flatfish catch is taken.

    b. The targeting of red gurnard within the east coast mixed trawl fishery has increased from 10% to around 25% since 2017/18.

    c. The inshore waters, including between 10m and 30m, off the South Island are productive grounds for many species including blue cod. The management of blue cod has been fraught, with recreational catch plummeting due to the unfair Traffic Light System (**TLS**) introduced by officials, applying only to recreational harvest. This has essentially created a blue cod fishery almost exclusive to commercial interests. This has, and will continue to, cause friction amongst the different sectors and east coast communities. Canterbury fishers have been harshly penalised by the TLS and the submitters continue to advocate for a fairer system for east coast fishers.

    d. More trawling inshore is counter-productive to ecosystem based fisheries management and the Fisheries Act 1996. In the CRA 1 ELI v The Minister, Justice Churchman highlighted the statutory duty on the Minister to take into account any effects of fishing on any stock and the aquatic environment as per s8 of the Act. In the Act, 'Effect' means the direct or indirect effect of fishing, including any positive, adverse, temporary, permanent, past, present, future, and/or cumulative effect[1].

    e. The 2022 survey indicates pre-recruit biomass has declined, indicating that recruitment to GUR 3 will decline in the future.

    f. The GUR 3 Quota Management Area (QMA) is ridiculously large, encompassing FMAs 3, 4, 5 & 6, from the South Island's Clarence River on the northeast coast, down around the south coast and up to and including Fiordland.

    g. The FNZ discussion document (Figure 2) shows that most of the gurnard fishing effort occurs in the South Canterbury Bight and the trawl survey results from 2022

[1] The Environmental Law Initiative v Minister for Oceans and Fisheries [2022] NZHC 2969 [11 November 2022] At 22.

show the lowest gurnard catch rates in this area (FNZ discussion document Figure 9). The exploitation rate in this fishery is already high. And the stock assessment model projections show a decline in abundance over the next 5 years (Fisheries Assessment Plenary Report 2023).

19. **Given the available information, the Minister is obliged to make a precautionary decision** for GUR 3. To meet the statutory obligations to account for all catch within the TAC, the Minister must increase the TAC and the allowance for fishing related mortality to equate to 10% of the TACC in this mixed trawl fishery.

Submission by the

Royal New Zealand Society for the

Prevention of Cruelty to Animals Inc.

On

Review of Sustainability Measures for Fisheries - October 2023 Round

17 July 2023

Executive Summary

- SPCA advocates for the protection of the welfare of all aquatic animals and their ecosystems. This includes the species targeted by fishing and the species not targeted but directly affected by fishing activities including fish, birds, and mammals.
- SPCA supports ecosystem-based approaches to fisheries management that identify the impacts of fishing on ecosystems.
- SPCA is concerned that the following 'sustainability' reviews do not address the systemic issue inherent in the Quota Management System (QMS), which sets catch limits for individual species, yet permits the use of destructive bulk fishing methods, such as trawling and gillnetting, which catch many species at once.
- SPCA advocates for proactive steps to improve animal welfare in commercial fisheries, such as banning indiscriminate, bulk fishing methods (e.g., trawling).
- SPCA advocates for inclusion of requirements that safeguard the welfare of fish and crustaceans whilst they are held for processing, transported, and slaughtered.
- SPCA advocates that a wider suite of tools is required to improve the state of our fish stocks and transparency and reliability of fisheries data reporting.
- SPCA supports sustainability measures relating to the landing and discarding of catch that seek to address the widespread illegal dumping and misreporting that have distorted fish catch statistics.
- SPCA advocates for on-board cameras on 100% of New Zealand's commercial fishing fleet to improve the level of monitoring, compliance, and verification of catch and thus quality of fishing data.
- SPCA supports efforts to reduce the fisheries industry's carbon footprint. We urge Fisheries NZ to take an ecosystems approach to commercial fishing which recognises the range and severity of the increasing anthropogenic threats to the global marine environment.

Table of Contents

Introduction

The following submission is made on behalf of The Royal New Zealand Society for the Prevention of Cruelty to Animals (trading as SPCA).

SPCA is the preeminent animal welfare and advocacy organisation in New Zealand. The Society has been in existence for over 150 years with a supporter base representing more than 100,000 New Zealanders across the nation.

The organisation includes 29 Animal Welfare Centres across New Zealand and approximately 60 inspectors appointed under the Animal Welfare Act 1999.

SPCA welcomes the opportunity to make a submission on the Review of sustainability measures for fisheries-October 2023 round.

Submission

SPCA advocates for the protection of the health and welfare of wild animals and their ecosystems. Animal welfare considerations are inextricably linked to ethical, environmental, and social issues, yet wild-capture fisheries remain the last major food-producing sector that does not take animal welfare into consideration (Aquatic Life Institute, 2021; Wasseem et al., 2022). Current fisheries management has created disincentives for good fishing practice to reduce the catch of unwanted fish, which has contributed to fish wastage, illegal activity, and the unnecessary suffering of target and non-target species.

SPCA is concerned that the following 'sustainability' reviews do not address the systemic issue inherent in the Quota Management System (QMS), which sets catch limits for individual species, yet permits the use of destructive bulk fishing methods, such as trawling and gillnetting, which catch many species at once.

Preferred options as detailed in the discussion papers

SPCA advocates for decreasing catch limits when concerns over fish stocks, particular species or the marine environment emerge. Furthermore, it is essential that the indication of certain fish stocks increasing does not automatically result in increased catch limits and that the status of known non-target species bycatch is considered. The preferred options (out of the limited options provided by Fisheries New Zealand) selected below represent a precautionary approach to fisheries management. This precautionary approach gives weight to the uncertainty of how the fishery and the habitat that it supports may respond to increases in catch/fishing efforts. In addition, it acknowledges the lack of consideration of fish welfare in the review process and the limitations of the available data, which informed the proposed catch limits.

- Deemed value adjustments for SNA 8, SNA 7 and/or SCH 5: The deemed value system imposes financial penalties on catch that is not covered by quota; theoretically this approach is meant to incentivise individual fishers to remain within their total available Annual Catch Entitlement (ACE), promote efficiency and encourage accurate catch reporting. However, in practice the system has created a disincentive for fisheries to report and land all their catch. SPCA would like to see further emphasis placed on addressing the under-reporting problems, which have long been evident and should be a cause of concern for fisheries management and sustainability (Simmons et al., 2016).

- Red Gurnard in GUR 3: We support Option 1 which is to maintain status quo in GUR 3 instead of the proposed increase TAC and TACC.

- Kina in SUR 1A and 1B: We support management of kina as part of a comprehensive ecosystems approach to protect biodiversity in fisheries.

- Trevally in TRE 2: We do not support any of the options provided because they only provide options to increase TAC and TACC.

- Gemfish in SKI 1 and SKI 2: We support Option 1 which is to maintain status quo in in SK1 and SKI 2. This option results in the lowest risk to the stock, associated species and habitats.

- Silver Warehou in SWA 3: We support Option 1 which is to maintain status quo in SWA 3 instead of the proposed increase TAC and TACC.

- Stargazer in STA 7: We support Option 3 to decrease TAC and TACC by the most amount in STA 7.

Background

The welfare of animals targeted as catch

The recognition of fish as sentient under the Animal Welfare Act (1999) requires their welfare is safeguarded (Brown, 2015; Sneddon et al., 2018). The majority of current fishing practices inflict significant stress and suffering upon the captured individuals, which is a major animal welfare issue completely overlooked by industry and government (Wasseem et al., 2022). Welfare issues include exhaustion from attempting to evade capture; injury and crushing due to overcrowding in nets; exposure to rapid changes in body temperature and atmospheric pressure, which result in thermal shock and barometric trauma; increased handling while sorting; and inhumane-slaughter practices (Waley et al., 2021; Wasseem et al., 2022).

The welfare of animals that are bycatch

We find it inexcusable that animals are caught as bycatch in fishing nets or on hooks and end up drowning. Drowning is not a humane death (AVMA, 2013; Beausoleil & Mellor, 2014). Marine mammals that drown in nets likely experience negative impacts to their welfare (Beausoleil & Mellor, 2014). An animal that is drowning remains conscious whilst experiencing a series of physiological and chemical responses in the body resulting in fast and lasting decrease of oxygen in the blood, ingestion of liquid in the airway, acidosis, and high levels of carbon dioxide in the blood (Beausoleil & Mellor, 2014; McEwen & Gerdin, 2016). Seabird drownings result in

catastrophic damage to the heart, lungs, kidneys and liver (Simpson & Fisher, 2017). Drowning leads to severe 'air hunger', which is considered the most unpleasant affective state associated with breathlessness (Beausoleil & Mellor, 2014).

We are further concerned about species-specific welfare harms of animals injured and killed as bycatch including:

- Commercial fishing poses one of the greatest risks to Māui and Hector's dolphins (Currey et al., 2012; Slooten & Davies, 2012). Additionally, marine mammal experts consider fisheries bycatch of Hector's and Māui dolphins as one of the most significant short-term, and important mid and long-term threats (Project Jonah, 2019).

- Fishing mortality is either the primary or significant contributing factor to the population decline of the New Zealand sea lions (Chilvers, 2011; Robertson & Chilvers, 2011; Roberts, 2015; Roberts & Doonan, 2016). Importantly, fishing-related activities that contribute to New Zealand sea lion mortality can be mitigated (Meyer et al., 2017).

- Fishing-related interactions are the leading cause of mortality and morbidity for many seabirds (Crawford et al., 2017; Dias et al., 2019; Jiménez et al., 2012; Yeh et al., 2012; Žydelis et al., 2013). Seabird interactions with nets can lead to injuries that cause immediate or eventual death (Bull, 2007; Wilson et al., 2014). Seabird interactions with fishing gear can lead to pain, and injuries may impede their ability to swim or capture food thus, likely leading to hunger and frustration (see Mellor, 2017). The dependant offspring's welfare is an important consideration in fishing related mortality and morbidity (Whitehead et al., 2019). Losing a parent, or having a compromised parent can lead to a chick experiencing hunger, dehydration, and thermal vulnerability which can lead to pain, fear, and distress (see Mellor, 2017), and eventual death.

Protecting ocean ecosystems

SPCA supports ecosystem-based approaches to fisheries management that identify the impacts of fishing on ecosystems and the welfare of target and non-target species.

Our organisation supports the establishment and maintenance of marine reserves and conservation zones in areas of ecological significance to preserve genetic diversity, promote biodiversity, and protect the environment and animals from human impacts. Marine protected areas can play a powerful role in safeguarding a wide range of coastal and estuarine habitats and feeding areas for aquatic wildlife. All aquatic animals should have a good life. They should have places where they can thrive, such as sanctuaries and refuges. Their welfare is intimately linked with their ability to find food, rear offspring, build nests, find roosts or habitat suitable for laying eggs, and engage in social interactions and normal behaviours.

Marine reserves can also increase public awareness and support for marine conservation and provide sites for research and monitoring (Sobel, 1993). The New Zealand public believes that more of the country's marine environment should be protected by no-take marine reserves than is presently the case (Eddy, 2014). More specifically, SPCA supports restrictions on commercial fishing such as:

- A restriction on the use of all commercial and private set and trawl nets in water depths of 100 meters or less in the natural range of both Hector's and Māui dolphins.

- Greater restrictions of the Squid 6T Fishery to avoid areas and time periods where lactating sea lions are at risk of impacts from squid boats. Ensuring the survival of adult female sea lions is critical in stabilising the sea lion population (Roberts & Doonan, 2016).

- An increase in protected areas for seabirds to avoid surface longline fishing interactions, especially where there are known areas that are seabird bycatch hotspots (Yeh et al., 2012).

Use animal welfare impact assessments to assess fisheries activities

SPCA advocates for animal welfare impact assessments for activities that may negatively impact the welfare of wildlife. The welfare of wild animals is no less important than conservation goals. The welfare of an individual has direct implications on their fitness, and thus the population of

a species; activities that harm the individual, can also harm the group (see Beausoleil et al., 2018). Welfare impact assessments can be useful for mapping out the direct and indirect negative impacts to animal welfare (Sandøe & Gamborg, 2017). Beausoleil et al. (2016) provide an example of an animal welfare assessment framework using The Five Domains Model that helps identify impacts of a course of action on key factors for animal welfare (e.g., an animal's nutritional, environmental, health, behavioural, and mental needs).

End the use of destructive and harmful fishing practices

SPCA advocates for proactive steps to improve animal welfare in commercial fisheries, such as banning indiscriminate, bulk fishing methods (e.g., trawling). Bottom trawling leads to exhaustion, crushing, injury, and stress in fish and is associated with high levels of bycatch (Victorero et al., 2018). Trawling has been successfully banned in Hong Kong, Indonesia, and Kenya (Bailey, 1997; Munga et al., 2012; Tao et al., 2018). Increasing the number and size of protected areas where trawl fishing is banned in New Zealand is a positive step, however, we are concerned it may simply result in concentrated fishing efforts in the remaining available trawl areas.

While trawling continues in New Zealand, SPCA supports efforts to improve the selectivity of trawl gear and minimise unnecessary harm to animals and their habitats during the capture process. For example, ongoing investment in modular harvest systems and precision seafood harvesting, which can safely release fish and other species underwater. Modular harvesting systems provide a low-velocity in-trawl environment allowing fish to swim freely, which minimises their contact with the net and other fish and there are escape holes that allow undersized fish to escape (Wilson et al., 2019). This system reduces the risk of crushing and injury and increases the likelihood of survival for any fish returned to sea (Wilson et al., 2019).

SPCA opposes the use of drift nets for fishing as this method results in the indiscriminate capture and killing of non-targeted marine mammals.

SPCA also advocates for more research into safer methods of fishing for non-target species including:

- The use of alternative methods of squid fishing such as jigging which is successfully used in similar environments around the world to reduce the risk of capturing sea lions in nets.

- The use of hook-shielding devices for surface longline fishing to reduce seabird bycatch (Goad et al., 2019; Sullivan et al., 2017; Walk et al., 2016).

- Improvements in discharge management during surface longline hauling (Rexer-Huber & Parker, 2017; Pierre et al., 2012; Weimerskirch et al., 2000).

- Improvements in tori line position over bait entry point to maximise effectiveness in surface longline fishing (Domingo et al., 2017).

- Clarification of specifications on streamers including on colour and durability of materials (Domingo et al., 2017).

- Improvements to the line weighting specifications in surface longline fishing (Gilman et al., 2016; Jiménez et al., 2019).

SPCA advocates for more oversight of fishing gear that becomes lost, abandoned, or discarded. Discarded and lost gear is a major threat to many marine animals (Stelfox et al., 2016), including seabirds (Gilman et al., 2016; Good et al., 2009).

SPCA advocates for more support for the rehabilitation of aquatic animals that have fishing-related injuries. In many cases, seabirds with fishing-gear related injuries can be successfully rehabilitated (Carapetis et al., 2014; Dau et al., 2009). Rehabilitation should play a greater role in policies that aim to reduce the fishing-related threats to seabirds.

Improve the standards for holding and transporting fish and crustaceans

SPCA advocates for inclusion of requirements that safeguard the welfare of fish and crustaceans whilst they are held for processing. Fish and crustacean welfare in fisheries has historically been

superseded by concerns about the environmental impacts of fishing, or where welfare is considered, these often focus the animal's physical health (Huntingford & Kadri, 2009).

SPCA advocates for more environmental requirements in holding facilities that promote fish welfare including stocking density limits, temperature ranges, and specificity in water quality parameters (see Lines & Spence, 2014; Rey et al., 2019 for a review of these parameters). Environmental enrichment has positive effects on captive fish welfare including aggression, stress, and disease resistance (Zhang et al., 2021).

Fish and crustaceans are at serious welfare risk due to transport. Transportation is a known risk to fish welfare due to physical injuries, stress, handling, and environmental changes that fish experience (Lines & Spence, 2014; Southgate, 2008; Waley et al., 2021). SPCA advocates for improved fishing methods and fish handling that are in line with the Humane Slaughter Association's Guide to Humane Harvesting of Fish (HSA, 2016). Live fish can benefit from use of AQUI-S as a sedative during transport (Iversen & Eliassen, 2009). We further discuss AQUI-S below.

SPCA opposes subjecting live wild crustaceans to welfare harms during transport and supports wild crustacean harvesting systems that use humane slaughter practices. The slaughter of these animals can take place in New Zealand. The export of carcasses has proven to be a successful industry, with New Zealand exporting frozen and chilled meat from a variety of animals around the world for many years. The export of any animal for slaughter is entirely unnecessary thanks to the refrigerated carcass trade.

Improve slaughter practices for fish and crustaceans killed at sea

Fish are subjected to highly stressful and inhumane harvesting methods including asphyxia, chilling in slurry, and live gutting (Lines & Spence, 2014). Commercial fisheries management stands to benefit from the extensive information gathered from aquaculture research on fish welfare and product quality, particularly regarding handling and slaughter (Breen et al., 2020). Additionally, technologies developed for aquaculture, especially innovations in humane slaughter, may be applicable in commercial fisheries (Huntingford & Kadri, 2009).

SPCA advocates for fish and crustaceans to only be killed after they have been humanely stunned. SPCA advocates for the use of electrical and percussive stunning as the most humane methods of stunning, where stunning parameters are based on scientific recommendations. Our organisation advocates for the use of in-water, group stunning of fish, to prevent taking fish out of water or isolation distress (HSA, 2016; Lines & Spence, 2014). When used correctly, electrical stunning can humanely kill crustaceans at high enough voltage/concentration or can humanely stun crustaceans at lower voltage/concentration (Neil, 2010, 2012; Neil & Thompson, 2012; Fregin & Bickmeyer, 2016).

Both fish and crustaceans can be humanely stunned with AQUI-S which is a clove oil-based food-grade anaesthetic approved for use in New Zealand (AQUI-S, n.d.) (Gardner, 1997; Lines & Spence, 2014). AQUI-S can be administered by immersion of the animal in a suitable dilution of the product in either salt or fresh water depending on the species (i.e., freshwater aquatic crustaceans should be anaesthetised in fresh water and saltwater crustaceans in salt water to prevent osmotic shock and distress (Murray, 2006a, 2006b; Waterstrat & Pinkham, 2005).

To ensure death, non-fatal stunning must be immediately followed by a killing method. For fish this could be the severing of all gill arches on at least one side of the head, preferably both sides, to enable the fastest possible blood loss. For crustaceans, this could be a mechanical method of killing that destroys the crustacean's chain of ganglia (their central nervous system), such as splitting, must follow immediately.

SPCA opposes killing fish through practices such as asphyxia in air or ice, hypothermia in ice-water slurry, bleeding without stunning, immersion in water containing high concentrations of carbon dioxide, decapitation and salt or ammonia baths (see Lines & Spence, 2014; HSA, 2016). SPCA opposes the gutting, filleting, or freezing of live fish.

SPCA opposes the use of inhumane methods to stun or kill crustaceans. Spiking and splitting alone, and high pressure killing of conscious crustaceans does not lead to immediate death and these methods are likely to cause distress. Crustaceans should never be gutted, filleted, frozen or subjected to any other form of processing whilst still conscious. It is not humane to boil crustaceans alive (The Panel on Animal Health and Welfare, 2005). In addition, boiling, gassing

with carbon dioxide, or "drowning" in fresh water are not considered humane methods of stunning or killing crustaceans (Gardner, 1997; Roth & Øines, 2010). Chilling on ice has been shown to be ineffective in stunning temperate crab species (Gardner, 1997; Roth & Øines, 2010) and crayfish (Fregin & Bickmeyer, 2016). The welfare impact of chilling on crustaceans is also important in transport, since most crustaceans destined for live markets are chilled prior to transport (Fotedar & Evans, 2011).

Improve transparency, monitoring, and compliance

SPCA is concerned with the under-reporting issues distorting fish catch statistics, as first identified by Simmons et al. (2016). A wider suite of tools is required to improve the state of our fish stocks and transparency and reliability of fisheries data reporting.

More research is needed on NZ sea lions interactions with fishing nets including whether they manage to escape or die and fall from the net (Meyer et al., 2017). Competing claims about the efficacy of SLEDs in reducing NZ sea lion mortality remain (Hamilton & Baker, 2015; Robertson, 2015). Hamilton & Baker's (2015) use of fishery bycatch and modelling of sea lion injuries as a result of interactions with SLEDs indicate they effectively eliminate NZ sea lion mortality. However, Robertson (2015) argues NZ sea lions that escape SLEDs suffer elevated subsequent mortality or reproductive failure, which is likely caused by injuries sustained during collision with the exclusion grid or temporary entanglement. Relying on the bycatch rate, and not taking into consideration the unaccounted injuries and deaths, (i.e., cryptic catch), has obscured the true mortality rate of using SLEDs (Meyer et al., 2017).

SPCA advocates for improved data collection to be key priorities for implementation, assessment, and review of measures to protect Hector's and Māui dolphins. More robust measures of injuries and deaths would improve estimates of harms and provide improved monitoring and evaluation of actions going forward to protect these animals. The lack of quality data (or any data) and uncertainty of current population numbers has been an ongoing concern in developing management plans to mitigate the anthropogenic pressures on Hector's and Māui dolphins (Fisheries New Zealand, 2019; Slooten & Dawson, 2021).

SPCA also encourages the development of technology that will better capture interactions between seabirds and fishing methods to reduce uncertainty of outcomes of escaped animals, including those with injuries or those that die but are unaccounted.

Improved monitoring can also help mitigate the cascading effects of overfishing and over-harvesting of specific species. The impacts of overharvesting spiny rock lobsters is thought to be partially responsible for population increases in sea urchins and destruction of kelp forests (Lafferty, 2004; Tarr et al., 1996).

Reduce bycatch and discard

SPCA supports sustainability measures relating to the landing and discarding of catch that seek to address the widespread illegal dumping and misreporting that have distorted fish catch statistics in New Zealand for decades (Simmons et al., 2016, 2017).

Bycatch and discard reduction is imperative for minimising welfare harms to wildlife and ensuring the sustainability of fisheries. The problems with fish discarding has been recognised since the beginning of the Quota Management System (Heron, 2016). Fish discarding can result in the mass dumping of dead or injured fish into the ocean, largely due to 'high grading', catching undersized fish or over quota catching. The impacts of discarding in different fisheries depends on the survival rates of discards, which is linked to the species and the fishing gear (Davis, 2002). Discard assessments have typically estimated low rates of survival (Wasseem et al., 2022).

SPCA supports incentives for fishers to minimise bycatch and catch fish they value and improve accuracy of commercial fishing reporting. However, discard bans must be accompanied by clear and tighter rules about what fishing gear and practices are permitted. Combining landing obligations with changes in fishing practices to limit the capture of unwanted fish results in trophic cascades that can benefit seabirds, mammals and most fish stocks (Heath et al., 2014).

The type of gear used can reduce carbon emissions, ocean plastics, overfishing and animal suffering (Aquatic Life Institute, 2021). Refining the methods used to capture and handle fish is a key intervention that can reduce harms to aquatic animals in commercial fisheries. Reducing the duration of capture can minimise exhaustion and physical injuries can be avoided through

smaller catch sizes and more welfare-orientated training on gear and handling (Waley et al., 2021). Measures to improve animal welfare during capture include reducing towing speed and duration, setting a limit on catch size to prevent crowding and minimising ascent rates to limit decompression injuries (Mood, 2010; Waley et al., 2021).

Increase observer coverage

SPCA advocates that fishing activities that pose risks to non-targeted animals have 100% observer or camera coverage. Low coverage is a barrier to understanding the true impact that fishing activities have on seabirds (Crawford et al., 2017), and dolphins (Department of Conservation, n.d.). SPCA advocates that no vessels should be allowed to enter or operate in sensitive habitat for seabirds, sea lions, and Hector's and Māui dolphins without an MPI Observer or video recording device present on board. We strongly support the rapid rollout of on-board cameras on 100% of New Zealand's commercial fishing fleet to improve the level of monitoring, compliance, and verification of catch and thus quality of fishing data.

Address impacts of climate change

SPCA urges Fisheries NZ to take an ecosystems approach to commercial fishing which recognises the range and severity of the increasing anthropogenic threats to the global marine environment (Eddy, 2014). We are experiencing a devastating decline in biodiversity and in the condition of our marine habitats (Ministry for the Environment, 2019), which impacts all aquatic animals and renders our marine environments less resilient to climate change.

Wild animals face a range of anthropogenic threats. Wild animals are vulnerable to ecosystems disruption resulting in heavily degraded environments where meeting basic biological needs becomes more difficult, and the burden of increased disease exposure (Aguirre, 2017; Groner et al., 2016; Paquet & Darimont, 2010; Shields, 2019). Aquatic animals face immediate threats from the cumulative impacts of commercial fishing, aquaculture, and non-fishing stressors such as mining, chemical pollution, coastal nutrient and sediment input, invasive species and harmful algal blooms (Gordon et al., 2010). Cumulative pressures from anthropogenic activities increase the vulnerability of marine mammal populations to further threats of habitat loss, depleting prey stocks, water pollution and the overarching longer-term threats of climate change.

Climate change, including global warming, rising air and water temperatures, heat waves, water acidification, and extreme weather events all negatively impact the welfare of many animals (Aquirre, 2017; Almiron & Faria, 2019; Fraser et al., 2012).

Conclusion

SPCA appreciates the opportunity to contribute to the Review of sustainability measures for fisheries-October 2023 round. We welcome further engagement on this issue. If any further information is required, the Society is happy to discuss this matter further.

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20 July 2023

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Submission on the Review of Sustainability Measures for October 2023

1. The Inshore Council of Seafood New Zealand (Fisheries Inshore) welcomes the opportunity to provide comment on the Review of Sustainability Measures for October 2023. Our comments are set out below. We also note that other representative organisations, companies, quota-holders and fishers have also made their own submissions on the proposed sustainability measures, and we support them.

Who we are

2. Fisheries Inshore represents more than 80% by value and volume of the inshore finfish, pelagic and tuna commercial fishing in New Zealand. We were initially formed as a national body (Fisheries Inshore New Zealand) in November 2012 as part of the restructuring of industry organisations at that time. Our role is to address issues on behalf of the sector both nationally and regionally and to work directly with, and on behalf of, our members in both the development of measures and their application at a regional level. More recently, Fisheries Inshore New Zealand merged with Seafood New Zealand (SNZ) and the Deepwater Group (DWG) to form an umbrella lead agency for the commercial finfish sector.

3. As the Inshore Council of Seafood New Zealand, we will of course work with other parts of Seafood New Zealand including the Deepwater Council. We will also of course work with other parts of Seafood New Zealand including the Deepwater Council. We will also continue to work with other industry representative bodies, such as the New Zealand Rock Lobster Industry Council (RLIC) and the Paua Industry Council (PICL), and with other organisations engaged in the management of New Zealand's fisheries and oceans. These include, inter alia, Te Ohu Kai Moana and iwi, Fisheries New Zealand (FNZ), the Department of Conservation (DOC), the Ministry for the Environment, regional councils, research organisations, recreational fishers and their organisations and environmental advocacy organisations.

4. Our key outputs are the development of, and agreement to, appropriate policy frameworks, processes and tools to:
    - assist the sector to manage inshore, pelagic and tuna fishstocks more effectively,
    - minimise any adverse effects arising from the sector's interactions with protected species and associated ecosystems; and
    - work positively with other fishers and users of marine space where we carry out our harvesting activities.

5. Fisheries Inshore provides management services through regional committees to the quota owners, fishers and Licensed Fish Receivers (LFRs), of fish stocks in Fisheries Management Areas (FMA) 1, 2, 8 and 9. As such we work directly with quota owners, fishers and LFRs in FMAI and 2. Fisheries Inshore also has a species committee for highly migratory species (HMS)

fish stocks and a close relationship with Southern Inshore Fisheries Management Company Limited that provides management services to the quota owners of stocks in FMAs 3, 5 and 7 (and some FMA 8 stocks).

1. Our sector consists of some 400 small vessels — bottom trawlers, set-netters, long-liners and Danish seiners - operated by fishers — independent owner-operators and companies - most with a long history in fishing. These are largely inter-generational family-run businesses that serve our coastal communities throughout New Zealand.

2. Fishing largely in the territorial sea, we catch around 95,000 tonnes per annum of species such as snapper, gurnard, tarakihi, blue cod, kahawai, elephant fish, and trevally — to name but a few of the 70 plus species caught by the sector. Around 70% of those fish are caught by bottom trawling in fishing grounds that have been sustainably fished for generations.

3. Our inshore sector provides livelihoods for around 2,000 fishers and with processing and supply industries provides employment for around 4,500 people spread around New Zealand. Its annual output is valued at $1.4 bn and generates export receipts of $200m.

4. The fish our fishers catch comes from the Total Allowable Commercial Catch limit, which could equally be called the Total Allowable Consumer Catch limit, for Kiwi consumers are the primary market of that catch. We are the sector that catches the fish on the table in Kiwi homes, in our fish and chip shops — nationally 75% of the catch is consumed locally with over 70% of Kiwis eating fish at least once a month (but less than 10% of us catch fish recreationally once a year). We are often characterised as a commercial sector exploiting New Zealand's fisheries resources for our own benefit when in fact, we are the only means by which the vast majority of New Zealanders can access and enjoy New Zealand's fisheries resources, and our catch, as is the focus of this submission, is within sustainable limits.

5. We therefore represent the interests of all New Zealand consumers of fish and the interests of all New Zealanders seeking a healthy marine environment and fisheries. The fishing industry is wholly dependent on a healthy and sustainable marine environment. We therefore strongly support the need for a more integrated approach to resource management, both within the coastal marine area (CMA) and across the terrestrial/marine boundary.

Comments on specific stocks

Gemfish SKI 1 & SKI 2

First preferred Option 5 (Industry developed option)

- SKI1: Propose to increase the TACC to 394t.
- SKI2: Propose to increase the TACC to 367t.

Second preferred Option 4 (Industry developed option)

- SKI1: Propose to increase the TACC to 391t.
- SKI2: Support increasing the TACC to 365 t.

Table 1: Proposed options

Stock	Option	TAC	TACC	Customary	Rec	Other Mort
SKI 1	1 (Status quo)	307	252	3	27	25
	2	362	302	3	27	30
	3	418	353	3	27	35
	4 Second preference	**460**	**391**	**3**	**27**	**39**
	5 First preference	**503**	**430**	**3**	**27**	**43**
SKI 2	1 (Status Quo)	325	288	3	5	29
	2	389	346	3	5	35
	3	451	403	3	5	40
	4 Second preference	**410**	**365**	**3**	**5**	**37**
	5 First preference	**451**	**403**	**3**	**5**	**40**

6. Fisheries New Zealand regard these two fishstocks as inter-related and while they will continue to have limits set separately, it is the cumulative catch across the two regions that will impact the ongoing abundance of the fishstock. Fisheries Inshore's response is on a similar basis. That means of course the status quo of the combined stocks is currently set at 632 tonnes with combined TACCs of 540 tonnes.

7. Fisheries Inshore notes that the combined stock of SKI1 and SKI2 has increased in biomass from the early 2000s and is estimated to be near virgin biomass (unexploited levels).

8. While there is some uncertainty in the model as to the total biomass of the stock, there is high degree of confidence (>90% Probability) that the stock is above the target of 40%B_0, and will remain so for the next 5 to 10 years under a range of increased catch scenarios.

9. Projections run to inform management options, using the most conservative low recruitment inputs in the stock assessment model, indicate that the stock will remain above target with catch rates 55% above the current Total Allowable Catch – in line with Option 3, and Options 4 and 5 proposed by Fisheries Inshore (Table 1).

Catch	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32
541.2	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
590.4	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.999
639.6	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.999
688.8	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.999	0.999	0.998
984.0	1.000	1.000	1.000	1.000	1.000	0.999	0.998	0.998	0.993	0.980

Table 1: Probability of the stock biomass remaining above the target of 40% of BO under a range of increase catch (tonnes) scenarios through to the 2031-32 fishing year.

10. These projections show that even with an overall catch of 980 tonnes across both fisheries for the next 5 years, the forecasts are that the abundance of those combined fisheries in 5 years' time will still be above 40%B_O.

11. Our scientific understanding of the stock is consistent with the experience of fishers on the water that have noticed an increasing abundance of gemfish over the last several years. Fishers have reported both a range expansion and catching increasing quantities of gemfish as bycatch in a range of target fisheries, including shallower (<100 metres) inshore fisheries in FMAs 9, 1 and 2 than has previously been experienced.

12. This has resulted in significant increased bycatch and Deemed Value payments as changes to sustainability measures and management controls have not kept pace with the increase in abundance. Since the 2017 fishing year, commercial fishers have paid in excess of $1.6 million dollars in Deemed Value charges. In target fisheries with significant levels of gemfish bycatch, fishers have been actively avoiding areas of high gemfish abundance in recent years. The modest increases to catch limits in 2020 provided some relief, however, further increases are required if unnecessary Deemed Value costs for fishers are to be avoided.

13. Fisheries New Zealand states that increasing catch levels for both stocks is appropriate given the results of the latest stock assessment.

14. Fisheries Inshore sought specific feedback from the sector whether there was any interest in developing a target fishery for gemfish. Feedback we received overwhelmingly dismissed resumption of a target gemfish fishery and increasing the TAC/TACC beyond bycatch levels to accommodate a target fishery.

15. The purpose of the Fisheries Act is to enable utilisation, while ensuring sustainability. The assessment through the Inshore Working Group demonstrated there are no sustainability risks to these gemfish stocks. Reflecting the current status of the stock, the primary management objective should be to ensure catch limits are sustainable and set at a level so they do not unnecessarily constrain effort in target fisheries or incur unnecessary Deemed Values when there are no sustainability risks to the gemfish stock.

16. We consider that none of the options proposed in the consultation document meet this objective entirely, though Option 3 comes close with a TACC for SKI2 above recent catch levels, but what is proposed for SKI 1 is still below its recent catch levels. Consequently, Fisheries Inshore have proposed two alternative options that are more likely to achieve the management objective. Fisheries Inshore has undertaken extensive engagement with quota owners and fishers throughout FMA9, 1 and 2 to develop the alternative options presented below.

Option One

17. We consider Option 1 for both SKI1 &SKI 2 are set at levels that are overly precautionary ignoring the high degree of confidence in the science assessment and are unnecessarily alarmist over future risks to the stocks, including recruitment predictions and potential impacts of Cyclone Gabrielle. By doing so, Option 1 fails to consider the role of the monitoring and management frameworks that are in place to provide the necessary checks and balances when, and as, the abundance of the stock changes over time. Option 1 is overly simplistic and contradicts the science and management inputs that inform Options 2 and 3, and Options 4 and 5 proposed by Fisheries Inshore.

Option Two

18. Option 2 proposes an increase of 20% based on catches in the most recent full fishing year (2021/22).

19. We do not support Option 2 as the proposed increases are based on a single year's catch history, both of which are significantly lower than recent catch levels that occurred in the preceding years of 2019-20 and 2020-21. As a consequence, Option 2 significantly under-estimates the likely bycatch levels our fishers will face while catching their target fishstocks.

20. If implemented, Option 2 will result in continued increased costs for fishers either through the need for them to change fishing grounds to avoid areas of high gemfish abundance while fishing for target species or reducing their time fishing on their normal grounds (resulting in them catching less target fish), and / or incurring Deemed Value charges due to an unnecessary low TAC/TACC.

Option Three

21. Option 3 proposes a larger increase (40%) reflecting the increase in abundance that has occurred in both stocks. In SKI2, the proposed TACC of 403t would have accommodated the recent highest catch of 368t in the 2020-21 fishing year. For SKI1, however, the proposed TACC of 353t is below the recent highest catch of 394t (even with the avoidance action because of deemed values) in the 2019-20 fishing year.

22. If implemented, Option 3 will likely result in continued increased costs for fishers in SKI 1, either through changing fishing grounds to avoid areas of high gemfish abundance while fishing for target species, and / or incurring Deemed Value charges due to an unnecessary low TAC/TACC.

Option Four: Industry 2nd preferred option - both TACCs set in-line with recent highest catches

- **SKI1: Propose to increase the TACC to 391t**
- **SKI2: Propose to increase the TACC to 365t**

23. Fisheries Inshore proposes a secondary preferred option for industry. This option sticks with the same combined TACC as FNZ option 3 but the catch limits of Option 4 are more likely to meet the management objectives of ensuring sustainability while avoiding unnecessary costs that Fisheries NZ Option 3 would impose on fishers.

24. Option 4 proposes a lower increase for SKI 2 and a larger increase for SKI 1 in line with recent largest catches. This option results in a combined total TACC of 756t, being the same combined total catch as the Fisheries NZ combined Option 3.

25. As SKI1 and SKI2 share a common biological stock, this option is an accounting exercise that better reflects the fishing that occurs and the catch of gemfish in both areas.

Option Five: Industry 1st Preferred Option

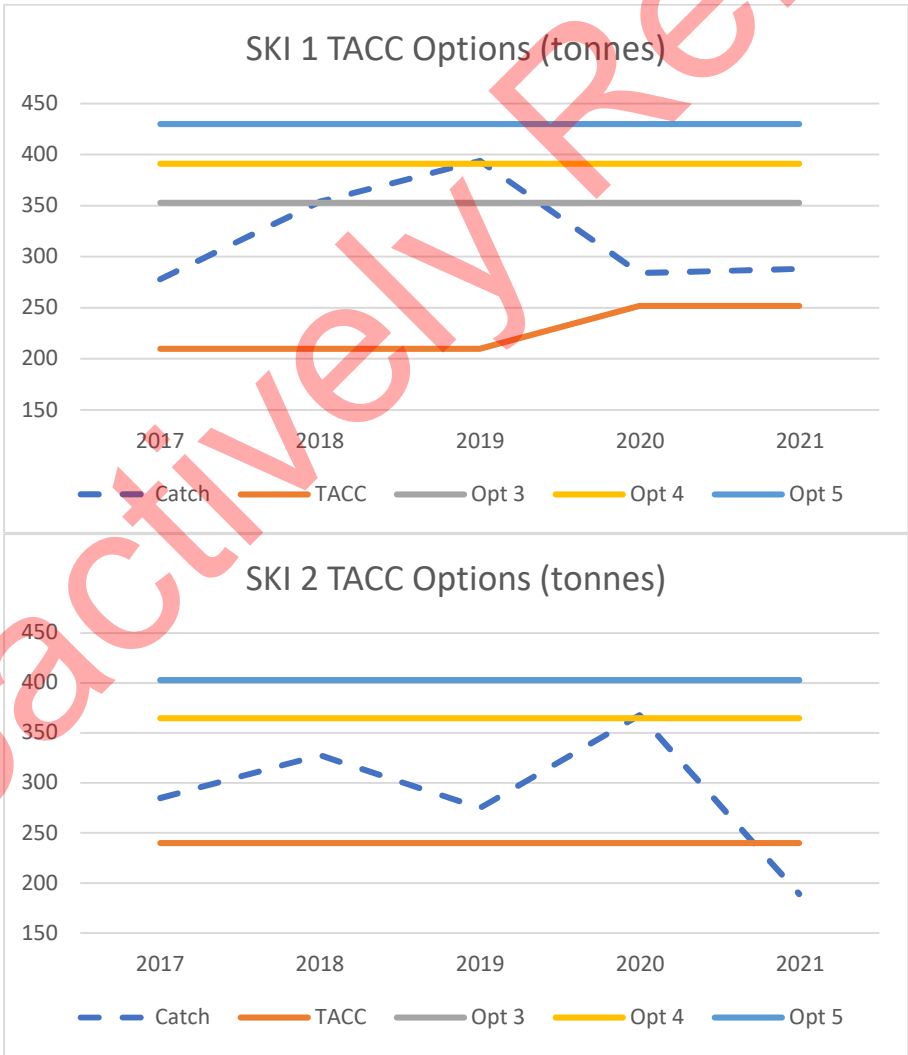
- **SKI1: Propose to increase the TACC to 430t taking account of the highest recent catch (394t) and constraints on additional catch as a result of Deemed Values.**
- **SKI2: Support increasing the TACC to 403t (as per Option 3).**

26. Fisheries Inshore proposes a 70% increase to the TACC for SKI1 which would take the TACC up to 430t. This better reflects what the recent highest catch in the 2019-20 fishing year would have been if the fleet wasn't paying deemed values. The SKI2 TACC would be set at the 403t which is above the highest recent catch but in-line with FNZ's Option 3.

27. Option 5 results in a 9.8% catch increase above the combined Total Allowable Catches of SKI1 and SKI2 of Fisheries NZ's Option 3. The combined total TACs of Option 5 (954 tonnes) sits with the range of catch projections with a high degree of probability that the stock will be above target in 5 to 10 years.

28. Option 5 is most likely to meet the management objective of ensuring catches are sustainable without incurring unnecessary costs resulting from forcing fishers to avoid highly productive target fishery areas to avoid catching gemfish and incurring Deemed Value charges.

Figure SKI1 and SKI2 TACC Options illustrate the proposed TACCs of Options 3, 4 and 5 compared to recent catch levels and TACCs. Note the SKI 2 TACC displayed does not include the 2020 increase that was subject to a legal injunction.



SNA8 Deemed Values

Fisheries Inshore Position

- SNA8 Deemed Values should be reduced from the current rate to provide relief to fishers until such time catch limits are reviewed in 2024. Deemed Value rates for SNA7 should be aligned with SNA8.

29. Fisheries New Zealand is proposing to increase the DVs for SNA8, and decrease the DVs for SNA7.

Table 1: Current and proposed deemed value rates ($/kg) for selected stocks from 1 October 2023.

		Current				Proposed				
Species	Stock	Interim $/kg	Annual $/kg	Annual at maximum excess $/kg	Differential	Option	Interim $/kg	Annual $/kg	Annual at maximum excess $/kg	Differential
Snapper	SNA 8	4.03	4.48	8.96 (>200% ACE)	Standard	1	4.68	5.20	10.40 (>200% ACE)	Standard
						2	5.40	6.00	12.00 (>180% ACE)	Special
	SNA 7	5.40	6.00	12.00 (>180% ACE)	Special	1	4.68	5.20	10.40 (>200% ACE)	Standard
						2 (*status quo*)	5.40	6.00	12.00 (>180% ACE)	Special

30. Fisheries Inshore argues that the Deemed Values for SNA8 should be reduced rather than increased.

31. The over-catch (bycatch) of SNA8 is a direct result of sustainability measures and management controls that are set at levels that do not reflect the high abundance of snapper on the West Coast. This is particularly evident when you consider that ninety percent of snapper is caught as bycatch when fishers are targeting other fish stocks.

32. A closer examination of the over-catch indicates snapper was caught across the majority of fishers active on the West Coast in quantities proportional to their effort and catch of target species other than snapper. Catch data does not suggest that fishers are deliberately targeting snapper and paying considerable Deemed Value charges for profit. Fisheries New Zealand will have had the opportunity to confirm this using several years of camera footage that is available to it.

33. We note there are no sustainability concerns with the stock and Fisheries NZ is scheduled to review the sustainability measures for SNA8 in 2024 following an updated stock assessment.

34. The proposal to increase Deemed Values for SNA8 contrasts with the approach taken in SNA2 where deemed values were reduced to provide relief to fishers catching snapper as a bycatch in target fisheries. This was done as a pragmatic solution in the absence of a sustainability risk or timely changes to catch limits.

35. We strongly disagree with the proposal to implement more stringent special differential rates where over catch is clearly a result of high abundance and low catch limits.

36. This proposal is inconsistent with the Deemed Value Guidelines that recognise that less stringent differential schedules may be more appropriate in situations of a low TACC and where targeted fishing does not occur. Conversely more stringent differential rates are more appropriate for vulnerable or rebuilding stocks, or those taken with a high degree of selectivity. None of which are relevant to SNA8.

37. As fisheries managers, Fisheries NZ also needs to consider what is happening on the West Coast North Island from a broader ecosystem-based fisheries management context, given its stated intent to manage fisheries on this basis. Ecosystems operate in balance – they grow the level of production that is possible with the mix of nutrients, temperature and currents. There is no gap

in production within the ecosystem that isn't being realised. If the ecological settings favour one species, its increased abundance will be at the expense of others. Given the management settings in place or proposed for SNA8, there appears to be no recognition of its broad ecological range and the fact that it is responding positively to warming sea conditions and is continuing to increase in abundance and becoming highly ubiquitous. Fishers are changing the way they fish for target species to avoid catching snapper. Yet such changes can only have limited effectiveness when snapper is so abundant and dominant in New Zealand's inshore marine environment. Consideration should also be given to the unintended consequences of incentivising fishers to target alternative species that are likely to be less abundant than snapper. The consequences of which are likely to alter the relative abundance and composition of different species within coastal ecosystems.

38. Rather than increase DVs at this point in time, we recommend that Fisheries NZ reduce Deemed Value rates to provide relief to fishers until such time the management settings are reviewed in 2024. SNA7 is another fishstock whose abundance has increased substantially and fishers are doing their best to avoid them– for this fishery Fisheries NZ seems to be recognising those circumstances and reducing its deemed values as it did for SNA2. We recommend that the same DVs be used for both SNA7 and SNA8.

Trevally TRE 2

Fisheries Inshore Position

- Propose a 20% increase to the TACC to 289 tonnes.

Table 2 of proposed options

Stock	Option	TAC	TACC	Customary	Rec	Other Mort
TRE 2	**1**	366	241	1	100	24
	2	387	260	1	100	26
	3	408	279	1	100	28
	4 (industry)	418	289	1	100	29

39. The TRE1 Bay of Plenty (BoP) stock assessment was updated and published earlier this year. Spatial patterns in CPUE and a single year of catch sampling indicate that the TRE2 stock is part of the TRE1 BoP sub-stock. Although the science is conducted simultaneously for both stocks, and TRE2 is now recognised as a BoP sub-stock, frustratingly for industry, the management and review of TRE2 TAC remains separated by the QMA and does not happen simultaneously.

40. The recent CPUE analysis undertaken within the TRE1 stock assessment estimated the TRE1 BoP sub-stock is currently at 66.4% of virgin biomass (unexploited levels). The estimation provides a relatively high degree of confidence (>60%) that the stock is above the management target of 40% B_0 and is likely to remain above the target level with current catch levels until the next stock assessment is due.

41. An additional scenario of a 20% increase to current catch levels was run in the stock assessment, which provided confidence that the stock would remain at or above the management target until the next stock assessment.

42. As with all stocks, the primary management objective is to ensure catch limits are set at a level that does not unnecessarily constrain effort in the fishery or result in unnecessary Deemed Values, especially when there are no sustainability risks to the stock and regardless of whether it is a target fishery or not.

43. It is important to note that even when TRE2 was a target fishery, it only constituted a small portion of overall catch. Feedback from TRE2 quota holders supports this observation and indicates that there is no current desire to reinstate the target TRE2 fishery.

44. Notwithstanding it is a bycatch fishery we have seen continuous over-catch and deemed value payments for over two decades. FMA2 quota holders again want to emphasise the similarities between TRE2 and SNA2 that continues to constrain their ability to catch these stocks while they are abundant. Notwithstanding updated stock science that should support management reviews paired with continuous requests and justification from industry over the past decade, FNZ has refrained from reviewing these two stocks.

45. We acknowledge that there is a dire need to reinstate a fishery-independent abundance indices through a trawl survey to provide increased confidence in CPUE and stock assessment results and have request Fisheries NZ to address this for at least the last 5 years.

46. The consequences of not acting on the best available information in the meantime, for both TRE2 and SNA2, are unacceptable. This non-action has resulted in significant deemed value payments and a chronic inability to avoid them while fishing within FMA2. They are clearly choke species in the FMA2 mixed trawl fishery and have now been for many years. We are also disappointed that FNZ has once again missed an opportunity to review these two stocks as a complex.

47. Table 3 sets out the deemed value payments incurred by FMA2 operators over the past 5, 10 and 22 years. The Total is the sum of all payments for that period and the Average is the associated annual average payments.

Years	TRE2		SNA2		Combined	
	Total	Average	Total		Total	Average
5	56,075.00	11,215.00	342,352.64	68,470.53	398,427.64	79,685.53
10	251,498.50	25,149.85	744,213.12	74,421.31	995,711.62	99,571.16
22	1,003,349.75	45,606.81	1,753,073.28	79,685.15	2,756,423.03	125,291.96

Option One

48. Option One, which only increases other sources of fishing mortality to 10% of the TACC, does not adequately consider the potential for utilisation of the stock. This option is extremely conservative and ignores the latest scientific evidence from the Stock Assessment and CPUE update.

49. We do not support it and question why it is included in the consultation document.

Option Two

50. Option Two proposes a 19t (8%) increase to the TACC, equivalent to the average annual unavoidable over-catch from the past 10 years.

51. While this increase allows for greater utilisation than Option One, it falls short of meeting the primary management objective because it fails to recognise that operators are already taking actions to avoid catching TRE2.

52. Feedback from FMA2 operators indicates that they are actively avoiding TRE2, SNA2, SKI2 and TAR2 where possible to minimise deemed value payments. This suggests that the recent annual catches for all those stocks are effectively deflated and not representative of actual abundance.

53. The average annual deemed value payment over the past 10 years is approximately $25,100 and increases to approximately $45,600 over the 22-year annual average.

54. In response to Option Two, feedback from FMA2 operators can be summarised into three key points:
    - Fishers are actively avoiding TRE2 and other FMA2 stocks to avoid deemed value payments,
    - The current deemed values are set at an appropriate level to disincentivise over catch,
    - Despite actively avoiding TRE2, it is physically impossible for operators to avoid TRE2 at its current biomass when targeting TAR and GUR and they continue to incur unwanted and unjustified Deemed Value costs.

Option Three

55. Option Three proposes a 38t (16%) increase to the TACC.

56. We are disappointed that given the relatively high confidence of increasing stock biomass, the TACC has not been adjusted prior to now. Consequently, the current TACC of 241t is inappropriate for utilisation and does not accurately reflect current abundance levels of TRE2.

57. We highlight that although a 38t increase represents a 16% increase from current TACC, it only represents a 4% increase from 22-year average annual catch. Similar to Option 2, we are concerned that such a modest increase does not reflect the reduction in potential over-catch resulting from the avoidance behaviour of FMA2 operators. Fishers should not have to avoid catching a highly abundant fishstock.

58. We see Option Three as the minimum acceptable increase in TACC for TRE2. The latest scientific evidence clearly highlights the ability to increase the TACC further, and hence we propose Option Four below.

Option Four: Increase the TACC to 289t in line with a 20% catch increase

59. Fisheries Inshore proposes Option 4 to increase TACC by 20% based on three key factors:
    - the TRE1 BoP stock status (which the TRE2 CPUE mirrors) is projected to remain at or above target level (40% B_0) even with a 20% increase in TACC until the next stock assessment (2027), i.e. the best available science supports a 20% increase;
    - FNZ indicates in Section 4.2 of its consultation paper that Cyclone Gabrielle is unlikely to have significant impacts on the recruitment into TRE2 - anecdotal feedback from FMA2 fishers support this;
    - despite actively avoiding TRE2 and Deemed Value charges, it is physically impossible for operators to avoid TRE2 at its current biomass when targeting TAR and GUR.

Yours sincerely,

9(2)(a)

Laws Lawson
Executive Chair
Inshore Council, Seafood New Zealand

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SOUTHERN INSHORE FISHERIES
MANAGEMENT COMPANY LIMITED

Sustainability Review October 2023
Fisheries Management, Fisheries New Zealand
Email: FMsubmissions@mpi.govt.nz

17 July 2023

Review of Sustainability Measures for 1 October 2023

1. Thank you for this opportunity to comment on the review of sustainability measures for the fishstocks we represent on behalf of our shareholders. This submission is made in respect of the following review of sustainability measures and deemed value consultation papers for:

   - GUR3 – Discussion paper No. 2023/04
   - STA7 – Discussion paper No. 2023/09
   - Deemed Value (SNA7, SCH5) – Discussion Paper No. 2023/12

2. Southern Inshore Fisheries Management Co. (Southern Inshore) represents 104 inshore fishstocks throughout the Fisheries Management Areas 3,5,7 & 8. In addition to representation and advocacy for shareholders the Company also invests in annual research projects, for additional monitoring of key stocks, over and above the cost recovery process.

3. Southern Inshore is a member of the Seafood New Zealand Inshore Council which is our sector representative entity (SRE).

4. Southern Inshore continue to be disappointed at FNZ's approach towards addressing TACC reviews particularly given that we regularly seek responsible, incremental changes and that these are typically supported by the appropriate science.

5. The shareholders of Southern Inshore pay close to $800k a year to maintain trawl surveys that have been consistently delivered for over 20 years. They collect scientific data that allows for better decision making and should provide the comfort necessary to boldly make them. Information collected from the trawl surveys should, with the appropriate CPUE inclusions be used to review TACC's appropriately.

6. Southern Inshore are concerned that reasonable requests for TACC review supported by both science and CPUE are being ignored on the basis that they are likely to create societal concerns and affect the political landscape. Making decisions based on what makes the least amount of background noise is not appropriate.

7. Southern Inshore presented stocks for review (see Attachment 1) back in January 2023. Stocks such as SNA7 could have easily been reviewed based on the latest WCSI trawl survey which determined an indicative biomass that has near doubled. The situation with SNA7 is dire to the extent that fishermen cannot avoid it and the range has expanded exponentially. FNZ know this because fishermen continually tell them, anecdotally the recreational take is at an all-time high and the science supports it. FNZ could have requested that the survey data be analysed quicker and the stock assessment and any SNA7 forum meeting could have been brought forward. It is neither appropriate nor consistent how FNZ make these decisions. We note that FNZ use the indicative result from the latest survey to propose a reduction to the STA7 TACC but maintain that

they are unable to immediately act the same way to review other stocks. The SNA7 review is planned for next year and is based entirely around the election this year not what state the fishery is in. Fishermen and quota-owners should be rewarded when the state of our stocks are so good. Not penalised because the Govt. wants to adopt a path of least resistance.

8. The same reluctance impacts upon the meaningful management of other stocks as well. SPO7 and ELE 7 are continually rejected by FNZ because the trawl survey doesn't pick up enough catch to show it as a problem. The reason the trawl survey sees none of these fish is because they do not fish in the area's where they are most prevalent. Industry repeatedly present positive rhetoric in respect of these stocks and want to see them improved. Reviewing deemed values instead of correctly setting TACC's does not provide for increased utilisation and forces fishermen to avoid snapper in such a healthy fishery. This is occurring more and more across a greater number of stocks and is simply unacceptable.

9. Industry are cost recovered on average $800k per year for the South Island surveys. We should be getting a much higher return on our investment with the review of as many stocks as possible, not just the two we have this year.

10. The contact for this submission is Carol Scott.

Red Gurnard (GUR3)

11. Southern Inshore **agree** that the TACC for GUR3 has to be increased but note that the proposed increase of only 79 tonnes will restrict the utilisation potential in this fishery as it is well below the current stock assessment analysis. The most recent (2022) ECSI trawl survey preliminary biomass estimate in the 10-400m (core plus shallow strata) is calculated at 5,471 tonnes, this is approximately 1,700 tonnes above the biomass for the same depth range from the 2021 trawl survey that was used in the stock assessment.

12. We recommend that the TACC be set at 1750 tonnes to provide for the utilisation opportunity, minimise the risk of incurring deemed values by providing some headroom. To 22nd June 2023 the fishery is already %78 caught with three more months left in the fishing year. The fishery has been overcaught for at least the past 20years plus, see figure 1, because of the low TACC settings. We are consistently playing catch up in this fishery with TACC settings lagging behind abundance increases.

13. Southern Inshore has promoted a step-wise approach to proposed TACC increases for a number of years. These proposals have been in-line with regular analyses and monitoring by the ECSI trawl survey results but the increases provided by FNZ are far too conservative.

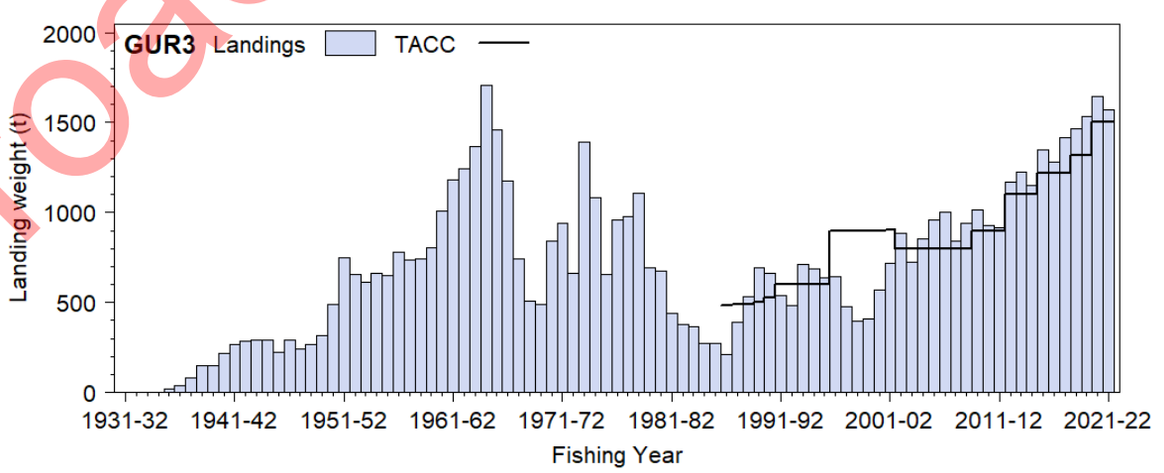


Figure 1. Reported commercial landings and TACCs for GUR 3.

14. The consultation paper states that "*the 2022 survey indicates that pre-recruit biomass has declined, suggesting recruitment to the fishery will decline in coming years*". We disagree with that statement given the nature of this fishery and the fact that whilst there is a small decrease from the last survey the trend in pre-recruitment is cyclical. Figure 2 clearly shows the trend in recruited and pre-recruited GUR3 from the trawl time series.

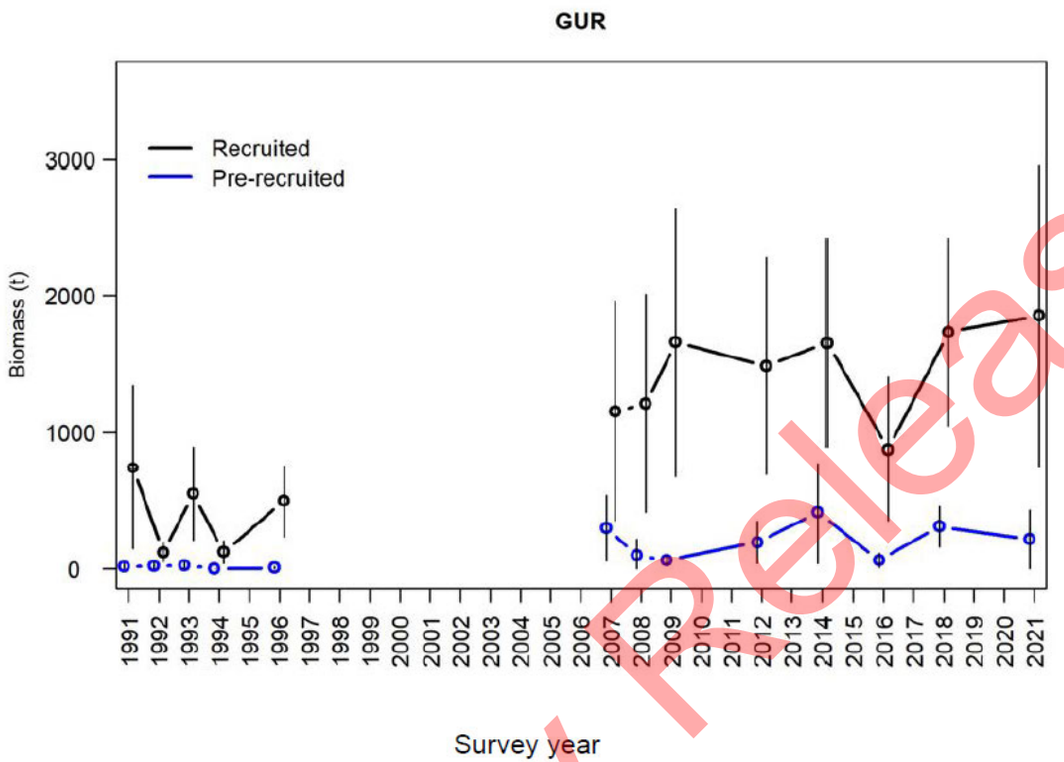


Figure 2. Target Species (GUR3) recruited and pre-recruited biomass and 95% confidence intervals for all ECSI winter surveys in core strata (30-400m).

15. We propose that reconsideration is given to the proposed TACC level and adjust it to 1750 tonnes with a further review after the next ECSI trawl survey in 2024. The setting of 1750 tonnes is in-line with the outcome of the most recent stock assessment projections, the biomass is well above the target level (target $B_{2020\text{-}21}$ was estimated to be 64% B_0 and Very Likely (>90%) to be at or above the target), and allows for increased utilisation whilst minimising deemed value effects before the next review. In relation to the

Stargazer 7 (STA7)

16. Southern Inshore **do not agree** with the reduction to the TACC for STA7. If the TACC is reduced based on the latest survey point it will most likely take three more surveys to join the dots to prove up the increasing trend in the fishery. We believe that FNZ is being overly reactionary to one survey point. 2021 showed a low point in the indices but yet 2023 shows an increase.

17. The consultation paper states that there was a 2022 stock assessment. This is simply not the case. There was no formal stock assessment of STA7 but simply an update to the status of the stocks from the most recent 2021 trawl survey indices and discussion at the working group.

18. Catchability was discussed and presumed to be extremely low but the working group noted that it may simply reflect an actual decrease in abundance for several West Coast species. We are concerned about this focus as it is conceivable that the trawl survey does not sample effectively in some years and stargazer habitat. We have seen undercatch of some species in the past by the survey and yet the following year it is classed as an anomaly. The 2003 trawl survey which missed a number of demersal stocks was classed as an anomaly. There are a number of fishstocks that doing uncharacteristic movements which may be related to the warmer water on the west coast, i.e. kingfish in Foveaux Strait and snapper moving from the Top of the South Island Bays down to

Haast and beyond. We believe there is more work to be done to assess these changes before knee jerk reactions to one survey point.

19. Fishers' anecdotal information has also suggested that the Kaharoa does not fish in appropriate areas to fully reflect the stargazer fishery. Whilst there is some overlap a number of areas in STA7 are not part of the survey design.

20. Stargazer like many species have cyclical recruitment and whilst the juvenile biomass has been declining to some extent the most recent year, 2023 shows an increase, see figure 7. This figure needs to be verified by the working group but FNZ obviously have confidence in it to present it for consultation. Figure 7 shows the increase/decrease cyclical juvenile biomass indices.

21. The catch of stargazer has been increasing for a number of years and remains stable with the TACC level. See Figure 3.

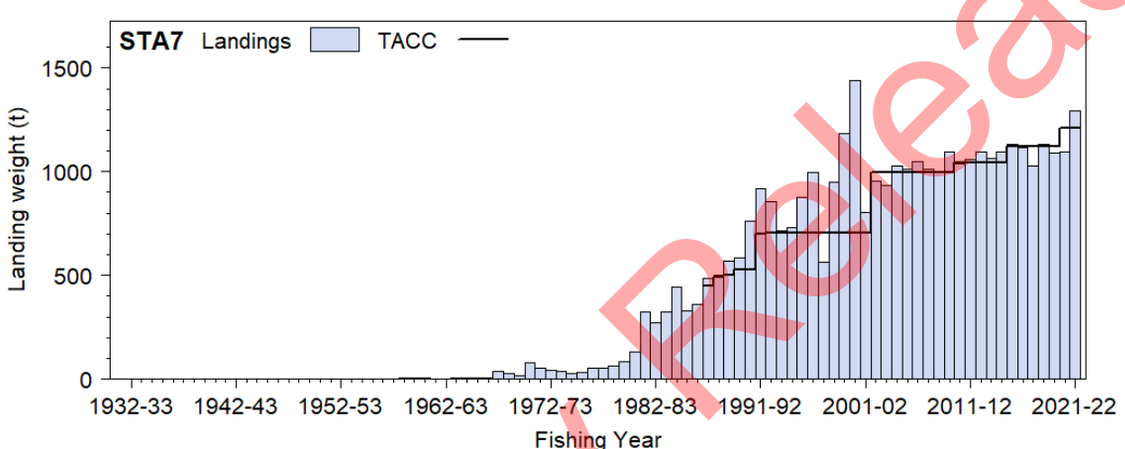


Figure 3. Reported commercial landing and TACC for STA7.

22. We believe that the west coast South Island trawl survey underestimates the total biomass for STA7 based on the lack of effort in strata where stargazer have been evidently caught by the commercial sector. These areas include areas previously noted as rough and untrawlable by survey designers. The comparison of commercial catch effort in Figure 3 to survey stations in Figure 4 explicitly shows the lack of survey catch effort. Whilst we understand the need for random site trawl surveys, they should however be based to a certain extent on the known presence of relevant stocks and redesigned to add additional strata and sample sites. Surveys need to be more adaptively managed.

23. There are limited random survey sites allocated to stratum 9 and 13. Commercial fishing effort has been evident in these strata for some time and therefore we believe that the survey design needs to include the lower area of this strata. In addition to strata 9 a high level of commercial catch is also evident in the southern-most part of this strata which has nil allocated sites, figures 4-6.

24. Adding strata is not uncommon as additional strata was added to this survey design to provide additional inshore data for snapper juveniles.

25. When comparing the trawl lines for STA7 effort for the past three years, the spatial effort data does not vary. The random selection of sites does and can influence the cyclical effect of the trawl data for this fishstock. It is not inconceivable to assume that stargazer whilst considered a sedentary species may also move spatially to some extent.

26. There is very little change in the location of commercial effort for the past 3 years at least. Effort that is missed by the trawl survey but included in the catch figures relates to the northern part of the east coast South Island.

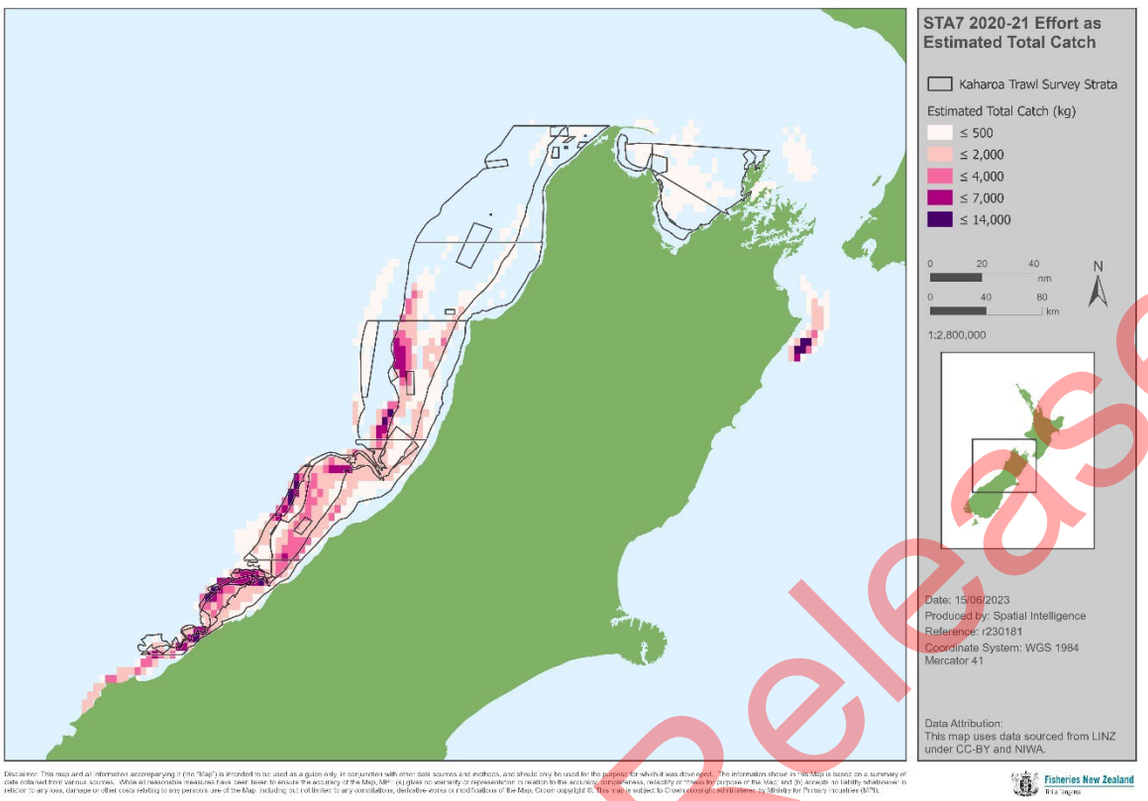


Figure 4. Estimated commercial total catch effort STA7 2020-21

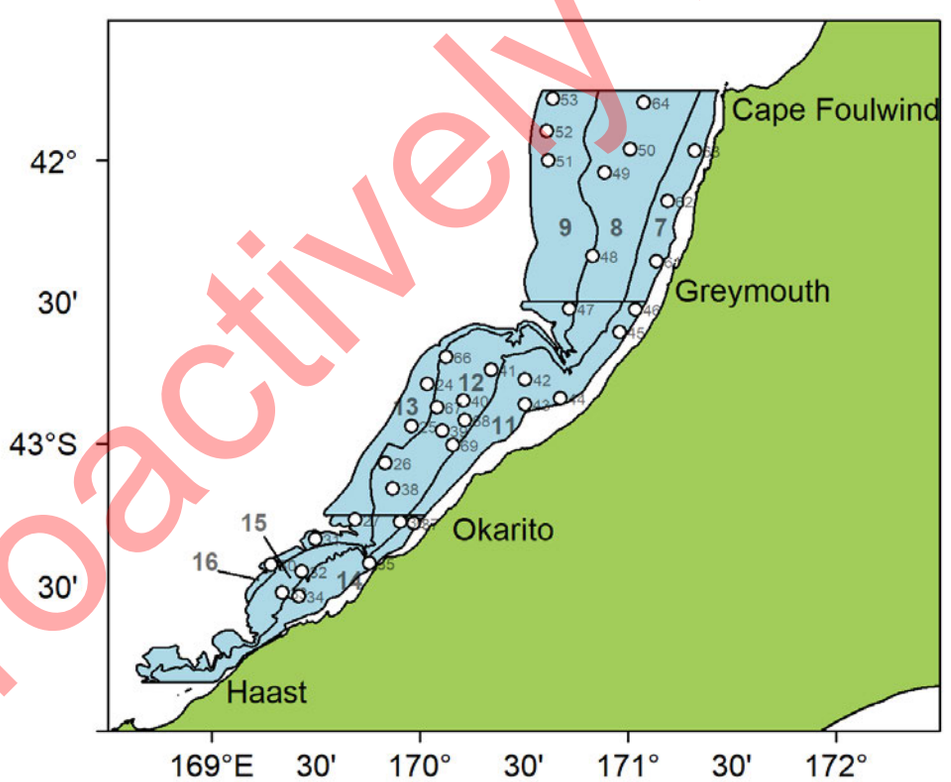


Figure 5. Strata 7-16: Stratum boundaries and station positions with station numbers for the 2021 WCSI inshore trawl survey.

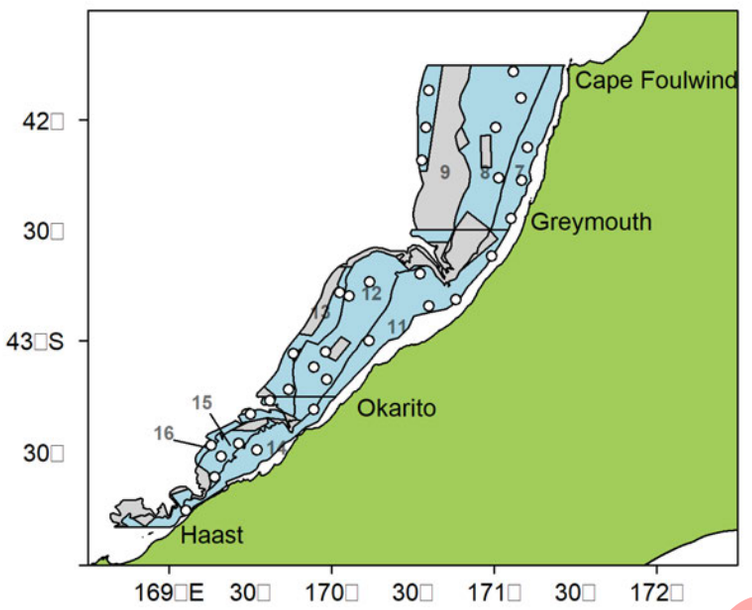


Figure 6. Strata 7-16: successful trawl station positions for the 2023 WCSI inshore trawl survey. Grey areas are foul ground.

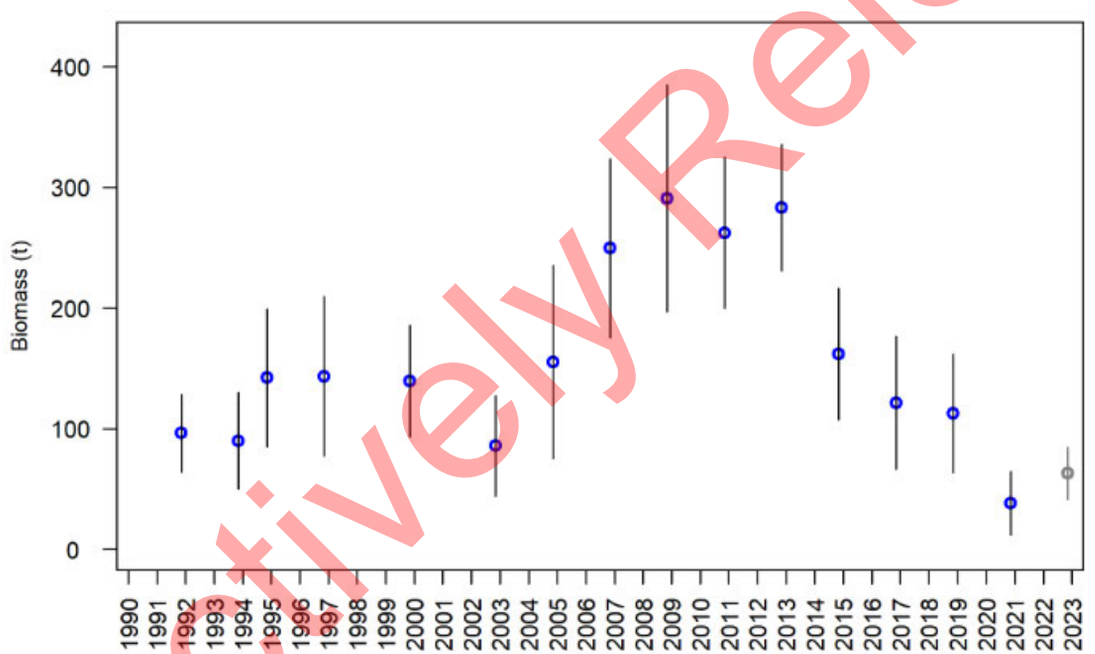


Figure 7. Time series of WCSI trawl survey juvenile STA7 biomass indices, with 95% confidence intervals.

27. We request that Fisheries NZ hold off on reducing the TACC for STA7 until further information from the next survey is collected. The risk to the fishery within this timeframe is minimal and we need more information on the juvenile biomass, movement of stargazer and design of the trawl survey to be more effective by utilising areas currently noted as untrawlable. FNZ need to discuss these unfishable areas with fishers to assess the level of access by them and potential for survey redesign.

28. With the advent of a new survey vessel coming online in 2025 it is prudent we discuss the effectiveness of both South Island trawl surveys for the management of our fishstocks.

REVIEW OF DEEMED VALUE RATES FOR SELECTED STOCKS FOR 2023/24

School Shark 5 (SCH5)

29. Southern Inshore **do not agree** with the proposed increase to the deemed value for SCH5 on the basis that the exceptions process has not been completed and may have implications on the level of returns to the sea given Schedule 6 being removed.

30. The TACC was decreased in 2021 with a 5% overcatch in that year. Current catch of SCH5 to June is already at 78% and predicted to also be fully caught by the end of the fishing year. With the removal of Schedule 6 the implications may be a lack of ACE in this fishery and deemed values incurred. They should not be incurred at the proposed rate which would have huge financial impacts on fishers.

31. We do however recognise that the current deemed value is quite low to the current port price for a fishery that is under some stress. We propose a 2nd option:

32. Option 2 –

			Differential rates ($/kg) for excess catch (% of ACE)				
Option	**Interim ($/kg)**	**Annual 100-120% ($/kg)**	**120-140%**	**140-160%**	**160-180%**	**180-200%**	**›200%**
Current	1.13	1.25	1.50	1.75	2.00	2.25	2.50
Option 2	2.80	3.10	3.72	4.34	4.96	5.58	6.20

33. At $3.10, the annual deemed value rate would be set above the most recent port price estimated for SCH5 ($2.59).

Snapper 7 (SNA7)

34. Southern Inshore **agree** to the proposed decrease to the deemed value for SNA7 under Option 1 on the basis of current port price and increasing abundance and continued avoidance in this fishery.

35. A decrease to the deemed value is inline with the change in port price.

36. There is no reason why the decrease in the deemed value could not have been coupled with an increase in the TACC.

LACK OF REVIEW OF FISHSTOCKS FOR 1 October 2023

Example fishstocks not reviewed in 2023 that could have been prioritised.

SNAPPER (SNA7)

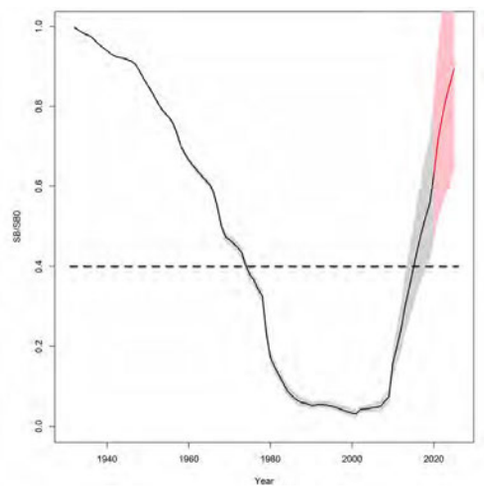


Figure 8. Annual trend in spawning biomass relative to the 40% SB_0 interim target biomass level for the base model

37. Whilst the reduction in the deemed value for SNA7 may ease the economic concerns of fishers incurring deemed values in this rebuilding fishery we are very disappointed with the lack of adaptive management by Fisheries NZ. They took the latest indices from this year's WCSI trawl survey to review the STA7 TACC down before the figures went to the working group but neglected to apply the same principle and use the significantly positive indices for SNA7 for a TACC increase. One excuse has been the need for a multi-sector forum meeting and but yet forward planning would have met the criteria and could have been organised in time to discuss the indicative results. They are able to call last minute multi-sector meetings for BCO7 and the same could have been done for SNA7. The SNA7 stock assessment could have still gone ahead later in 2023 for a further TACC review in 2024.

38. The fact that the biomass for SNA7 from the most recent survey is nearly double that of the last survey, a TACC increase could have been provided at minimal risk outside the stock assessment update but still maintain a high level of supporting scientific rigour. FNZ continually to ignore the proven trend in this fishery (Figure 8) and act accordingly.

39. The fact that industry have to wait upwardly of 10 months to a year to see the final results of the trawl surveys is very frustrating. Whilst the timing for the ECSI trawl survey is planned closer to the consultation timing for review of sustainability measures there is no reason why the results could not be presented as soon as possible to allow for forward planning and review of stocks in the November plenary and April sustainability round. This would help spread the necessary resources throughout the year. But yet we allow NIWA to plod along at their own pace and FNZ managers appear not to be able to control their own process but yet be controlled by a client.

Elephantfish 7 (ELE7)

40. The trend in the catch of ELE7 continues with the fishery again overcaught by nearly 21 tonnes with three months of the fishing year left. This fishery is consistently being overcaught and FNZ refusing to address this.

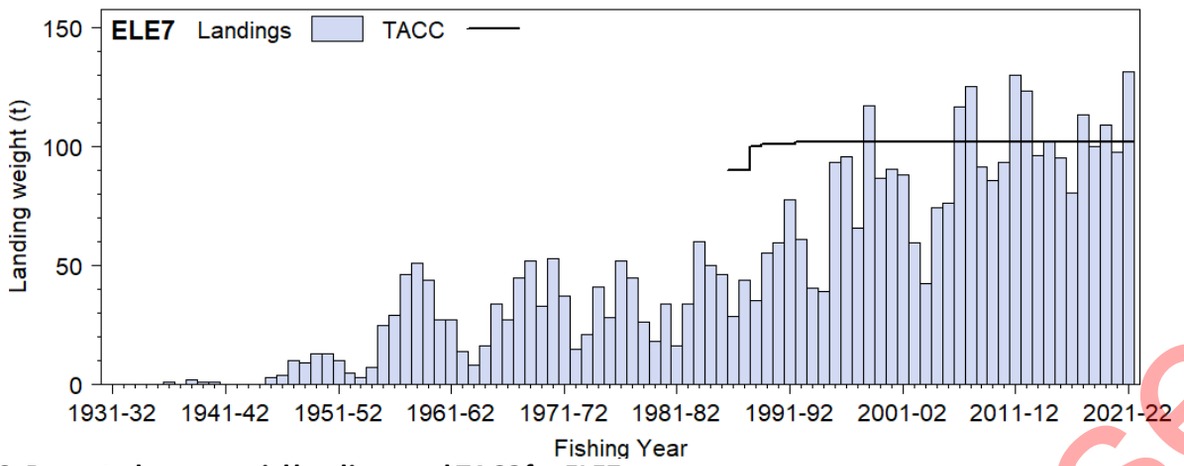


Figure 9. Reported commercial landings and TACC for ELE7

41. FNZ recognised there is overcatch but say there is insufficient information to do so effectively this year. A project was proposed by FNZ last year for ELE3,5,7 to go through the Fisheries Services process but was dropped due to the prioritisation process. They again push back on an important project and suggest that if industry want a review of the stock, then we must direct purchase it.

42. The trawl survey supposedly does not adequately cover the ELE7 fishery but frustratingly when questioned on what needs to be done to ensure better data gathering it falls on deaf ears. We will be looking into the catch profiles for a number of our stocks and overlay with the trawl survey and assess if strata need to be aligned better, added and if the previously identified rough ground is shown to be trawlable by industry why the survey cannot utilise those areas as well. The overlay of strata for STA7 clearly shows the rough area is being fished by commercial fishers.

Kingfish (KIN 3& 7)

43. Industry updated the assessment for KIN3,7,8 as a matter of course and to propose the need for additional TACC increases for all stocks. FNZ ignored our request and simply used the excuse that the landings and discards exceptions review for all KIN stocks is now scheduled for the 2024/25 round. A TACC review would be best considered alongside this review, given the links.

44. This is not fisheries management to simply ignore the trend in these fisheries and push out the review for what will likely be two years by the time the TACC is reviewed and comes into force. Increases could have been applied in this interim period and if they needed adjusting up or down this could have been done after the exceptions process was completed. FNZ are quick to review a TACC down with minimal information but when robust science is presented for an increase, they are slow to agree.

There are a number of stocks that we believe should have been reviewed (see Attachment 1) this year and we will be providing FNZ with our concerns and reasoning for those. We implore FNZ to adopt a more adaptive management process whereby using the data they have in a more proactive way whilst maintain a level of forward planning and the precautionary approach. We will also be reviewing the utility and timely use of data from the trawl surveys.

The following Attachment 1 is a document compiled by Southern Inshore and initially presented to the Board and Shareholders at the Annual General Meeting as proposals for fishstock review for the coming year. The approved paper is then sent to Fisheries New Zealand in November normally unless like this year we had to confirm the inclusion of the KIN and HPB research projects. The paper was provided to FNZ in January 2023, well ahead of normal planning processes. A meeting is subsequently held to discuss our proposals and promote the need for review of these stocks. There is absolutely sufficient time for planning allowed.

ATTACHMENT 1

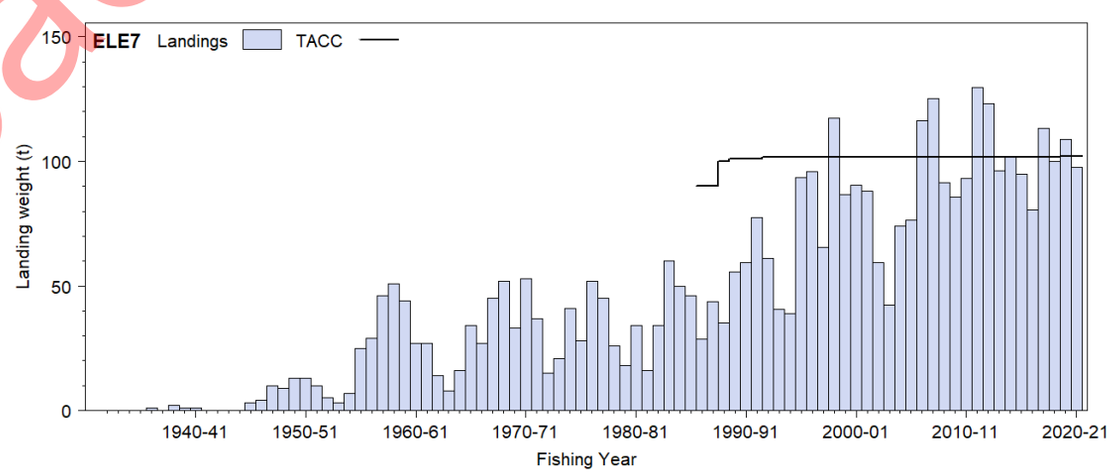
SOUTHERN INSHORE FISHERIES
MANAGEMENT COMPANY LIMITED

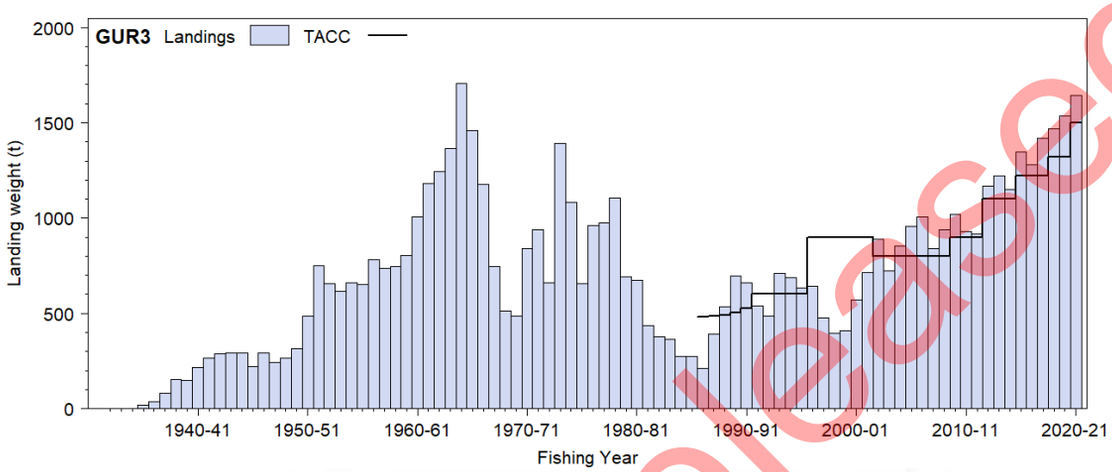
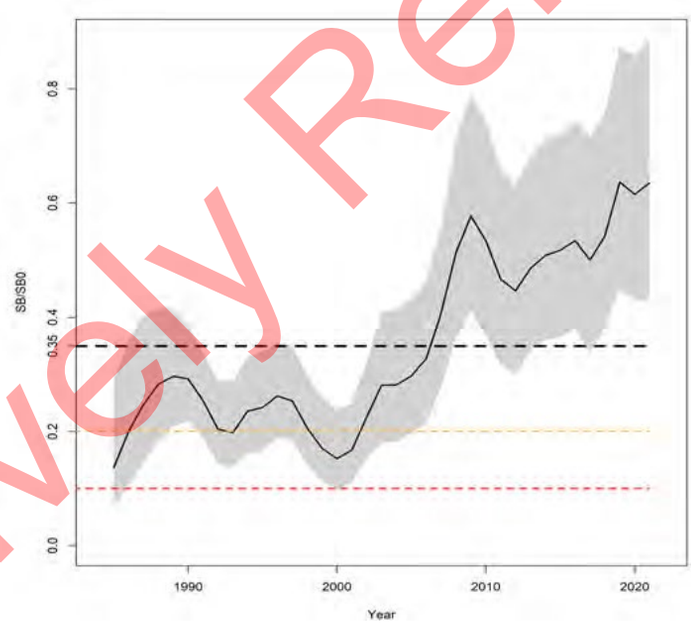
Summary of request to review the TACC for various stocks for 1 October 2023 and Research Planning for 2022/2023

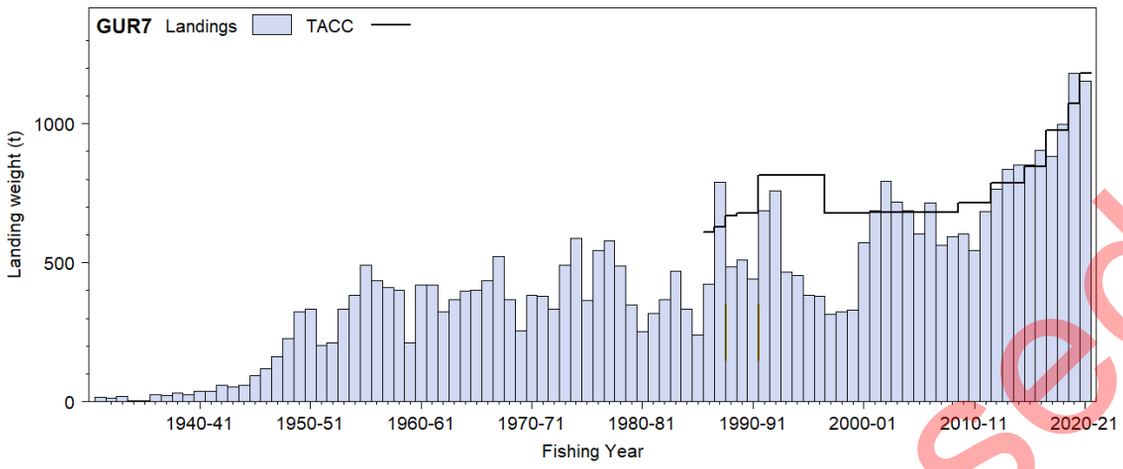
Summary Table

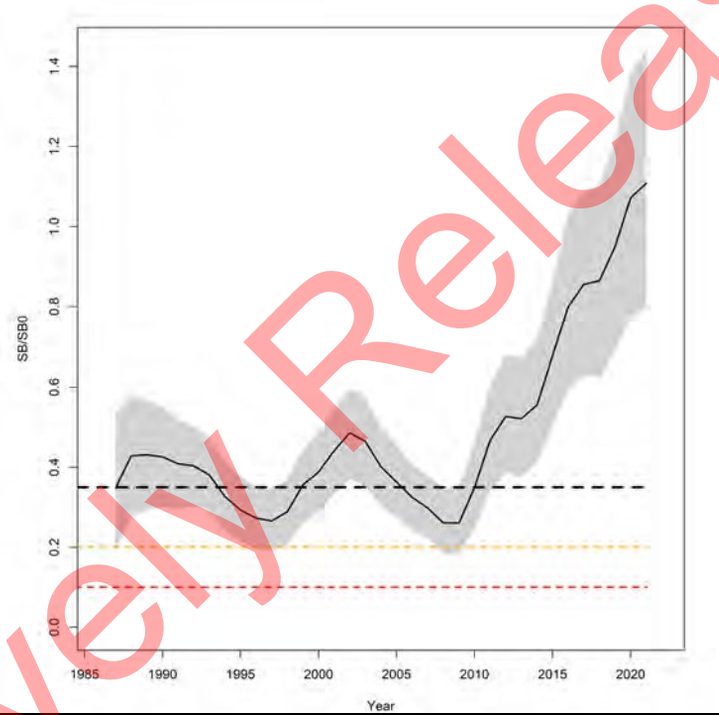
ELE7	Increase TACC from 102t to 150t
GUR3	Increase TACC from 1500t to 1700t
GUR7	Increase TACC from 1298t to 1550t
KIN3	Increase TACC from 11t to 25t
KIN7	Increase TACC from 44t to 75t
LEA3	Increase TACC from 140t to 150t
MOK3	Increase TACC from 176t to 190t
SKI3	Increase TACC from 1091t to 1200t
SKI7	Increase TACC from 1091t to 1200t
SNA7	Increase TACC from 450t to 550t
SPO3	Increase TACC from 660t to 693t
SPO7	Increase TACC from 298t to 350t

Fishstock	Current TACC(t)	Proposed TACC(t)	
ELE 7	**102t**	**150t**	
Justification	Utilisation opportunity and need to provide an adequate TACC to minimise economic impact from deemed value accrual. This fishery has fluctuated around the mean for nearly 20 years. The level of fluctuation is mainly caused by the level of effort within the WCSI mixed trawl fishery. It is also influenced by fishers who may partake in the ALB troll fishery and how long that season goes for. A "rapid update" of the ELE7 standardised CPUE analysis was reviewed and accepted by the working group in 2019. The working group agreed that this series indexed ELE7 abundance with the 2017-18 index near the series mean. Recent catch trajectory appears to be trending above the B_{MSY} proxy target for this stock. The 2021 WCSI trawl survey had a biomass of 170 tonne which is well above the previous 3 surveys. The fishery is 129% caught to September 2022.		
GUR 3	**1575t**	**1700t for 2023**	

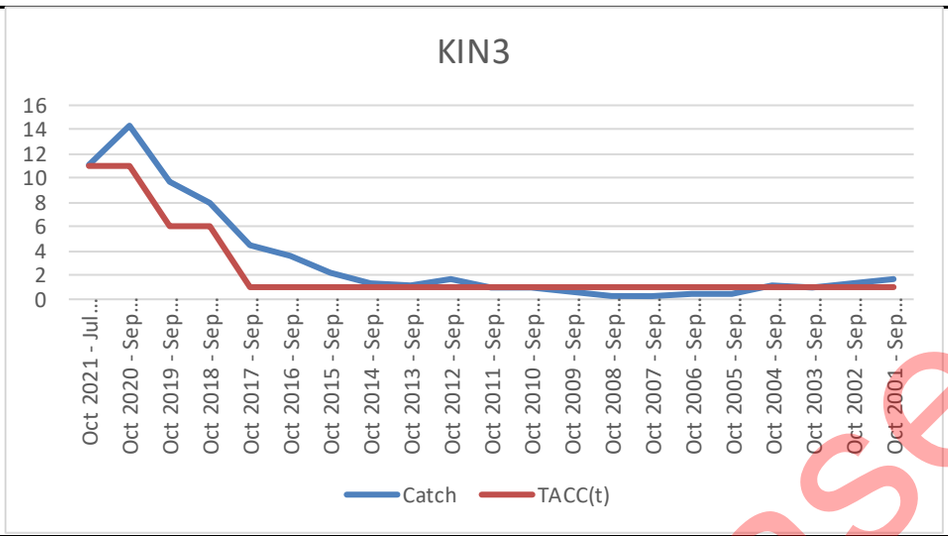


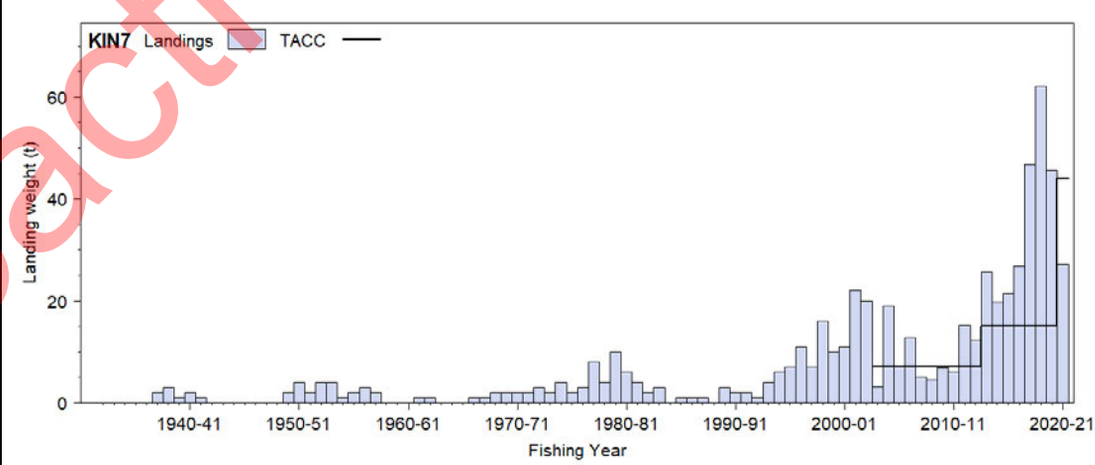
Justification	Utilisation opportunity with current TACC consistently overcaught. The TACC was increased in 2018 by 100 tonne and 180 tonne in 2020. The proposed TACC increase for 2022 to 1575t will likely be overcaught by the end of the current fishing year. FNZ suggested that GUR3 remain. The TACC has been consistently overcaught since 2012 and in most years prior to 2012 where it was up to and over 95% caught. The fishery is monitored by the ECSI trawl survey and indicative biomass results show that there has been an increase of approx. 1,700 tonnes to the biomass from last year (2021). A stock assessment was completed in 2022 for GUR3 as commercial catch was consistently above trawl catch. The fishery is 105% caught to September 2022.  
GUR 7	**1450t** | **1550t for 2023**
Justification	Utilisation opportunity with current trend in the fishery indicating a continued growth in abundance. The TACC was increased by 98 tonnes in 2019, 107 tonnes in 2020 and 118 tonnes in 2021 and predicted to be overcaught again in 2022. This fishstock is monitored by the WCSI trawl survey. The fishery shows continued increasing abundance and in most recent years increasing juvenile abundance. The fishery was just 3% under-caught for 2020-21 but likely to have been a factor of continued avoidance of snapper and Covid factors. The fishery is 77% caught to September2022. Undercatch to be reviewed for effort level

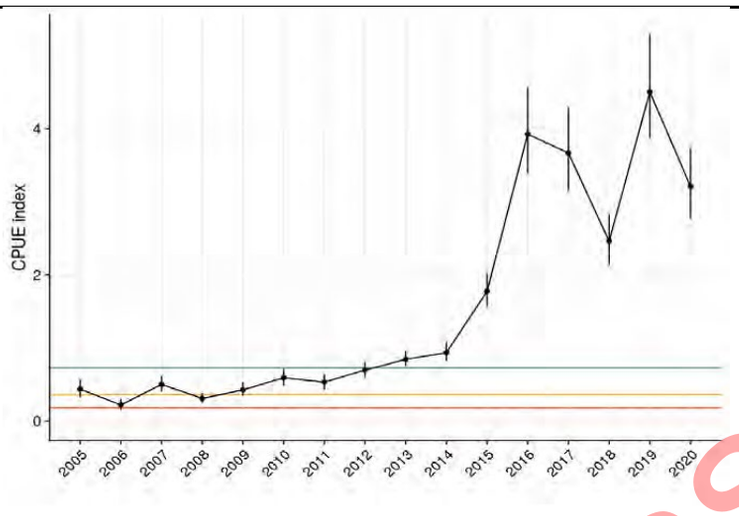




KIN 3	**11t**	**25t for 2023**	
Justification	Utilisation opportunity and further review for KIN3 needed. The review of the deemed value is positive but it does not change the fact of the presence and increasing abundance of KIN in many regions. TACC substantially overcaught annually since 2013. The fishery is already overcaught for 2020-21 and expected to be overcaught again in 2021/22. There is increasing trends in catches and availability in both KIN 3 & KIN 7 to the extent that KIN3 is observed and caught as far South as Foveaux Strait. The bycatch of KIN3 in the HPB3 fishery is becoming increasingly problematic given that setnet caught KIN is not allowed to be returned to the sea under Schedule 6 (FA), but is allowed for trawl caught KIN. SIF is promoting that this provision be removed to allow return to the sea for setnet caught KIN if such measures are retained under the outcome of the Reforms. KIN throughout the South Island is increasing and caught more extensively than previously and may be due to changes in climatic conditions. The fishery was 162% caught for 2019-20 and is %130 caught at the end of September 2021. The fishery is 102% caught to September 2022.		

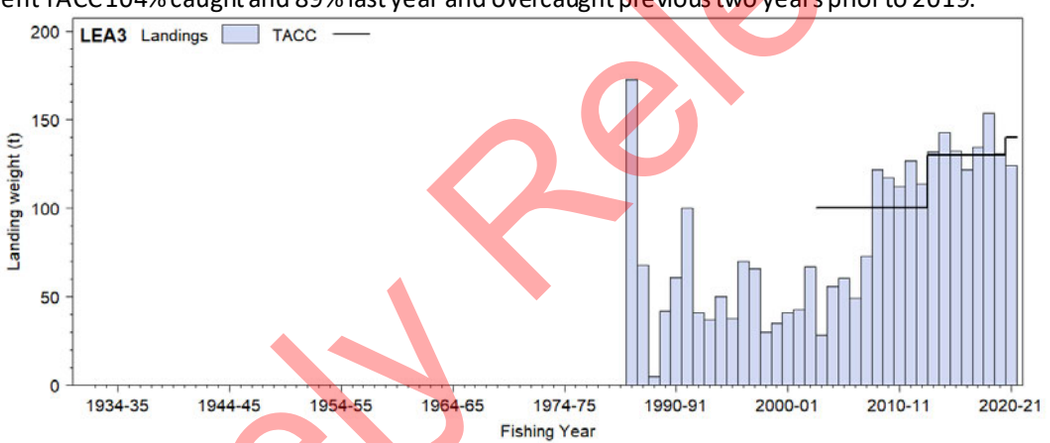


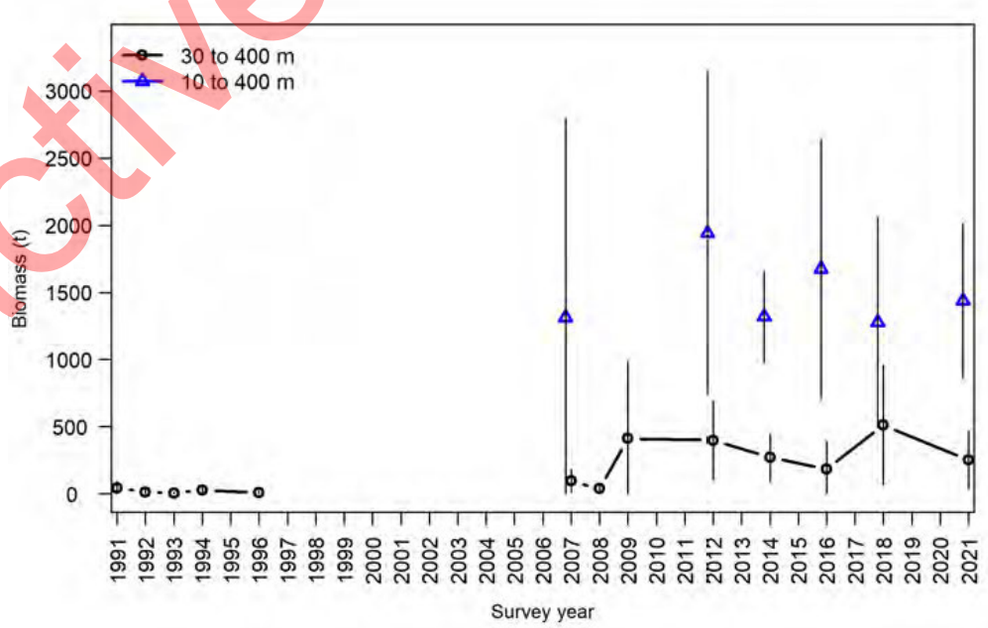
KIN 7	44t	75t for 2023	
Justification	Utilisation opportunity and further review for KIN7 needed. The review of the deemed value is positive but it does not change the fact of the presence and increasing abundance of KIN in many regions. Stock being caught in both KIN3&7 regions further south than in other years and is a limiting bycatch to other target/mixed species fisheries. The JMA target vessels are catching a large percentage of the KIN7 TACC but it is still being caught by inshore vessels. The lack of ACE in this fishery is not assisting the potential utilisation opportunity on the WCSI and further South where KIN7 is becoming more prevalent for inshore fishing vessels. Levels of TACC adjustment for such environmental influences need to be more reactive and the DV more in-line with regional port prices to allow for cost effective landing of fish. Gamefish tags have been purchased by SIF and DWG and being provided to the JMA/HOK vessels to opportunistically tag KIN to see if mark-recaptures may show indicative migration and time at large. This tagging is adding to the MPI/FNZ Billfish and Gamefish tagging programme database. Initial tag returns have shown migration of KIN7 tagged fish to the Bay of Plenty and Northland regions. The KIN 7 CPUE increased considerably from 2006/2007 to 2016 and has been relatively stable at a high level since. Because there are indications of recent high recruitment, it is anticipated that the spawning stock will remain at current catch levels, and the vulnerable biomass is expected to remain above the target level. The fishery was 304% caught for 2019-20 and is %62 caught at the end of September 2021. The low catch is due to the increased time that the HOK vessels have been fishing on the WCSI canyons. There is a national proposal to review all KIN stocks in 2023. The fishery is 58% caught and can be influenced by the movement of HOK vessels to the JMA7 fishery where the majority of KIN is caught.  		



Standardised CPUE index for KIN7 and KIN8 from MW JMA target fishery

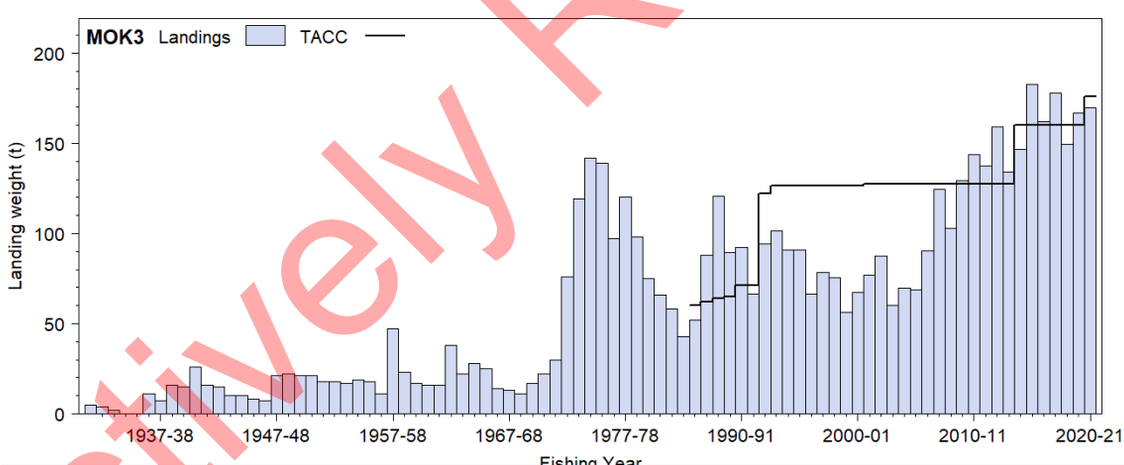
LEA3	140t	150t for 2023	
Justification	Current TACC 104% caught and 89% last year and overcaught previous two years prior to 2019.		



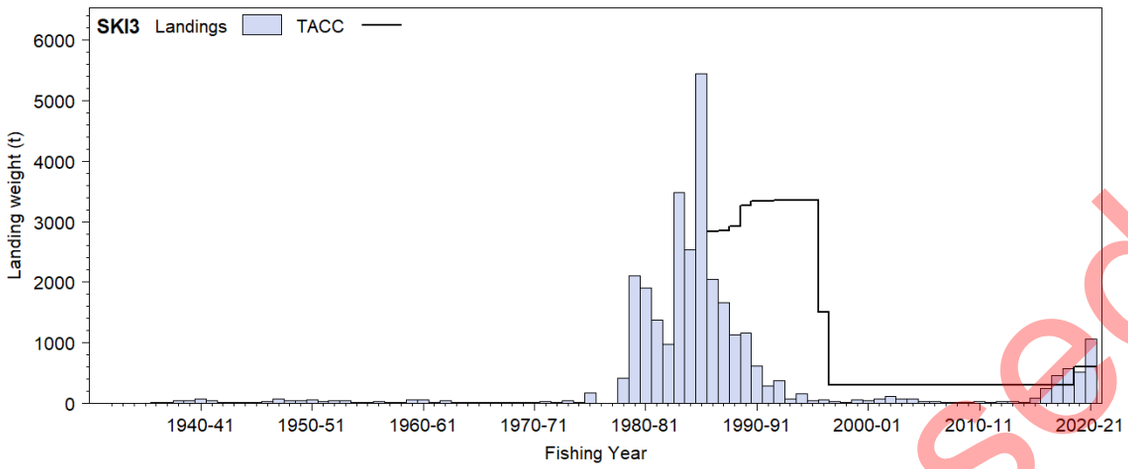


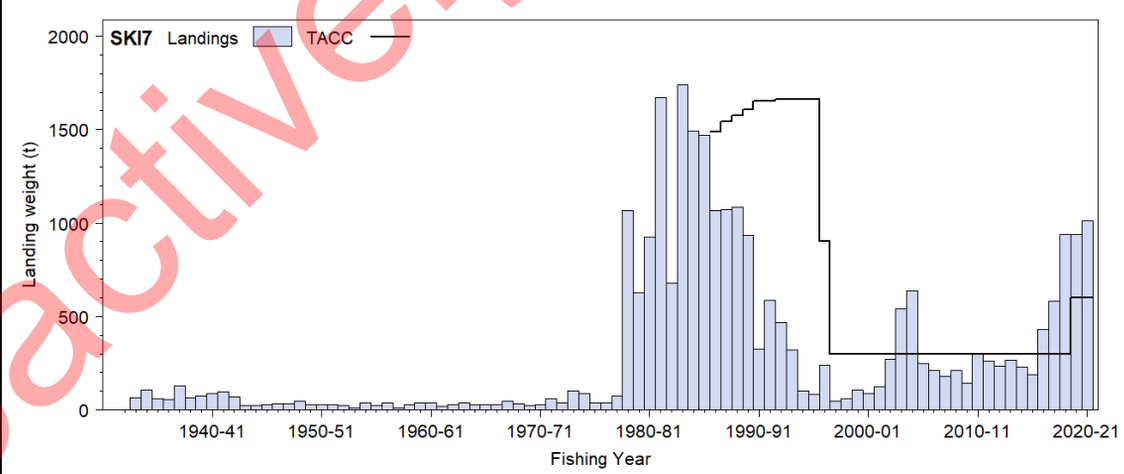
Biomass and 95% confidence intervals (total biomass only) for leatherjacket caught by the 2021 ECSI winter trawl survey core-strata (30-400m), and core plus shallow strata (10-400m).

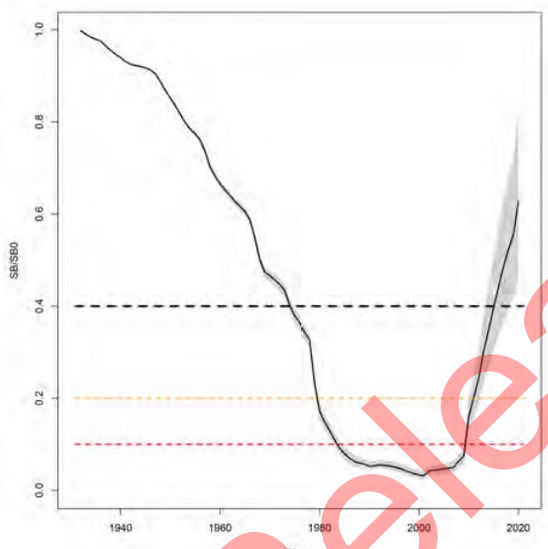
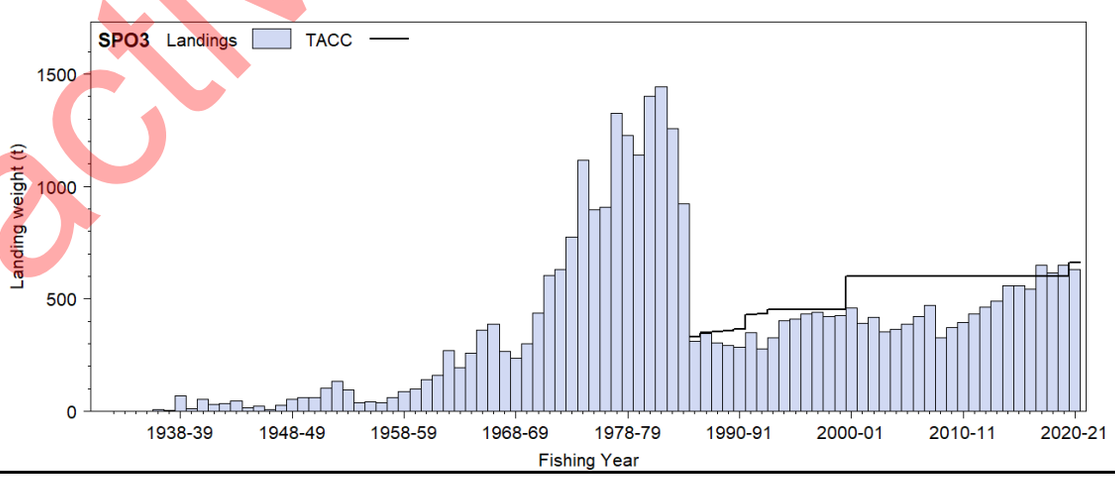
	The East coast South Island (ECSI) winter trawl survey biomass estimates in the core strata (30-400m) probably do not track abundance because so few fish were caught, and coefficients of variations are generally high ranging from 36 to 76% (mean = 55%, up to 2012). There is never the less an increase in abundance from 2009. Most of the biomass is captured in the 10-30m depth indicating that the core plus shallow strata (10-400m) are the only valid depth range within which to monitor leatherjacket biomass; although it is doubtful that these surveys index leatherjacket abundance because they are also found over foul ground and hence not fully available to trawl gear. The fishery has been generally fully caught and is 114% caught to end of August. It is expected that catches may increase as a bycatch to the increasing trend in the GUR3 fishery.

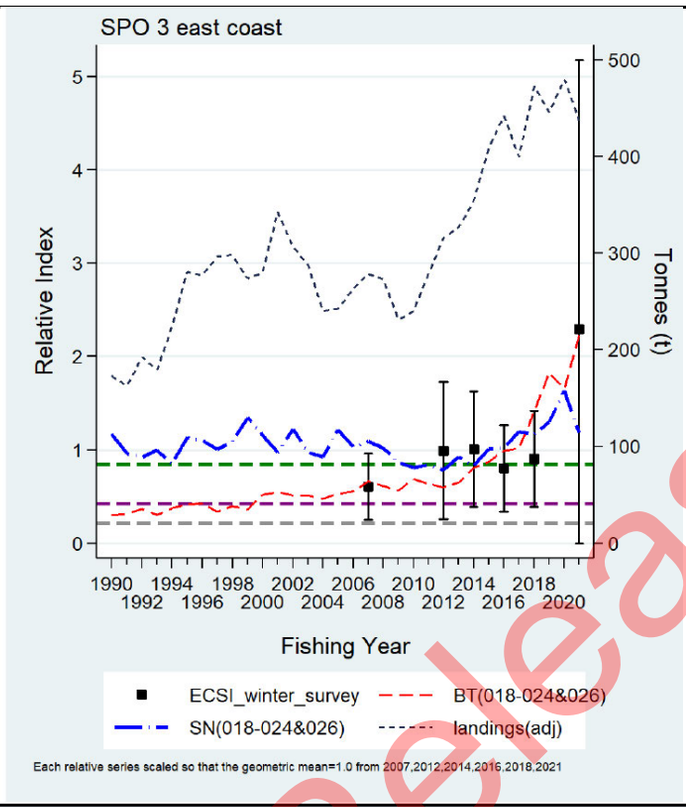
MOK 3	**176t**	**190t for 2023**	
Justification	Utilisation opportunity. Catch mainly taken in the Kaikoura set net region and by bottom trawl bycatch southern east coast South Island. CPUE update and characterisation with MOK1 completed in 2017 but unable to find a suitable index of abundance from SN fishery. The TACC was 93% caught in 2018/19 and overcaught 3 years prior to this. Target catches potentially being constrained due to the bycatch of KIN3 which when caught by setnet is not allowed to be returned to the sea under Schedule 6 of Fisheries Act. SIF is promoting that this provision be removed to allow return to the sea for setnet caught KIN if such measures are retained under the outcome of the Reforms. Anecdotal information from fishers suggests that having to work at the deeper depths because of the SN restrictions is causing increased catch levels of MOK. Because of this the current TACC may be limiting utilisation in this fishery. FNZ keep promoting the catch@age with MOK1 but costs are extensive and returns from the fishery do not support them. FNZ need to explore other means for managing such an important fishery, whether age-based or CPUE index. The fishery was 104% caught for 2019-20 and was %96 caught at the end of September 2021. The fishery is 98% caught to September 2022.  		

SKI3	**1091t**	**1200t for 2023**	
Justification	Expected overcatch based on high level of catch in 2020 and lack of TACC increase. The bycatch of gemfish in the target fisheries is expected to remain high as avoidance of target stocks is not appropriate. The TACC increase was far too conservative and did not provide for increasing trend in the HOK and SQU fisheries and associated CPUE. The length frequency data from observers and ECSI trawl survey reveal at least three consecutive year classes that have started to recruit to the commercial fishery. Fisheries managers need to consider recruitment to the fishery ahead of decision-making so that planned abundance is allowed in TACC decisions that will also reduce the impact from deemed values. The continued focus by FNZ to only set TACC's at current catch levels or close to is not allowing for full utilisation of this fishery. The fishery was 163% caught for 2020-21 and overcaught twice in the preceding 3 years. The TACC was only increased by 240 tonnes in 2021 but this was far too low and it is expected to be exceeded. FNZ need to forward plan increasing TACC's rather than waiting for overcatch situations. The fishery was 103% caught to September 2022.		

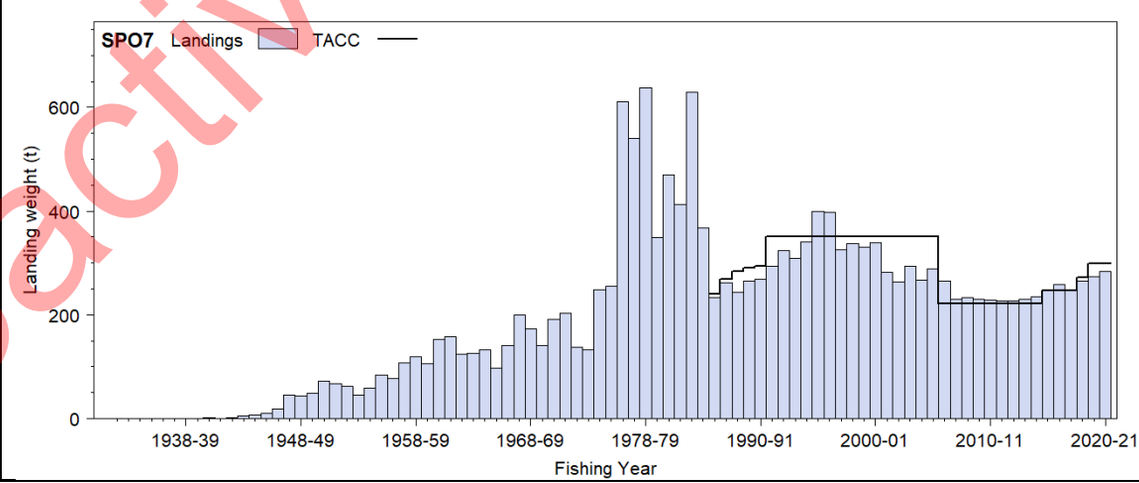


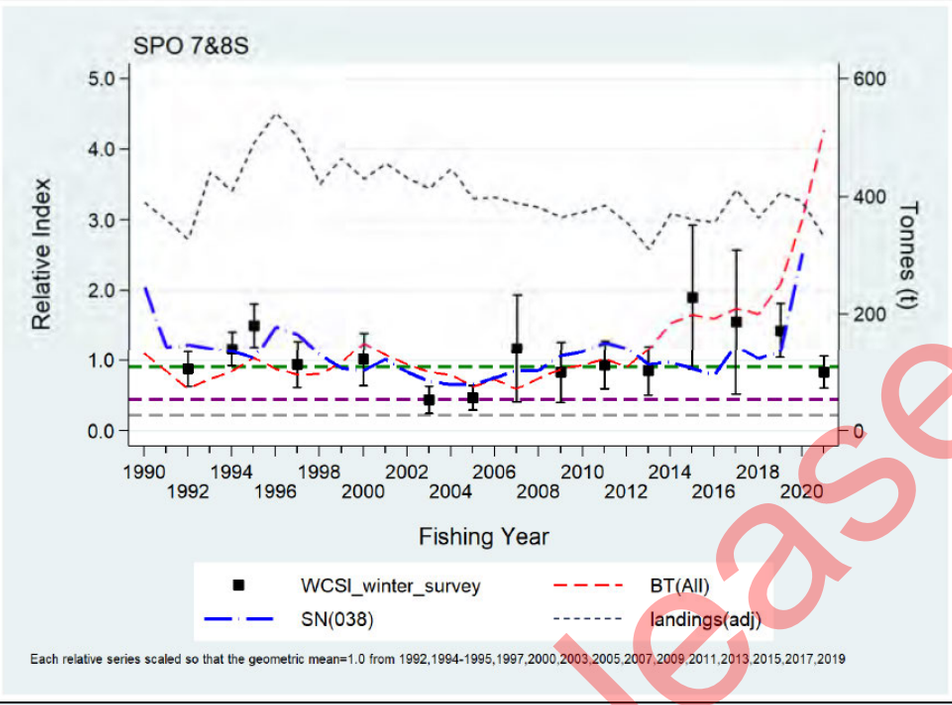
SKI7	**1091t**	**1200t for 2023**	
Justification	**TACC increase consulted 2022 – pending decision for TACC setting to 1007t or 1091t** Expected overcatch based on high level of catch in 2020 and 2021 and lack of TACC increase to meet expected catch trend. The bycatch of gemfish in the target fisheries is expected to remain high as avoidance of target stocks is not appropriate. The TACC increase was far too conservative and did not provide for increasing trend in the HOK and SQU fisheries and associated CPUE. The length frequency data from observers and WCSI trawl survey reveal at least three consecutive year classes that have started to recruit to the commercial fishery. Fisheries managers need to consider recruitment to the fishery ahead of decision-making so that planned abundance is allowed in TACC decisions that will also reduce the impact from deemed values. The continued focus by FNZ to only set TACC's at current catch levels or close to is not allowing for full utilisation of this fishery and will continue to incur deemed values. The fishery was 169% caught for 2020-21 and overcaught four times in the preceding 4 years. The TACC was only increased by 240 tonnes in 2021 but this was far too low and it is expected to be exceeded again. It is unclear whether avoidance is happening this fishing year given the high overcatch in the last year. The fishery is 94% caught to September 2022  	
SNA 7	**450t**	**550t for 2023**	
Justification	Consistent overcatch and avoidance by fishers will continue even with the 100 tonne TACC increase provided in 2020 and expected to remain the same issue for 2022 if TACC is increased to 450t from 350t. A further 100 tonne increase in 2023 will continue the step-wise approach to accessing the increasing biomass in this fishery, whilst minimising any risk to it. Trends indicate high potential for consistent overcatch given rebuilding status of the fishery and the range extension from TBGB to the WCSI and western Cook Strait regions. This fishery has been assessed by CPUE analysis, size frequency analysis from processed product,		

	catch at age sampling and otolith collection, population simulation modelling, quantitative stock assessment updates in 2019/20 and 2020/21, and WCSI trawl survey 2021 analysis which shows the increasing trend in biomass to be above the target level. The current TACC is still limiting the access to this fishery given that the current TACC will be near fully caught by the end of the current fishing year. The fishery was 115% caught for 2019-20 and %96 caught at the end of September 2021. The fishery was 103% caught to September 2022. The annual trend in spawning biomass continues to reflect the fishery is well above target and increasing.  **Annual trend in spawning biomass relative to the 40% *SB0* interim target biomass level for the base model. The line represents the median and the shaded area represents the 95% credible interval. The black dashed line represents the interim target level. The red and orange dashed lines represent the hard and soft limits, respectively**
SPO 3	**660t** **690t**
Justification	Utilisation Opportunity. Further precautionary incremental increase requested for 2022. Catch has continued to increase in SPO3 to a point that the TACC was exceeded for 4 years from 2017-18. The TACC was increased in 2019-20 with 96% caught but Covid restricted catch. Fishers propose that the current TACC is expected to limit catch in this fishery and request that increased headroom is applied to reduce the effect of deemed values. The fishery was 109% caught for 2019-20 and %96 caught at the end of September 2021. The fishery was 102% caught to September 2022. 



SPO 7	**298t**	**350t for 2023**	
Justification	Utilisation Opportunity. Further precautionary incremental increase requested for 2022 but the proposed increase to 315t will not be sufficient to allow for bycatch in this mixed trawl fishery. Set net regulatory closures and the Farewell Spit voluntary closure to pupping females are believed to be aiding this increasing abundance. The WCSI trawl survey does not adequately sample the SPO7 fishery and this is shown by the most recent result as it is polar to the catch experienced in this fishery. The survey does not sample the full extent of SPO7 area and size range. The fishery was 92% caught for 2019-20 and %95 caught at the end of September 2021. The fishery was 109% caught to September 2022.		





Research Plan 2020/2021

Fishstock	Research Proposal
Mixed species	West Coast South Island Trawl Survey – May/June 2023
All Stocks	Trigger Analysis– to complete quarterly reports
KIN 1,2,3,7,8	Fishery Characterisation and CPUE Update
HPB 1,2,3,5,7,8	Fishery Characterisation and CPUE Update
GUR7	MPE Update

24 June 2023

2023 Sustainability Review
Fisheries Management
Fisheries New Zealand
PO Box 2526
Wellington 6140

BY EMAIL: FMSubmissions@mpi.govt.nz

Sealord Group Limited Submission in relation to the Review of sustainability measures for selected fish stocks – October 2023 round

Introduction

1. Sealord Group Limited (**Sealord**) welcomes the opportunity to provide comments on the Fisheries New Zealand (**FNZ**) discussion papers for *Review of sustainability measures for selected fish stocks – October 2023 round* (**Discussion Papers**). Sealord supports effective science-based management to ensure ongoing sustainability and utilisation of fisheries resources.

2. Sealord is one of New Zealand's leading seafood companies. Established in 1961, a 50% interest in Sealord was acquired by Māori in 1992, which is currently held by Moana New Zealand (Aotearoa Fisheries Limited) for the benefit of all Māori. The other half of Sealord is owned by Nissui Corporation.

3. Today Sealord employs more than 1,200 people in New Zealand and overseas, with over NZD 900 million of assets and annual revenues of approximately NZD 450 million. Sealord has interests in fishing both in New Zealand and internationally. Domestically, the majority of Sealord's quota holdings are in deep water fisheries. Sealord also holds interests in inshore quota.

4. Sealord operates exclusively in middle-depth and deepwater trawl fisheries, hence we have limited to our feedback to the questions in the Discussion Papers which relate these fisheries (OHRH3B, SKI1&2, SWA3).

5. Sealord has reviewed, and supports, the submissions in relation to the Discussion Papers made by each of Seafood NZ Deepwater Council (**SNZDC**) and Fisheries Inshore New Zealand (**FINZ**).

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Orange Roughy (ORH3B)

7. Sealord does not support any of the options set out in the Discussion Paper No. 2023/34. Our preferred option is that proposed by SNZDC, which is to reduce the ESCR catch limit from 5,970 t to 3,700 t.

8. The SNZDC option represents a 38% reduction to the current ESCR catch limit, to 5,970 t, and a 27% percent reduction to the current TACC of 7,116 t. This option sets a level of precaution between the FNZ proposed options 2 and 3. Sealord submits that this is a safe and appropriate interim level of catch while a program of work is applied to the stock assessment and supporting science.

9. Sealord agrees with the FNZ assessment that, due to the absence of an accepted stock assessment for ORH3B, it is not possible determine the status in relation to B_{MSY}. Sealord's position is that, in accordance with s13(2A)(c)(i) of the Fisheries Act 1996, it is appropriate to defer to the best available information; which in this case is the acoustic spawning biomass estimate.

10. Sealord supports the reasons outlined in the SNZDC submission as to why this proposal is preferred over the options presented in the Discussion Paper.

11. The proposed catch limit for ORH3B (ESCR) is based on the spawning stock biomass (SSB) estimate from the 2022 survey of 48,981 tonnes. To this (measured) SSB, well established multipliers are applied to account for the proportion of non-spawning mature roughy (B_{MAT}=SSB x1.5) and a precautionary level of fishing mortality for a slow growing species (F=0.045).

12. Sealord supports a program of scientific and support work to assist in replacing the current model with one that more accurately represents what we are seeing in the fishery. The work includes:

    a. Review the catalogue of otolith holdings and provide updated age data to support the stock assessment.

    b. Undertake acoustic biomass surveys for orange roughy on the Chatham Rise in the 2024 winter spawn.

    c. Investigate effect of fishing activity on orange roughy distribution and spawning aggregation development.

13. It should be noted that for a long-lived species, like orange roughy, short term changes to the level of catch are unlikely to make any significant difference to the long-term sustainability of the stock. Sealord submits that it is important for a precautionary reduction to be applied while the gaps in the stock assessment process are addressed. It is of critical concern that this fishery, being largest of the orange roughy fisheries, has a well understood status in relation to B_{MSY}.

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Silver Warehou (SWA3)

14. Sealord supports option 2 set out in the Discussion Paper No. 2023/08, which proposes raising the SWA3 TACC to 4,000 t.

15. Sealord submits that the 10% increase to SWA3 is not sufficient to reduce the impact of SWA bycatch on the Chatham Rise hoki and squid fisheries. We support the proposal from SNZDC which would increase both SWA 3 and SWA 4 by 15%

16. Sealord catches silver warehou in association with squid and hoki fishing on the Chatham Rise and Snares Shelf. Silver warehou is occasionally targeted to rest hoki towlines but generally it is bycatch and usually treated as a choke species[1]. It has been noted by skippers and quota managers for many years that SWA3 and SWA4 have been increasing in abundance – this has led to a decrease in hoki fishing effectiveness given increased silver warehou bycatch and an unnecessary increase in deemed value payments.

17. Despite many attempts at stock assessment there has been no change to the silver warehou catch limits since the mid-1990s. Most recently, the 2023 stock assessment of SWA3 and 4 again failed to determine stock status using traditional stock assessment methodology. Consequently, despite CPUE and indices of abundance being relatively high in recent years (figure 1), scientific advice to the Minister has been insufficiently precise on the stock status relative to B_{MSY} to allow the necessary increases to the TACC.

18. Sealord submits that catch limits in this fishery would be more appropriately set using an adaptive management technique. Under this regime catches would be adjusted annually based on a proxy for abundance using the best available information – for this fishery CPUE and/or trawl survey biomass estimates (these are undertaken biannually for both the Snares and Chatham regions).

19. We note that the 2023 stock assessment update, which considered a biological stock comprised of both SWA3 and SWA4, recognised overall increases in CPUE and survey abundance. We also note FNZ's position, as stated in the Discussion Document (paragraph 7), that there are no sustainability concerns. Given these factors, Sealord submits that, based on the same rationale as for SWA3, there is sufficient justification for a modest increase in the SWA4 TAC.

[1] A bycatch species for which TAC is limited relative to local abundance. This results in sub-optimal harvesting of the target species as fishers must focus on avoiding the bycatch rather than fishing in the manner or place best for the target.

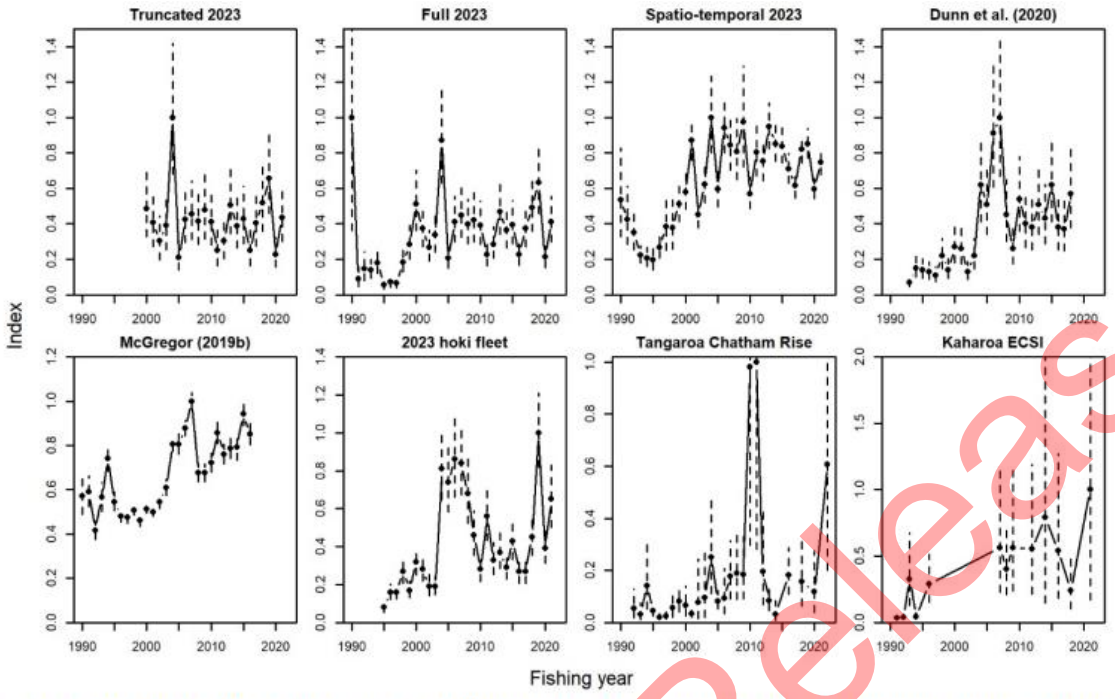

Figure 3: SWA 3 and SWA 4 CPUE indices. The 2023 indices are from Dunn & McGregor (in prep), and are the delta-lognormal CPUE index using observer data starting in 1999–2000 ('Truncated') or 1989–90 ('Full'); the spatio-temporal index using the same data; and a CPUE series using commercial data from selected hoki-target factory trawlers ('Hoki fleet'). Other indices are: Dunn et al (2020), a standardised CPUE series using commercial data to 2017–18 from west Chatham Rise; McGregor (2019b), a CPUE series derived from commercial data accepted and used in the 2018 (rejected) assessment; the *Tangaroa* Chatham Rise trawl survey core strata biomass index, and *Kaharoa* east coast South Island trawl survey series biomass index. Vertical broken lines indicate the 95% CI of the indices, but the y-axis does not extend to the upper CI of some trawl survey estimates.

Figure 1: Chatham Rise SWA indices for CPUE. From 2023 Fishery Summary (https://www.mpi.govt.nz/dmsdocument/57667/direct)

Gemfish (SKI1&2)

20. Sealord supports option 3 for SKI1 and SKI2 as proposed in the Discussion Paper No. 2023/07. Our preference for this stock would be for an approach tailored more toward greater utilisation. To this end we support the option proposed by FINZ.

21. There are clear rationales for immediate aggressive increases to the SKI TACCs:

    a. The stock status for SKI1 and SKI2 is above the unfished biomass level[2]; when the biomass was last at this level the fishery supported catches over 2,000 t for a period of 10 years. and

    b. The proposed changes only raise the TACC to the recent average annual catch – as a choke bycatch species this level of gemfish bycatch is already exceeding the capacity of fishers to avoid it (figure 2).

[2] FNZ Plenary Report – Gemfish. Figure 5. (https://www.mpi.govt.nz/dmsdocument/57373/direct)

22. Sealord catches gemfish in areas 1 and 2 as bycatch in our jack mackerel, ruby, hoki and alfonsino fisheries. In recent years we have seen an increase in the base-rate of gemfish bycatch combined with an increased likelihood of encountering large schools. This appears to be common across all gemfish stocks in the EEZ. The increase in abundance (unrelated to fishing factors) and the southward range expansion indicate that this is likely an effect of climate change.

23. Gemfish is a fast growing and early maturing species, and population biomass is known to increase rapidly. Currently all gemfish stocks are growing at a rate faster than they can be assessed under the traditional stock assessment model (figure 2). As suggested above for silver warehou, Sealord submits that more agile management is needed for gemfish fisheries. Failure to do so will result in an underutilised resource, choked inefficient target fisheries, and unnecessarily punitive (and unjustified) deemed value charges.

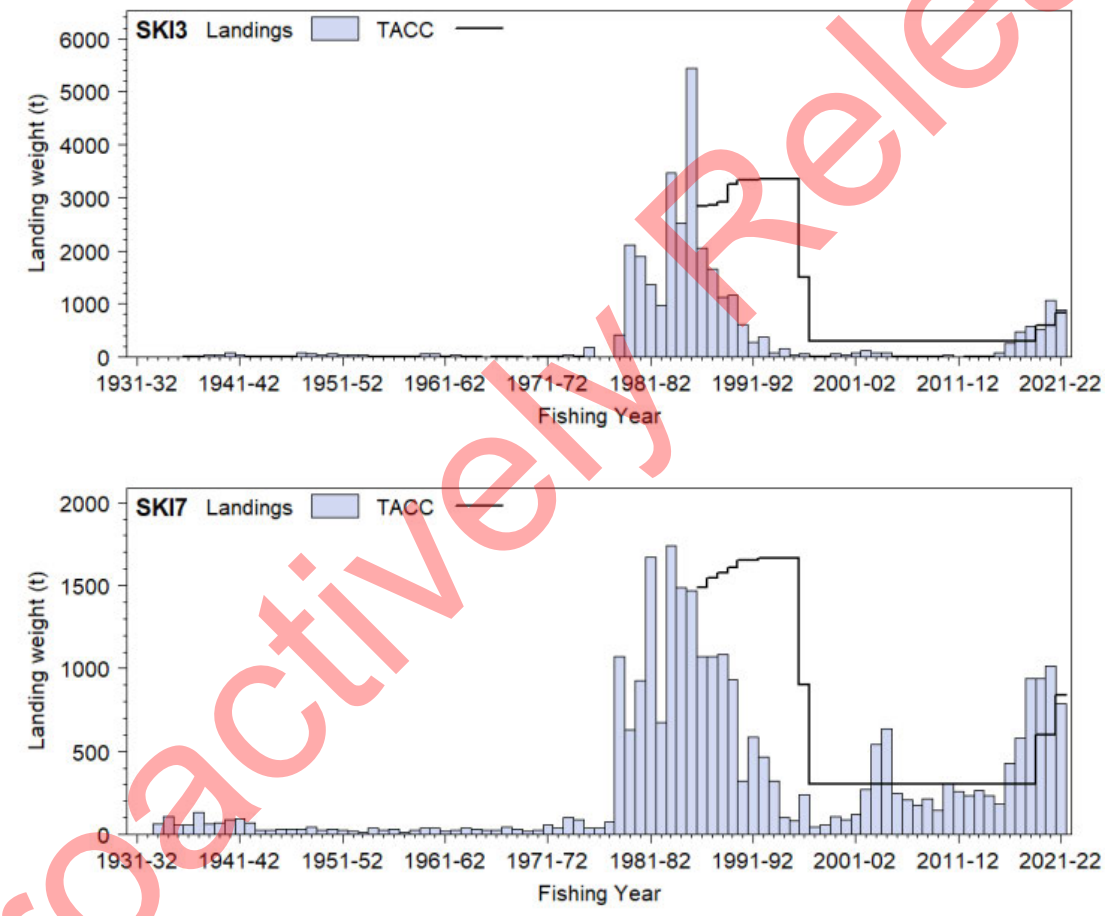

Figure 2: SKI 3 and SKI7 landings and TACC. As with SKI1 and 2, the TACC increases lag years behind abundance increase and unavoidable gemfish bycatch. All SKI stocks show the same increase since 2016 suggesting an environmental driver (from 2023 Fishery Summary https://www.mpi.govt.nz/dmsdocument/57373/direct).

24. Sealord has the following further suggestions for gemfish management:

    a. As an interim measure, based on increasing bycatch levels and CPUE, raise all gemfish TACs to equal the maximum catch in the previous two years.

b. Change the gemfish harvest strategy so it can be managed agilely based on CPUE as a proxy for abundance (Fisheries ITP 1.4.3).

c. Monitor CPUE annually and make regular adjustments to the TAC as per an adaptive management framework.

Yours faithfully

SEALORD GROUP LTD

9(2)(a)

Doug Paulin

Chief Executive Officer

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From: 9(2)(a)
To: FMSubmissions
Subject: October Fishing Sustainability
Date: Friday, 21 July 2023 9:35:13 am
Attachments: image001.png

Kia ora

Sorry for the late submission:

SWA3

Option 2

STA7

Option 2

Noho ora mai rā

Robert Hovenden
Group Accountant |Te Pou Tahua

Ngāti Tama ki Te Waipounamu Trust
74 Waimea Road | Nelson 7010
Tari: (03) 548 1740 |

Ko te kaupapa matua, kia tiaki tupu, kia hiki, kia whakanui i tō tātou taonga
To protect, grow, develop, strengthen and hold fast to our treasures
www.ngati-tama.iwi.nz

13 July 2023

Rangitāne
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www.rangitane.org.nz

Fisheries Management
Fisheries New Zealand
PO BOX 2526
WELLINGTON 6140

Tēnā koe

RANGITĀNE O WAIRAU – OCTOBER 2023 SUSTAINABILITY ROUND

This letter sets out the position of Rangitāne o Wairau Group (comprising of Rangitāne o Wairau Settlement Trust, Te Rūnanga a Rangitāne o Wairau Trust, Rangitāne Holdings Limited, and Rangitāne Investments Limited). The feedback relates to FNZ's proposal around the October 2023 Sustainability Round.

The rohe of Rangitāne o Wairau commences at the mouth of the Wairau River, extending northwards to Cape Lambert, northwest to d'Urville Island, encompassing Nelson and Waimea. Following the Motupiko River to the Nelson Lakes, (Rotoiti and Rotorua), our southernmost boundary follows the Clarence River to its mouth, and then commences a northwards journey through Kekerengu, Cape Campbell, Lake Grassmere, and the Wairau Lagoons.

Our Position

SWA3 Rangitāne o Wairau do not support any option proposed, and instead support a reduction in TACC.
STA7 Rangitāne o Wairau support option 2, a 15% TAC reduction.

Ngā manākitanga, nā,
For, and on behalf of the Rangitāne o Wairau Group

9(2)(a)

Will Macdonald
Kaiwhakahaere Rawa me ngā Kaupapa (Property & Projects Manager)
Rangitāne o Wairau Group

Ngātiwai Trust Board

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P O Box 1332, Whangarei 0140, New Zealand
Telephone: +64 9 430 0939 Fax: +64 9 438 0182
Email: ngatiwai@ngatiwai.iwi.nz Website: www.ngatiwai.iwi.nz

17 July 2023

Fisheries New Zealand
Fisheries Management Team
By email: fmsubmissions@mpi.govt.nz

Review of Sustainability Measures for October 2023-24 Fishing Year

Tēnā koe,

Ngātiwai Holdings Limited (*NHL*) is a fully owned subsidiary of Ngātiwai Trust Board. The Ngātiwai group is fully committed to the sustainable management of its fisheries and ensuring their protection and continued productivity for future Ngātiwai generations to come.

Those fish stocks being reviewed by Fisheries NZ ahead of the October 2023-24 fishing year that are relevant to NHL, together with NHL's position with respect to each, is set out in the sections below.

1. SUR1A / SUR1B

1.1 Fisheries NZ (*FNZ*) proposed options:

Stock	Option	TAC	TACC	Allowances		
				Customary Māori	Recreational	All other mortality caused by fishing
SUR 1A	Option 1 *(Status quo)*	172	40	65	65	2
	Option 2	247 (↑ 75 t)	80 (↑ 40 t)	100 (↑ 35 t)	65	2
	Option 3	267 (↑ 95 t)	100 (↑ 60 t)	100 (↑ 35 t)	65	2
SUR 1B	Option 1 *(Status quo)*	324	140	90	90	4
	Option 2	439 (↑ 115 t)	210 (↑ 70 t)	135 (↑ 45 t)	90	4
	Option 3	509 (↑ 185 t)	280 (↑ 140 t)	135 (↑ 45 t)	90	4

1.2 NHL supports **Option 2** for **SUR1A** – 75mt increase to the TAC with a 40mt increase to the TACC, a 35mt increase to customary allowance and no change to recreational or other mortalities allowances.

1.3 NHL supports **Option 2** for **SUR1B** – 115mt increase to the TAC with a 70mt increase to the TACC, a 45mt increase to customary allowance and no change to recreational or other mortalities allowances.

1.4 NHL strongly encourages FNZ to work closely with Hapū and Iwi to develop improved, fine scale, fisheries management plans to better manage these taonga species.

2. SKI1

2.1 FNZ proposed options:

Stock	Option	TAC	TACC	Allowances		
				Customary Māori	Recreational	All other mortality caused by fishing
SKI 1	Option 1 *(Status quo)*	307	252	3	27	25
	Option 2	362 (↑ 55)	302 (↑ 50)	3	27	30 (↑ 5)
	Option 3	418 (↑ 111)	353 (↑ 101)	3	27	35 (↑ 10)

2.2 NHL supports **Option 1** – no change to the TAC.

2.3 NHL believes a cautious approach should be adopted for this fishery.

3. SWA3

3.1 FNZ proposed options:

Option	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
Option 1 *(Status quo)*	3,646	3,610	0	0	36
Option 2	4,040 (↑ 394 t)	4,000 (↑ 390 t)	0	0	40 (↑ 4 t)

3.2 NHL supports **Option 1** – no change to the TAC.

3.3 NHL believes a cautious approach should be adopted for this fishery.

Nāku noa, nā,

9(2)(a)

For, and on behalf of, Ngātiwai Holdings Limited

Fisheries New Zealand
Tini a Tangaroa

Submission Form

Review of sustainability measures for 1 October 2023

Once you have completed this form

Email to: FMsubmissions@mpi.govt.nz

While we prefer email, you can also post your submission to:

2023 Sustainability Review, Fisheries Management, Fisheries New Zealand, PO Box 2526, Wellington 6140, New Zealand.

Submissions must be received no later than 5pm on Monday 17 July 2023.

Anyone may make a submission, either as an individual or on behalf of an organisation. Please ensure all sections of this form are completed. You may either use this form or prepare your own. If preparing your own, please use the same headings as used in this form.

Submitter details

Name of submitter or contact person	Agnes Walker
Organisation (if applicable)	Te Aitanga a Mate Te Aowera & Te Whanau a Hinekehu Takutai Kaitiaki Trust
Email address	9(2)(a)
Fishstock(s) this submission refers to	Trevally TRE 2/ Gemfish SKI 2 /Parengo
Your preferred option as detailed in the discussion paper (write 'other' if you do not agree with any of the options presented)	We support Option1 the status quo on the Trevally and the Gemfish. We do not support the move to include Parengo in the Quota Management System.

Official Information Act 1982

Note that your submission is public information. Submissions may be the subject of requests for information under the *Official Information Act 1982* (**OIA**). The OIA specifies that information is to be made available to requesters unless there are sufficient grounds for withholding it, as set out in the OIA. Submitters may wish to indicate grounds for withholding specific information contained in their submission, such as the information is commercially sensitive, or they wish personal information to be withheld. Any decision to withhold information requested under the OIA is reviewable by the Ombudsman.

Fisheries New Zealand
Tini a Tangaroa

Submission:[1]

Details supporting your views: Trevally and Gemfish

With the last two severe weather events of Cyclone Hale and Gabrielle and the continually adverse weather conditions we find it very difficult to support any increases of take. It's important that focus is put on creating better systems to capture recreational and customary data.

We do not support including Parengo in the QMS. Parengo is a traditional food source for whanau and while there may be little commercial interest at this time once it's in the QMS this will place a stress on the supply of this food source which is only available at a certain time of the year. Parengo is not an over abundant supply in our region so we are concerned that making this commercially available will put stocks at risk of not been able to adequately meet our customary take.

Please continue on a separate sheet if required.

[1] Further information can be appended to your submission. If you are sending this submission electronically, we accept the following formats: Microsoft Word, Text, PDF, and JPG.

Fisheries New Zealand
Tini a Tangaroa

Submission Form

Review of sustainability measures for 1 October 2023

Once you have completed this form

Email to: FMsubmissions@mpi.govt.nz

While we prefer email, you can also post your submission to:

2023 Sustainability Review, Fisheries Management, Fisheries New Zealand, PO Box 2526, Wellington 6140, New Zealand.

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Anyone may make a submission, either as an individual or on behalf of an organisation. Please ensure all sections of this form are completed. You may either use this form or prepare your own. If preparing your own, please use the same headings as used in this form.

Submitter details

Name of submitter or contact person	Jack Papuni
Organisation (if applicable)	Ngati Wakarara Ngati Hau Takutai Kaitiaki Trust
Email address	9(2)(a)
Fishstock(s) this submission refers to	Trevally TRE 2/Gemfish SKI/Parengo
Your preferred option as detailed in the discussion paper (write 'other' if you do not agree with any of the options presented)	We support Option 1 the status quo for Trevally and Gemfish We DO NOT support the inclusion of Parengo in the Quota Management System

Official Information Act 1982

Note that your submission is public information. Submissions may be the subject of requests for information under the *Official Information Act 1982* (**OIA**). The OIA specifies that information is to be made available to requesters unless there are sufficient grounds for withholding it, as set out in the OIA. Submitters may wish to indicate grounds for withholding specific information contained in their submission, such as the information is commercially sensitive or they wish personal information to be withheld. Any decision to withhold information requested under the OIA is reviewable by the Ombudsman.

Fisheries New Zealand
Tini a Tangaroa

Submission:[1]

Details supporting your views:

We do not support including Parengo in the QMS

Parengo is considered a delicacy within the Tairawhiti, especially so in our Rohe Moana from Mawhai in the north to Marau in the South, the area Ngati Wakarara - Ngati Hau have mana moana over.

Kapata Rongoa

Parengo like all edible seaweeds is Rongoa. Its health benefits are recognised in the amounts of oils and minerals it provides for our diet. Parengo also has a spiritual and emotional uplifting effect on Maori. This is unquantifiable however, the joy observed when parengo is served is unmistakable especially so with our pakeke.

Kapata Kai

This is the last of the taonga species that we as Maori have mana over. It is safe in our hands. The harvesting practices are generational and necessary to preserve this delicacy in the areas where it grows.

We will continue to protect and manage this resource because we know the QMS cannot provide the eyes on/hands on protection this delicacy deserves if it is to survive.

[1] Further information can be appended to your submission. If you are sending this submission electronically, we accept the following formats: Microsoft Word, Text, PDF, and JPG.

Ngati Mutunga O Wharekauri Asset Holding Co Ltd

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Waitangi
Chatham Islands

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Email:ahc@nmow.co.nz

17 July 2023

Fisheries New Zealand
Fisheries Management Team
By email: fmsubmissions@mpi.govt.nz

REVIEW OF SUSTAINABLITY MEASURES OCTOBER 2023 FISHING YEAR

By email: **FMSubmissions@mpi.govt.nz**

Tēnā koe,

Ngāti Mutunga o Wharekauri Asset Holding Company Ltd (*NMOWAHC*) is the fully owned subsidiary of Ngāti Mutunga o Wharekauri iwi Trust. The NMOWIT and NMOWAHC are fully committed to the sustainable management of its fisheries and ensuring their protection and continued productivity for future NMOW and Wharekauri generations to come. This is paramount to NMOW's and the Island's own sustainability and economic viability.

Of the ten fish stocks being reviewed by Fisheries NZ for the 1 October 2023 Sustainability Round, only two are directly relevant to NMOWAHC, being SWA3 and GUR3. NMOWAHC's position with respect to each is set out below.

SWA3

Fisheries NZ (FNZ) options:

Option	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
Option 1 *(Status quo)*	3,646	3,610	0	0	36
Option 2	4,040 (↑ 394 t)	4,000 (↑ 390 t)	0	0	40 (↑ 4 t)

NMOWAHC supports Option 2. We are comfortable recent research supports a modest increase.

GUR3

Fisheries NZ (*FNZ*) options:

Option	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
Option 1 *(Status quo)*	1,695	1,575	3	6	111
Option 2	1,779 (↑ 84 t)	1,654 (↑ 79 t)	3	6	116 (↑ 5 t)

NMOWAHC supports **Option 1.** Given the 2022 survey results indicate that pre-recruit biomass has declined suggesting recruitment to the fishery will decline in coming years. On this basis, there should be no TAC increase.

Ngā mihi nui

9(2)(a)

Joseph Thomas
Chair
Ngati Mutunga o Wharekauri Asset Holding Company Limited

16 July 2023

Hon. Rachel Brooking
Minister for Oceans and Fisheries
Freepost PO Box 18 888
Parliament Buildings
Wellington 6160

Mr Dan Bolger
Deputy Director General
Fisheries New Zealand
PO Box 10420
Wellington

NZ FEDERATION OF COMMERCIAL FISHERMEN
Doug Saunders-Loder
President
9(2)(a)
Email: nzfcf@seafood.co.nz

SUBMISSION - REVIEW OF SUSTAINABILITY MEASURES FOR FISHERIES – OCTOBER 2023 ROUND

The New Zealand Federation of Commercial Fishermen Inc. wishes to make the following submission in relation to the Review of Sustainability Measures for Fisheries – October 2023 Round.

We wish to endorse the submissions made by the Seafood NZ Inshore Council, the Southern Inshore Finfish Management Co. Ltd and others but given that we represent those that physically catch the fish and who provide anecdotal information about each stock's status we feel that we need to make a supplementary submission on behalf of our members.

WHO WE ARE

Formed in 1953 to ensure that the voices of fishermen were heard, the Federation is a national organisation that represents and advocates for the independent, private owner-operator and their crew. Predominantly inshore fishers, the Federation is entirely funded by membership fees and does not receive any money from other sources. We advocate for our members, presenting their views and perspectives on fisheries and oceans management and on maritime occupational safety. We currently have 375 members, and they make up approximately 30% of all inshore owner-operators and crew operating in coastal New Zealand waters.

The inshore sector catches around 95,000 tonnes of fish. Whilst many of our members may have quota for the stocks they target, they are typically contracted to Licensed Fish Receivers and processors to catch their fish for them at fixed prices. While our members may not pay the fisheries and conservation levies directly, the levies are passed on to them as a component of the cost of ACE they purchase for their catch or in the contracts they have with quota-owners or companies.

FNZ MANAGEMENT OF SUSTAINABILITY MEASURES

The October Sustainability Round this year consists of seven inshore stocks, two deepwater stocks, one change of fishing year and three deemed value adjustments. The Federation is deeply concerned at the low numbers of stocks for which amended sustainability measures are proposed in sustainability rounds. in the past 5 years, FNZ has only been able to undertake 115 reviews of stock sustainability limits, noting that only 93 stocks were involved (several stocks being reviewed more than once in that five-year period).

Fisheries New Zealand will no doubt seek to justify the low amount of sustainability round stocks this year on the need to resource new developments and responses to events such as Cyclone Gabrielle but sadly and quite inappropriately, given

the implications of this on both Hawkes Bay and East Coast that response to us; is just another series of excuses. We can no longer accept excuses.

FNZ continue to remind the industry that we need to concentrate less on volume and more on value. However, the Fisheries Act does not acknowledge that rhetoric and states categorically that the two main principles of the Act are sustainability and utilisation.

We are not aware of any Sustainability Round where Industry has promoted stocks for review based on them not being sustainable. There are hundreds of examples of industry presenting stocks with supporting science and credibly promoting their sustainability. There are also many stocks that Industry have promoted on the basis that they might be utilised well beyond their limits at the time and over many years it is pleasing to say that FNZ have successfully considered some of these and reviewed them accordingly. There are many that they have also ignored.

The fundamental purpose of Fisheries New Zealand is to manage the fisheries resources for the benefit of New Zealand. Managing the stocks involves monitoring and managing of sustainability limits. In the decades since the QMS was introduced, FNZ has become less proficient in fulfilling that fundamental role as they have sought to divert resources to intervene in the operational activity of harvesting resources. Rather than actively manage the stocks to reflect changes in abundance and opportunity (sustainability and utilisation) FNZ has seemingly adopted a conservative, reactive stance, almost doing the minimum to manage New Zealand's fisheries resources.

In 2022, 36 years after the QMS was introduced, FNZ released its first ever Inshore Finfish Fish Plan. It promised much with processes and structures that would see the inshore fisheries managed on a far more proactive basis. Commitment to a nimbler and more enabling process whereby Govt. and Industry, with the supporting scientific rigour could make decisions on sustainability measures much more seamlessly and with greater comfort, were promised.

However, to date, nothing meaningful has been progressed – stocks have no assessment tools, collaborative meetings have not appeared, stock management and research plans have not been developed, low information stock and assemblage assessment methodologies have not been sighted.

When does the inshore finfish sector get the management, it deserves? Quota owners and therefore fishermen contribute $40m a year in Cost Recovery levies. In the context of sustainability rounds and supporting science Industry pays many more $m's on independent research. When will all this investment pay off? When will FNZ recognise the importance of the fishing industry and the efforts it goes to to justify its position and start delivering meaningfully on such things. Do the consumers of New Zealand inshore fish have to wait another 36 years for that to happen? Will they wait another 36 years?

There are many stocks where science exists supporting a review or where any reasonable assessment indicates a review is overdue. They do not necessarily progress. Industry is often advised that the reviews of many stocks simply have no priority to be reviewed and they are left untended and unloved. Even with independent science available, many of the FNZ proposals for TAC/TACC increases are highly conservative and lack any view that even over a 12-month period, they might be increased whilst closely monitored. In these cases, if the decision is discovered to be premature; over such a short timeframe, we are highly unlikely to cause any lasting damage. No fisher or quota-owner is ever going to promote anything that would cause any damage. It is simply not in their interests.

The downside for industry is that the failing of FNZ to review stock sustainability limits in a comprehensive manner has resulted in stock catch limits out of balance with the actual abundance in the seas and out of balance with the assemblages of species caught by commercial fishers. FNZ have sought to use increasing levels of compliance monitoring and action to impose the unrealistic sustainability limits on industry. The nation does not benefit from the lack of utilisation opportunities. Exports are reduced, employment is restrained, and fishers suffer a loss of income and this clearly impacts upon their livelihoods. Is it any wonder that a fisher views the fishing regime with derision and concern. Industry has long requested more science and less compliance. The Government model seems to be the converse – less science and more compliance.

The Quota Management System provides for the management of 642 stocks. Many stocks have no more than a TACC although in recent years, FNZ has been augmenting the commercial limit with allowances for recreational, customary and other fisheries related mortalities in the sustainability rounds. The figures being added for those allowances are often nothing more than an arbitrary guess since no catch reporting processes apply to the bulk of the species for recreational or customary fishing. Increased emphasis is placed on meeting politically motivated imperatives and not on the best information.

Of the 642 stocks, FNZ only know the status against the four performance measures of target, soft limit, hard limit or over-fishing of 152 stocks. There are 244 stocks that are regularly caught and are subject to sustainability measures but whose status is unknown. Many have no target, soft or hard limits. FNZ report there are another 290 nominal stocks in the QMS for administrative purposes or with minimal catch or sustainability pressures. Why they are in the QMS, which is a system to ensure the sustainability of fisheries stocks, in the first place remains a mystery to many fishers.

With 505 October - September QMS stocks and an annual sustainability round for September stocks that consists of only 23 stocks per year, there must be a way to improve the performance of FNZ in reviewing sustainability measures. The Federation stands ready to work with FNZ to improve its performance. The introduction of cameras and AI should provide more improved information but at a cost of $68m the opportunity for improved management is essential. More active collaboration and management of the stocks will see everyone benefit. Active management is the key to unlocking potential benefits, secure prosperous livelihoods and providing the New Zealand consumer with access to nutritional protein from New Zealand wild-catch fisheries resources.

The future of our members depends on well informed and well-managed fisheries, not fisheries characterised by an over-reliance of recreational and environmental views, often driven by anti-commercial fishing agendas and compliance which FNZ rely on to protect poor fisheries resource management performance.

THE CONSULTATION

The October Round this year consists of seven inshore stocks, two deepwater stocks, one change of fishing year and three deemed value adjustments.

The NZ Federation of Commercial Fishermen Inc. –

1. Supports those proposals made by the respective Stakeholder groups of Southern Inshore Finfish Mgmt. Co. Ltd, SNZ Inshore Fisheries Council, Deepwater Council and the Kina Industry Council.

2. We are frustrated that many more stocks were proposed for review that are well supported by information on the ground as well as supporting science and that they have been ignored on the basis that they do not fit FNZ priority. We are extremely disappointed that historic proposals from regions throughout NZ have typically been met with excuses as to why they 'cannot' be addressed.

3. We strongly urge FNZ to reflect on the principles of the Fisheries Act that promotes sustainability and utilisation and to correctly and legally consider the science behind reviews and NOT the constant background noise made by environmental and recreational groups that religiously promote their anti-commercial fishing agendas.

4. We conditionally support the position taken by the relevant stakeholders in respect of Deemed Values setting because those proposals serve to reduce any financial impact on fishermen but we principally object to deemed values being applied this way. It is our strongly held view that DV's are being used to manage fish stocks in the absence of appropriately set TACC's. That is simply wrong and after 36 years of tinkering, must be addressed properly. DV's should be the last resort applied to any stock.

Sincerely

Doug Saunders-Loder
President
New Zealand Federation of Commercial Fishermen

From: 9(2)(b)(ii)
To: FMSubmissions
Subject: proposed changes to catch limits
Date: Tuesday, 13 June 2023 5:16:10 pm

To whom this may concern,

I strongly oppose the proposed changes in catch limits. The real problem lies in the commercial fishermen that troll kilometers worth of fishing Nets. I am astonished to see snappers as big as 20 centimeters being sold at local fish stores.
A lot of whanau rely on Kai Mona to feed family members. This new legislation will increase poverty due to families having to buy food instead of catching fish. more restrictions should be placed on commercial fishermen, not recreational ones.

Thank you
Ben

EGMONT SEAFOODS

41 Centennial Drive
P.O. Box 592
New Plymouth 4340
Phone: (06) 751 5700
Fax: (06) 751 5709
Email:sales@egmontseafoods.co.nz

17th July 2023

SUBMISSION

Review of deemed value rates for selected stocks 2023/24

I appreciate the opportunity to comment on the review of deemed value rates for the October 2023 sustainability measures.

My comments reflect the view of Egmont Seafoods Ltd and also the general view of fisherman landing fish into Egmont Seafoods Ltd.

I will only comment on the SNA 8 fishstock and proposed deemed value for this fishstock.

I have been involved in the fishing industry since 1986 and have made numerous submissions on deemed value rates in the past and was also involved in the review of the SNA 8 TACC in the October 2021 sustainability round.

Deemed Values Regime

The purpose as stated in the deemed value framework is 'The purpose of the deemed values regime is to provide incentives for individual fishers to acquire or maintain sufficient ACE to cover catch taken over the course of the year while allowing flexibility in the timing of balancing, promoting efficiency, and encouraging accurate catch reporting'

The SNA 8 fishstock has been rebuilding at a rapid rate for the past 15 years and in 2021 the Minister of Ocean & Fisheries (Hon David Parker) made a conservative decision to only increase the TACC by 300 tonnes to 1600 tonnes. The fisherman have been trying to avoid catching Snapper on the West Coast North Island for the past 15 years because there has not been sufficient ACE to cover Snapper bycatch when targeting other species. As stated above the purpose of deemed values is to provide an incentive for fishers to acquire ACE but if there is no ACE available then the incentive is there but acquiring ACE is an impossibility as demand outstrips supply.

The most recent stock assessment for SNA 8 in 2021 estimated spawning biomass of the stock to be well above the Maximum Sustainable Yield at around 54% of B_0. Fisherman should not be penalised with deemed values being set at high levels on a fishstock like SNA 8 when the fishery is healthy and there are no sustainability issues, especially when SNA 8 is not the target species and is taken as a bycatch.

Proposed Adjustment and rationale

The proposed adjustment and rationale comes about from the decision letter in 2021 when the then Minister of Ocean & Fisheries requested that a review should be undertaken if there was an excessive use of deemed values.

The available SNA 8 ACE in 2022 was only exceeded by 4.83% which is minimal, and not excessive, when the SNA 8 fishery is healthy and well above the stock harvest targets of 40% B_0. The majority of SNA 8 is harvested as a bycatch of targeting other species and fishers are finding it increasingly difficult to avoid catching SNA 8. These same fishers have constrained their catch within a low TACC since 2005 and should not now be penalised because they can't balance catch with ACE.

The other factor is that Fisheries NZ considers that a further upward adjustment to the deemed value will help encourage fishers to avoid higher levels of excess catch and ensure there are appropriate incentives for fishers to remain within ACE holdings.

Fishers cannot avoid higher levels of catch of snapper in a fishery that is healthy, abundant and continuing to improve. A higher deemed value will not provide any additional incentive or encouragement for fishers to remain within ACE holdings if they cannot avoid snapper as a bycatch.

If fishers are going to be penalised for exceeding their SNA 8 ACE holdings this will also impact their ability to target other species where there is plenty of ACE available. SNA 8 will then become a choke species impacting the mix and harvest of other species which ACE holders and fishers own.

Proposed Options

Table 4 sets out the key information that informed the development of proposals which included the SNA 8 TACC, % ACE caught, Average ACE price, Deemed Values and Port Price.

We cannot source ACE at the average price shown in Table 4 and we are paying well in excess of the annual DV to source ACE. We are generally paying $5.50 - $6.00kg to source SNA 8 ACE which shows that demand for ACE outstrips supply driving the price of SNA 8 ACE to excessive levels. We pay the fisherman $7.25kg for landed Snapper which means they receive in their hand after ACE $1.25kg - $1.50kg from which they have to cover their running costs and expenses. If the deemed value increases this is likely to increase the price of ACE which will reduce their return which is already marginal. There is no incentive for fishers to target Snapper when the returns are at the levels shown above.

The market for Snapper has weakened considerably in the last 2 – 3 months, which is a surprise for the winter period, which generally provides strong demand & pricing from May to September. This weakened demand is placing downward pressure on pricing and with the current economic climate we do not envisage the market recovering in the next 12 – 18 months. The SNA 8 port price is therefore likely to reduce over the coming months.

Recommendation

Due to the abundance and health of the SNA 8 fishstock we believe that the current deemed values for the 2022/23 fishing year should be maintained for the 23/24 fishing year until the SNA 8 TACC is reviewed in the 2024 sustainability round.

We cannot support option 1 or 2 when there is limited targeting of SNA 8 and the majority of harvest is taken as a bycatch of targeting other fishstocks. The available ACE was only exceeded by 4.83% in a fishery that is well above the stock harvest strategy of 40% B_0 and is estimated to be well above MSY at around 54% B_0.

Increasing the deemed value is likely to increase the cost of ACE increasing the return to the ACE holder and reducing the return to the harvester who is already struggling to meet increasing costs and depressed fish prices.

Keith Mawson

9(2)(a)

Managing Director

THE UNIVERSITY OF AUCKLAND
FACULTY OF SCIENCE

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10 July 2023

FMSubmissions@mpi.govt.nz

Submission on Review of Sustainability Measures for green-lipped mussel (GLM 9) for 2023/24

The Review of sustainability measures for green-lipped mussel (GLM 9) for the 2023/24 October-April fishing year transition period and for 2024/25 incorrectly cites the conclusions of my previous research which has been published in the international scientific literature.

The review repeatedly makes the claim that mussel spat attached to drift material washing into the nearshore at Te Oneroa a Tōhe/Ninety Mile Beach are unlikely to contribute to recruitment in the wild populations. From this statement the review concludes there are unlikely to be sustainability issues resulting from the largescale harvesting of the spat material.

For example, Section 3.2, Point 17 states:

"Spat are unlikely to survive once washed ashore.[5] Harvesting at this time is not considered a sustainability concern to the green-lipped mussel stock as it is unlikely that the mussel spat will return to the sea and settle into adult mussel beds."

The cited research publication for [5] is:-

Alfaro, A.C., **Jeffs, A.G.** 2002. Small-scale mussel settlement patterns within morphologically distinct substrata at Ninety Mile Beach, northern New Zealand. *Malacologia* 44: 1-15.

This publication makes no such statement that drifting mussel spat material is unlikely to contribute to recruitment into local populations of mussels. In fact, the discussion section of the publication describes observations of the situation where drift spat material does directly contribute to the recruitment of wild mussel populations on this coast.

From my own observations, some spat material that is stranded on the shoreline of Te Oneroa a Tōhe/Ninety Mile Beach is unlikely to survive, but the majority of the spat material, if unharvested and the weather and wave conditions permit, is transported alongshore in the surf zone for considerable distances with the potential to encounter reef areas where the spat can recruit. Likewise, under certain weather and wave conditions, the material can be dispersed out of the surf zone, presumably back out to sea where it may also participate in natural recruitment processes.

Recent research shows that spat up to 20 mm in length are highly mobile and can detach from material and drift in the water column over considerable distances using extruded mucous to provide buoyancy. Therefore, it is also quite possible that spat material if left unharvested could contribute migratory spat that recruits into other areas.

Recent research also indicates that the spat material arriving at Te Oneroa a Tōhe/Ninety Mile Beach is most likely derived from the spawning of local wild populations of mussels. Therefore, there is a critical need to ensure recruitment processes in the wild mussel populations at Te Oneroa a Tōhe/Ninety Mile Beach are maintained given their large economic importance to aquaculture.

Many of the intertidal populations of wild mussels at Te Oneroa a Tōhe/Ninety Mile Beach are at times exposed to intensive recreational and customary fishing. Furthermore, in recent years there have been mass mortalities of some intertidal populations during summer, mostly likely due to heat stress, a phenomenon that is likely to become more frequent with climate change.

As someone who has been researching and attempting to restore green-lipped mussel populations elsewhere in the country, myself and colleagues have observed the decline of a number of remnant wild populations. Also, substantial wild populations of these mussels extirpated by commercial overfishing in a number of places around the country have not recovered in more than 50 years since commercial fishing ceased. Collectively these observations point toward issues with recruitment processes in these populations that we currently do not understand.

For these reasons, in my view, there needs to be some greater effort to better understand the possible role of spat material in contributing to recruitment of the wild mussel populations at Te Oneroa a Tōhe/Ninety Mile Beach.

I would also be grateful if the misinterpretation of my published research is corrected in the review of submissions and in any subsequent documentation on this matter produced by Fisheries New Zealand.

Thank you for considering my submission.

9(2)(a)

Professor Andrew Jeffs

Fisheries New Zealand
Tini a Tangaroa

Submission Form

Review of sustainability measures for 1 October 2023

Once you have completed this form

Email to: FMsubmissions@mpi.govt.nz

While we prefer email, you can also post your submission to:

2023 Sustainability Review, Fisheries Management, Fisheries New Zealand, PO Box 2526, Wellington 6140, New Zealand.

Submissions must be received no later than 5pm on Monday 17 July 2023.

Anyone may make a submission, either as an individual or on behalf of an organisation. Please ensure all sections of this form are completed. You may either use this form or prepare your own. If preparing your own, please use the same headings as used in this form.

Submitter details

Name of submitter or contact person	Tom Hollings, Exec Officer
Organisation (if applicable)	Coromandel Marine Farmers Association (CMFA)
Email address	9(2)(a)
Fishstock(s) this submission refers to	Green-Lipped Mussel GLM9
Your preferred option as detailed in the discussion paper (write 'other' if you do not agree with any of the options presented)	OPTION 1: this option halves the TACC to 67.5 tonnes for the transitional 6-month period.

Official Information Act 1982

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Fisheries New Zealand
Tini a Tangaroa

Submission:[1]

Details supporting your views:

Which option do you support for revising the TAC and allowances? Why?

I support OPTION 1 that sets a TACC of 67.5 tonnes (halving the full-year TACC setting) for a transitional 6-month period from 1 October 2023 to 31 March 2024. OPTION 1 provides the highest allowance of GLM9 TACC compared to OPTION 2.

The reasons I prefer this option are:

A. Maximising quantity of spat able to be collected

GLM9 mussel spat is a critical resource: Firstly, it brings local revenue to the Northland region through spat collection activities. The spat collecting industry employs approx. 100 part-time, seasonal, and full-time employees in the Far North, and is estimated to generate more than $5 million for the local economy. Secondly, the GLM9 spat resource underpins the $350 million mussel farming sector that produced 89,209 gwt of mussels in the 2022 calendar year (AQNZ data from Stats NZ). Farmed Greenshell mussels contribute more than half the total revenue for New Zealand aquaculture in 2022 ($685 million).

In recent years, national mussel spat supply has been constrained due to adverse weather events impacting wild spat volumes and survivability on farm, and a gap in hatchery-sourced spat available for the wider mussel farming industry. These challenges will prevent mussel export volumes significantly increasing in the short term and ensures the GLM9 mussel spat resource remains crucial for the mussel farming industry as it builds resilience and grows.

Also, the 67.5 tonne TACC is consistent with current QMS property rights and fairly maintains existing Quota and ACE within any period/s of fishing year. If to follow option 2 that would be inconsistent and unreasonable, by setting a lower TACC over a half year ie 6-month period and which would amount to an inappropriate TACC reduction, from the status quo. It would have no sustainability basis. The same level of annual TACC will apply in the next fishing year but if to apply option 2 that would raise an argument for raising the TACC in the next full fishing year.

Our CMFA is aware of the content of the Aquaculture New Zealand (AQNZ) submission on this change. We fully support the AQNZ submission.

B. There is concern that spatfall may be later this year; hence a greater need to maximise spat over the transitional 6-month period

OPTION 1 provides for greater flexibility for collectors to gather spat when there is unexpected variability in spatfall timing, quantity, and quality during this transition period. Historical records clearly show that mussel spatfall on Te Oneroa-a-Tōhe fluctuates greatly. If significant spatfall events are later in the season in 2023 (as they were in 2021 and 2022), OPTION 1 provides greater TACC to optimise catch. The flexibility of OPTION 1 would mean less likelihood of intensified collection efforts in a “race” to catch ACE before the end of this season.

C. Simple approach of halving the 12-month setting for 6 months

Simply halving the annual setting makes sense for this one-off adjustment to accommodate the change in fishing year.

D. Limited downsides as the proposal is only for 6 months

[1] Further information can be appended to your submission. If you are sending this submission electronically, we accept the following formats: Microsoft Word, Text, PDF, and JPG.

Given this is a one-off transitional period to reset the fishery to 1 April commencement, there seems very few downsides to OPTION 1. We agree with the FNZ Discussion Paper No. 2023/11 where it states (at 153): "*It is unlikely that these settings will generate any lasting economic, cultural, or social issues, due to the proposed settings being temporary*". There are no sustainability issues, no increase in fishery effort is enabled with the proposal, and any related flow-on effects will be temporary in nature. After the transition period, all catch settings and allowances are proposed to return to previous annual settings for the 1 April fishery year.

Other questions from FNZ:

- Are the allowances for customary Māori, recreational and other sources of mortality appropriate? Why?

Yes, a setting of 75% of the annual allowance seems appropriate given the bulk of the customary and recreational harvesting of (adult) greenshell mussels takes place during this 6-month period over summer. These fisheries are quite separate from GLM9 spat collection activities.

- Do you think these options adequately provide for social, economic, and cultural wellbeing?

Yes. OPTION 1 seeks to achieve a balance between optimising commercial mussel spat collection activities, providing flexibility for natural variability in spatfall, and ensuring no additional harvesting efforts are allowed on the beach. OPTION 1 ensures the continuation of commercial spat collecting activity that is an important economic contributor to the Far North. In addition, the constrained settings should help alleviate any local community concerns about the risk of any temporary increase in collection activities.

- Do you have any concerns about potential impacts of the proposed options on the aquatic environment?

No. Harvesting GLM9 mussel spat on beachcast seaweed does not present any sustainability issues as the mussel spat are effectively removed from the GLM9 fishery once they wash up on the beach and would die on the beach if not collected. As long as collectors comply with the procedures set out in the Code of Practice for spat collection*, their collection activities will have minimal effects on the beach environment. Research has been undertaken to demonstrate the small scale, limited duration, minor effects on the beach environment from spat collection activities.

(*Te Oneroa-a-Tōhe Mussel Spat Beach Collecting and Loader Driving Code of Practice, March 2023)

Fisheries New Zealand
Tini a Tangaroa

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Submitter details

Name of submitter or contact person	Dr Romain Chaput
Organisation (if applicable)	The Moana Project
Email address	9(2)(a)
Fishstock(s) this submission refers to	Green-lipped mussels
Your preferred option as detailed in the discussion paper (write 'other' if you do not agree with any of the options presented)	We would like to identify recent key research findings that are not included in the review and are of significance in assessing the sustainability of the GLM9 stock.

Official Information Act 1982

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Fisheries New Zealand
Tini a Tangaroa

Submission:[1]

Details supporting your views:

[1] Further information can be appended to your submission. If you are sending this submission electronically, we accept the following formats: Microsoft Word, Text, PDF, and JPG.

As part of the MBIE Endeavour-funded Moana Project (https://www.moanaproject.org/), we have carried out research to determine the source of the green-lipped mussel spat that arrive at Ninety Mile Beach Te Oneroa-a-Tōhe, the wider connectivity of green-lipped mussels nationally, and the implications of likely climate change scenarios on the distribution of green-lipped mussels (natural stocks and aquaculture) in coastal waters around Aotearoa New Zealand.

Our research findings lead us to:

1. Advocate for the precautionary principle to be applied when managing the harvesting of spat from Ninety Mile Beach / Te Oneroa-a-Tōhe.
2. Urge the commissioning of further research into the recruitment processes at or near the adult mussel beds that supply the spat that arrive at Ninety Mile Beach Te Oneroa-a-Tōhe. This needs to include investigations to understand how population dynamics, ocean currents and substrate availability (mostly seaweed but bryozoans, etc. also) impact the spatfall at Ninety Mile Beach / Te Oneroa-a-Tōhe and the recruitment into the adult population.
3. Encourage monitoring to establish the location, extent and health of the adult beds that supply the spatfall to Ninety Mile Beach / Te Oneroa-a-Tōhe.

A brief summary of the research underpinning this is presented below:

Moana Project research (Chaput et al., 2023) demonstrates that the source populations for the green-lipped mussel spat that arrive at Ninety Mile Beach / Te Oneroa-a-Tōhe are local, chiefly from reefs around Ahipara, Tireparepa / Scott Point and Herekino. Genetic work indicates a population break just south of this region, which means that the adult beds that supply the Ninety Mile Beach / Te Oneroa-a-Tōhe spatfall are local and largely self-recruiting. This is consistent with observations of recruitment to wild mussel populations at Ninety Mile Beach / Te Oneroa-a-Tōhe from the spat material arriving at the beach (Alfaro & Jeffs, 2002). This high reliance on localised self-recruitment in this mussel population renders the population vulnerable because the die-off of individual mussel beds or declines in health resulting from chronic stress caused by environmental change may severely compromise population-level recruitment and therefore spat supply for NZ's aquaculture industry.

Other Moana Project research examined the implication of climate change on green-lipped mussel populations and aquaculture. Using ocean models to predict ocean temperatures under different ICPP climate change scenarios (trajectories of change), we established that significant ocean warming is likely to occur later this century. Comparing ocean temperatures with the thresholds for recent established sublethal and lethal outcomes for green-lipped mussels (Ericson et al. 2023) indicates that the species will likely be subject to catastrophic marine heatwaves as well as chronic temperature stress (experiencing ongoing elevated temperatures at the upper thermal range of the species) in the northern part of the North Island from mid to late century onwards.

With the above in mind, and considering that temperature is only one of a suite of potential stressors, we believe the stock is likely to be a lot more vulnerable than indicated in the Fisheries New Zealand review of sustainability measures for green-lipped mussel GLM9.

References:

Alfaro, A.C., Jeffs, A.G. 2002. Small-scale mussel settlement patterns within morphologically distinct substrata at Ninety Mile Beach, northern New Zealand. Malacologia. 44: 1–15.

Chaput, R., Quigley, C.N., Weppe, S.B., Jeffs, A.G., Souza, J.M.A.C., Gardner, J.P.A. 2023. Identifying the source populations supplying a vital economic marine species for the New Zealand aquaculture industry. Scientific Reports. 13: 9344. https://doi.org/10.1038/s41598-023-36224-y

Ericson, J., Delorme, N., Ragg, N. 2023. Heat tolerance of Greenshell mussels™ (*Perna canaliculus*): collated research findings & implications for mussel farming. Prepared for MBIE Shellfish Aquaculture Research Platform (CAWX1801) and Aquatic Animal Health Program (CAWX1707). Cawthron Report No. 3914. 19 p.

From: Dr Romain Chaput, Cawthron Institute; Professor Andrew Jeffs, University of Auckland; Professor Jonathan Gardner, Victoria University of Wellington; Dr Malene Felsing, New Zealand MetService.

Fisheries New Zealand
Tini a Tangaroa

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Submitter details

Name of submitter or contact person	Steph Hopkins
Organisation (if applicable)	Aquaculture New Zealand
Email address	9(2)(a)
Fishstock(s) this submission refers to	Green-Lipped Mussel GLM9
Your preferred option as detailed in the discussion paper (write 'other' if you do not agree with any of the options presented)	OPTION 1: this option halves the TACC to 67.5 tonnes for the transitional 6-month period.

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Submission:

Details supporting your views:

Which option do you support for revising the TAC and allowances? Why?

AQNZ supports OPTION 1 that sets a TACC of 67.5 tonnes (halving the full-year TACC setting) for a transitional 6-month period from 1 October 2023 to 31 March 2024. OPTION 1 provides the highest allowance of GLM9 TACC compared to OPTION 2.

The reasons we prefer this option are:

A. Maximising quantity of spat able to be collected

GLM9 mussel spat is a critical resource: Firstly, it brings local revenue to the Northland region through spat collection activities. The spat collecting industry employs approx. 100 part-time, seasonal, and full-time employees in the Far North, and is estimated to generate more than $5 million for the local economy. Secondly, the GLM9 spat resource underpins the $350 million mussel farming sector that produced 89,209 gwt of mussels in the 2022 calendar year (AQNZ data from Stats NZ). Farmed Greenshell mussels contribute more than half the total revenue for New Zealand aquaculture in 2022 ($685 million total revenue).

In recent years, national mussel spat supply has been constrained due to adverse weather events impacting wild spat volumes and survivability on farm, and a gap in hatchery-sourced spat available for the wider mussel farming industry. These challenges will prevent mussel export volumes significantly increasing in the short term and ensures the GLM9 mussel spat resource remains crucial for the mussel farming industry as it builds resilience and grows.

B. There is concern that spatfall may be later this year; hence a greater need to maximise spat over the transitional 6-month period

OPTION 1 provides for greater flexibility for collectors to gather spat when there is unexpected variability in spatfall timing, quantity, and quality during this transition period. Historical records clearly show that mussel spatfall on Te Oneroa-a-Tōhe fluctuates greatly. If significant spatfall events are later in the season in 2023 (as they were in 2021 and 2022), OPTION 1 provides greater TACC to optimise catch. The flexibility of OPTION 1 would lessen the likelihood of intensified collection efforts in a “race” to catch ACE before the end of this season.

C. Simple approach of halving the 12-month setting for 6 months

Simply halving the annual setting makes sense for this one-off adjustment to accommodate the change in fishing year.

D. Limited downsides as the proposal is only for 6 months

Given this is a one-off transitional period to reset the fishery to 1 April commencement, there seems very few downsides to OPTION 1. We agree with the FNZ Discussion Paper No. 2023/11 where it states (at 153): “*It is unlikely that these settings will generate any lasting economic, cultural, or social issues, due to the proposed settings being temporary*”. There are no sustainability issues, no increase in fishery effort is enabled with the proposal, and any related flow-on effects will be temporary in nature. After the transition period, all catch settings and allowances are proposed to return to previous annual settings for the 1 April fishery year.

Other questions from FNZ:

- Are the allowances for customary Māori, recreational and other sources of mortality appropriate? Why?

Yes, a setting of 75% of the annual allowance seems appropriate given the bulk of the customary and recreational harvesting of (adult) greenshell mussels takes place during this 6-month period over summer. These fisheries are quite separate from GLM9 spat collection activities.

- Do you think these options adequately provide for social, economic, and cultural wellbeing?

Yes. OPTION 1 seeks to achieve a balance between optimising commercial mussel spat collection activities, providing flexibility for natural variability in spatfall, and ensuring no additional harvesting efforts are allowed on the beach. OPTION 1 ensures the continuation of commercial spat collecting activity that is an important economic contributor to the Far North. In addition, the constrained settings should help alleviate any local community concerns about the risk of any temporary increase in collection activities.

- Do you have any concerns about potential impacts of the proposed options on the aquatic environment?

No. Harvesting GLM9 mussel spat on beachcast seaweed does not present any sustainability issues as the mussel spat are effectively removed from the GLM9 fishery once they wash up on the beach and would die on the beach if not collected. As long as collectors comply with the procedures set out in the Code of Practice for spat collection*, their collection activities will have minimal effects on the beach environment. Research has been undertaken to demonstrate the small scale, limited duration, minor effects on the beach environment from spat collection activities.

(*Te Oneroa-a-Tōhe Mussel Spat Beach Collecting and Loader Driving Code of Practice, March 2023)

The Mussel Reef Restoration Trust
Te Ohu Whakahaumanu i ngā Ākau Kūtai

Submission to: Review of sustainability measures for green-lipped mussel (GLM 9) for the 2023/24 October-April fishing year transition period and for 2024/25

17 July 2023

Contacts:

Katina Conomos
Kaihautū / Programme Director
9(2)(a)

About us

1. The Revive Our Gulf project is an to restore the seabed kūtai/green-lipped mussel (*Perna canaliculus*) reefs in Tīkapa Moana/Te Moananui-ā-Toi/Hauraki Gulf.

2. The project has three core collaborative partners: the Mussel Reef Restoration Trust (MRRT), a NZ registered charity; The Nature Conservancy (TNC), a global environmental organisation; and the University of Auckland (UoA). We work in partnership with iwi / hapū across Tīkapa Moana / Te Moananui-ā-Toi / Hauraki Gulf on mussel reef restoration projects.

3. The restoration methodology we currently use and continue to explore is reliant on translocation of adult kūtai from mussel farms in the Coromandel, the source of which is reliant on the spat harvested within GLM 9.

4. The opinions expressed in this submission are those of the MRRT backed up by science from the UoA Institute of Marine Science. This submission does not reflect the views of TNC or our Tangata Whenua partners.

General comments

5. The Trust hold deep concerns regarding the long-term sustainability of the green-lipped mussel (GLM) population, specifically in relation to the wild-caught mussel spat from Te Oneroa a Tōhe/Ninety Mile Beach.

6. The wild-caught mussel spat is not only essential for enabling the aquaculture industry in New Zealand but also plays a fundamental role in mussel restoration initiatives throughout the country, including the Revive Our Gulf project.

7. While our project may be small in scale and not statistically significant to your considerations or decision-making, we wanted to highlight that GLM 9 spat also currently underpins mussel restoration initiatives. The supply of mussel spat from the wild population is fundamental to the success of both the aquaculture industry and restoration endeavours.

8. We believe there is insufficient scientific evidence to support the assumption that the wild population of mussel spat is secure. Recent genetic analyses and physical oceanographic modelling have revealed that the local mussel beds at Ahipara and Tiriparepa/Scott Point are the primary sources of spat for the industry, contradicting prior understanding (or lack of knowledge). This newness of this crucial information underscores the need for ongoing monitoring and research to better understand the status and health of the GLM 9 population.

9. Given the negative impacts of overfishing on wild kūtai populations in other areas of New Zealand and the observed declines without clear reasons (refer to references below), it is crucial to exercise a higher degree of caution and prioritise the sustainable management of GLM 9.

10. In accordance with the Environmental Principles outlined in Section 9 of the Fisheries Act, it is paramount to prioritise the maintenance of biological diversity and the protection of habitats that hold particular significance for fisheries management. Recent examples, such as the judicial review of the total allowable catch of the CRA 1 fishery set by the former Minister of Oceans and Fisheries, David Parker, in 2021/22 and 2022/23, have underscored the importance of informed decision-making based on the most up-to-date holistic, ecosystem-based science. It is imperative to ensure that decision-making processes are guided by scientific knowledge that considers the broader ecological context.

Submission points

11. While the consultation document suggests that there is currently no evidence linking climate change to recruitment or the ecosystem of these mussel beds, we firmly believe that ongoing monitoring is vital. **Therefore, we recommend that Fisheries New Zealand promptly invest in further monitoring and research, in collaboration with mana whenua, to continue building knowledge on the status and health of the**

GLM 9 population. Understanding the ecological and biodiversity conditions necessary for kūtai to thrive, population dynamics, the impacts of various harvesting practices (including recreational), and potential climate change effects on mussel beds is crucial for informed decision-making and effective management.

12. The Discussion Paper notes that FNZ and DOC are progressing to a more integrated ecosystem-based approach to managing oceans and fisheries, and that this review contains information on biodiversity impacts, ecosystem function and habitat protection associated with adjustments to sustainability measures. **It would be highly desirable to witness tangible implementation toward an ecosystem-based management approach, with an emphasis on the holistic ecosystem that enables the survival and flourishing of the GLM 9 stock within this specific location.**

13. **To that end, we recommend that Fisheries New Zealand continue to work in partnership with mana whenua to urgently ensure culturally appropriate protection of the mussel beds at Ahipara and Tiriparepa/Scott Point, now that they are known as the source of the GLM 9 spat.**

14. **We strongly urge Fisheries New Zealand to adopt a precautionary approach that prioritises the long-term well-being of the GLM 9 population.**

We appreciate your consideration of this submission and are available to discuss any aspects of this if required.

References:

Toone, T.A., Benjamin, E.D., Hillman, J.R., Handley, S., Jeffs, A., 2023a. Multidisciplinary baselines quantify a drastic decline of mussel reefs and reveal an absence of natural recovery. Ecosphere 14, e4390. https://doi.org/10.1002/ecs2.4390

Toone, T.A., Hillman, J.R., South, P.M., Benjamin, E.D., Handley, S., Jeffs, A.G., 2023d. Bottlenecks and barriers: Patterns of abundance in early mussel life stages reveal a potential obstacle to reef recovery. Aquat Conserv. https://doi.org/10.1002/aqc.3979

Paul, L. J. 2012. A History of the Firth of Thames Dredge Fishery for Mussels: Use and Abuse of a Coastal Resource. New Zealand Aquatic Environment and Biodiversity Report No. 94. Wellington, NZ.

Fisheries New Zealand
Tini a Tangaroa

Submission Form

Review of sustainability measures for 1 October 2023

Once you have completed this form

Email to: FMsubmissions@mpi.govt.nz

While we prefer email, you can also post your submission to:

2023 Sustainability Review, Fisheries Management, Fisheries New Zealand, PO Box 2526, Wellington 6140, New Zealand.

Submissions must be received no later than 5pm on Monday 17 July 2023.

Anyone may make a submission, either as an individual or on behalf of an organisation. Please ensure all sections of this form are completed. You may either use this form or prepare your own. If preparing your own, please use the same headings as used in this form.

Submitter details

Name of submitter or contact person	Hone Te Rire
Organisation (if applicable)	Mai i Ngā Kuri a Wharei ki Tihirau Iwi Customary Fisheries Forum
Email address	9(2)(a)
Fishstock(s) this submission refers to	SUR1B
Your preferred option as detailed in the discussion paper (write 'other' if you do not agree with any of the options presented)	Option 3

Official Information Act 1982

Note that your submission is public information. Submissions may be the subject of requests for information under the *Official Information Act 1982* (**OIA**). The OIA specifies that information is to be made available to requesters unless there are sufficient grounds for withholding it, as set out in the OIA. Submitters may wish to indicate grounds for withholding specific information contained in their submission, such as the information is commercially sensitive or they wish personal information to be withheld. Any decision to withhold information requested under the OIA is reviewable by the Ombudsman.

Fisheries New Zealand
Tini a Tangaroa

Submission:[1]

Details supporting your views:

[1] Further information can be appended to your submission. If you are sending this submission electronically, we accept the following formats: Microsoft Word, Text, PDF, and JPG.

An increase of the Kina population is evidenced by the damage to marine reef ecosystems caused by the abundance of Kina species. The common term Kina Barrens is used to describe the evasive nature of the exploding Kina population.

Increasing the TAC, TACC, Customary and Recreational take of Kina would assist greatly in reducing the destruction of marine reefs and undeniably, the ecosystems.

The Forum would support a move to increase the catch of Kina.

Hone

Fisheries New Zealand
Tini a Tangaroa

Submission Form

Review of sustainability measures for 1 October 2023

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Email to: FMsubmissions@mpi.govt.nz

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Submitter details

Name of submitter or contact person	Christopher Clarke
Organisation (if applicable)	Te Mana o Ngati Rangitihi Trust
Email address	9(2)(a)
Fishstock(s) this submission refers to	SUR 1A & SUR 1B
Your preferred option as detailed in the discussion paper (write 'other' if you do not agree with any of the options presented)	

Official Information Act 1982

Note that your submission is public information. Submissions may be the subject of requests for information under the *Official Information Act 1982* (**OIA**). The OIA specifies that information is to be made available to requesters unless there are sufficient grounds for withholding it, as set out in the OIA. Submitters may wish to indicate grounds for withholding specific information contained in their submission, such as the information is commercially sensitive or they wish personal information to be withheld. Any decision to withhold information requested under the OIA is reviewable by the Ombudsman.

Fisheries New Zealand
Tini a Tangaroa

Submission:[1]

Details supporting your views:
Support option 1 SUR 1B

Please continue on a separate sheet if required.

[1] Further information can be appended to your submission. If you are sending this submission electronically, we accept the following formats: Microsoft Word, Text, PDF, and JPG.

Hauraki Gulf Forum
Tīkapa Moana
Te Moananui-ā-Toi

Fisheries New Zealand
by email: FMsubmissions@mpi.govt.nz

Review of sustainability measures for kina (SUR 1A & SUR 1B) for 2023/24

He waka kōtuia kāhore e tukutukua ngā mimira.
A canoe that is interlaced will not become separated at the bow. In unity there is strength.

17 July 2023

Tēnā koe,

The Hauraki Gulf Forum appreciates the invitation from Fisheries New Zealand to submit its views on this consultation on sustainability measures for kina in the SUR-1B area, which includes the Hauraki Gulf Marine Park.

Kina are a taonga species, endemic to our waters, and have a rightful and important place in our marine ecosystem. However, with an ecosystem like the Hauraki Gulf under pressure and out of balance, kina numbers have proliferated, and we have seen kina grazing down our remaining kelp forests and leaving behind kina barrens.

The Forum welcomes the well-rounded nature of this consultation document, including its recognition of the significant ecosystem impacts from kina barrens and the link between kina proliferation and a lack of predation from large kōura and tāmure. The Forum looks forward to being involved in the development of the forthcoming 'comprehensive set of measures' foreshadowed in the consultation document.

In the interim, given the impact of kina barrens and on the broader health of the Gulf, including for our kelp beds and rocky-reef habitat, **the Forum supports Option 3.** This would see increases in commercial and customary allowances for the take of kina. The Forum notes that this is all done by hand-gathering.

In addition, the Forum also calls for (i) an increase of the recreational bag limit for kina, from 50 to 100, (ii) utilisation of the whole kina (potential bioactives in the spines, kinacrete from the shells), and (iii) a stock assessment so that we have more full information to work with going forward.

Ngā mihi nui,

9(2)(a)

Nicola MacDonald
Co-Chair Tangata Whenua,
Hauraki Gulf Forum

Toby Adams
Co-Chair,
Hauraki Gulf Forum

KINA INDUSTRY COUNCIL

16th July 2023

To: Sustainability Review 2023, Fisheries New Zealand, Ministry for Primary Industries, PO Box 2526, Wellington 6140.

Submission on: Review of Sustainability Measures for Kina (SUR 1A, SUR 1B) for 2023/24

This is a submission on behalf of the **Kina Industry Council** (KIC) on the review of SUR 1A and SUR 1B.

The address for service for the submitter is Attn: Bill Chisholm, Chisholm Associates, 9(2)(a) Phone (027) 2214739. Email bill@chisholm.co.nz

KIC has carefully read the Consultation Document (Fisheries New Zealand Discussion Paper No: 2023/05 – referred to in this submission as the "Consultation Document"). KIC has also canvassed the views of its members, including ACE fishers, Licensed Fish Receivers and scientific advisors.

KIC submits that Option 3 is the best for the ongoing sustainable management of kina stocks in SUR 1A and SUR 1B. Option 3 allows for the most effective management of kina barrens. Furthermore, in specified areas, the Special Permit provisions should be used to enhance Option 3. This would occur upon agreement between all SUR 1A&B harvesting sectors (i.e. customary, commercial and recreational) and associated stakeholders, via the Special Permit provisions and also a Commercial Harvest Strategy (attached to this submission).

Reasons for KIC preferring Option 3 are outlined below.

1. The present Kina quota was set artificially low.

The commercial Kina fishery in SUR 1A & 1B started in 1992. Kina were introduced into the Quota Management System (QMS) in 2003. Initial catch limits were set cautiously, below the maximum historical recorded catches. This under-allocation has continued for too long, ostensibly because of a lack of evidence to support a sustainable quota increase. The Consultation Document is correct in its assertion that sufficient information is now available to inform a sustainable TAC increase.

2. Minister of Fisheries instruction.

Following his decision on the CRA1 sustainability round, the Minister of Fisheries released a letter informing the reasons for his decision. This letter (dated March 30 2023) discusses the adverse effects of kina barrens on marine ecosystems and provides instruction on their management. The Minister's letter states:
"*However, I note that reductions to the TAC, TACC, and the allowance for recreational*

fishing alone, are unlikely to be enough to address the issue of kina barrens. Therefore, I have directed Fisheries New Zealand to provide me with additional advice by July 2023 on addressing kina barrens within CRA 1, including consideration of further measures such as a maximum legal size for rock lobster, splitting the Quota Management Area, spatial restrictions ***and targeted culling of kina***.

The most workable Option for the targeted culling of kina is through targeted harvest via an enhanced Option 3. Option 3 (as proposed by the Consultation Document) will provide a degree of economic surety for commercial kina harvesters to upgrade their personnel, equipment, processing and kina markets to allow for increased targeting of kina. However, there is no information providing certainty that Option 3, on its own, will provide a sufficient level of harvest to make any difference to kina barrens, or their adverse effects on marine biodiversity and ecosystems. In addition, commercial harvesters may find themselves in the unenviable position of having to favour one coastal/marine area over another for grooming, because they lack sufficient ACE to meet the expectations of the public.

Consequently, there needs to be an ability for the Crown to issue extra ACE by Special Permit in areas where targeted culling of kina is requested by all harvesters (i.e. commercial, recreational and customary). Such requests would need to include formal plans for catch recording and monitoring ecosystem recovery. This can be managed further, through the attached Commercial Harvest Strategy for kina. This Strategy provides for gathering the necessary information through the Special Permit system, to further refine TAC settings in SUR1A & 1B, and add to our knowledge of managing kina barrens over the long term.

3. Commercial harvest is the principal method for sustainably managing kina barrens.

The Consultation Document (Section 10 and 11) states:

It is important to note that the proposed increases to catch limits are not intended as a measure to use in isolation to address kina barrens. A comprehensive set of measures will be developed to address the ecosystem effects of fishing through future engagement over the next year.

Measures are likely to include management of critical predator stocks and the implementation of strategies such as spatial management and localised removal initiatives (including the potential for targeted harvesting operations and/or translocation). An integrated management approach will be developed in close collaboration with tangata whenua and other stakeholder groups, including commercial kina fishers.

Management of critical predator stocks will require considerable amounts of time and money before any decisions can be made. There is no certainty that management of predator stocks will succeed in overcoming the problem of kina barrens. "Localised removal initiatives" precisely describe how the issuing of Special Permits can enhance Option 3.

It has been clearly demonstrated that kina barrens can be immediately managed by commercial divers through grooming a site. The kina quality in groomed areas quickly improves to the extent that the harvested kina are suitable for sale on domestic and international markets. Furthermore, the groomed areas are more favoured for customary and recreational harvest than the barrens. There is no competition between the sectors

(commercial, customary and recreational) in groomed areas, as all harvest contributes to the grooming process which keeps the kina quality high.

In short, kina quality is more important than kina quantity. The only barrier to this management-for-quality option has been the current low-set TACC. The Consultation Document (paragraph 11) mentions: *An integrated management approach will be developed in close collaboration with tangata whenua and other stakeholder groups, including commercial kina fishers.*

This is precisely what an enhanced Option 3 will deliver.

4. The interests of other harvesters (customary and recreational) is maintained

Commercial kina harvesters are working closely with customary harvesters in SUR 1A & 1B to ensure understanding of all harvesters' needs and concerns. This includes agreeing on required measures to restore marine ecosystems which have been adversely affected by kina barrens.

The Consultation Document mentions the National Workshop on kina barrens, held in March 2023. The Consultation Document (paragraph 32) states:

It was noted, by the workshop attendees, that while kina removal can support kelp regrowth of macroalgae, it does not address the underlying causes of elevated sea urchin populations and is not a long-term solution for ecosystem recovery.

At the Workshop, Mr Peter Herbert (commercial harvester) provided a presentation showing rapid ecosystem recovery after targeted harvesting, and described the harvest management regime required to maintain it. Some iwi and commercial fisheries representatives at the Workshop endorsed this approach, and suggested it be immediately implemented. An enhanced Option 3 will allow this approach to proceed forthwith.

Peter Herbert has liaised further with Regional iwi fisheries forums (responsible for SUR 1A & 1B). To date, he has found widespread support for the management of kina barrens through targeted harvest (commercial and/or customary). Processes and procedures for doing this need to be worked out in further detail, but nothing will be achieved until TAC settings allow for this.

KIC cannot directly comment on the preferred Options for customary and recreational fisheries, but supports the increased customary allowances described in Option 3, as this allows for additional grooming capacity in areas important to iwi. In some areas a significant amount of small-scale customary harvest is taken through the recreational allocation. KIC submits that the availability of good quality kina for these fishing sectors should be maintained and enhanced where possible.

95%+ of those who purchase commercial kina on NZ domestic markets are Maori or Pacifica. For this market, commercial fishers are providing a product that city-based whanau do not have easy access to. This demand continues to grow, as has an expectation of the highest quality kina roe which can only be produced from groomed areas. When kina are

harvested from ungroomed areas there are often customer complaints. This is because the colour of the kina roe is darker, and its quality is inferior.

5. Why not enhanced status quo, or enhanced Option 2?

It has been suggested that targeted management/culling of kina barrens through commercial harvest could be achieved through allowing for the enhancement option only (i.e. by issuing Special Permits in targeted areas by agreement amongst stakeholders). The problem with this scenario is that increased commercial harvesting requires significant investment in upgrading personnel, equipment, processing capacity and markets. Such logistic upgrades require a security of kina supply which is not provided through the status quo or Option 2.

Consequently, there is no advantage in providing for a targeted ACE allocation by Special Permit, unless the commercial infrastructure is available to achieve it. The greater the TAC increase, the better the capacity to manage kina barrens through targeted harvesting.

There are, however, sustainability considerations with any TAC increase. KIC agrees with the principle of taking a cautious approach to this. However. the present quota allocation is completely inadequate for commercial harvesters to arrest the spread of kina barrens, let alone improve them. The problem of kina barrens in SUR 1A & B is so vast that it is expected that further reviews of SUR 1A & 1B stocks will be necessary in the near future.

KIC agrees with the Consultation Document (paragraph 89) that no sustainability risk is anticipated because reported landings have remained consistent for the past 19 years and information from fishers, scientists, and other stakeholders (including through local area surveys) suggests kina abundance is high in many areas. KIC agrees (paragraph 90) that: *…should new information suggest that kina abundance has changed over time in a way that may signal a sustainability concern, the management settings will be reviewed*. However, given the nature and extent of kina barrens in SUR1A & 1B, sustainability concerns are expected to be unlikely.

A recent assessment of worldwide kina fisheries by James *et al* (2016) paid particular attention to the New Zealand kina fishery and compared its management to that in other countries. It found that the New Zealand kina fishery was among a number of well managed and sustainable sea urchin fisheries around the world. James *et al* (2016) concluded:

These tend to rely on a good overview of biology of the urchin species present in the area as well as sound knowledge of the dynamics of the sea urchin populations. Comprehensive stock assessment and mapping also appears to be an integral part of successful fisheries management."

"Comprehensive stock assessment and mapping" of kina fisheries can now be achieved through the Electronic Reporting system. As discussed in the Consultation Document, CPUE trends can be matched with location mapping data to assess the progress of management-related objectives.

6. Proposed commercial harvest strategy.

To support Option 3 and the further issuing of Special Permits, KIC has developed a Commercial Harvest Strategy, which will directly address the management of kina barrens through targeted harvest. A copy of the Strategy is attached to this submission.

The strategy provides for collecting the necessary data which allows for effective management of the kina fishery, especially for more intensive kina management in the "groomed" areas. This is consistent with the data requirement outlined in the Consultation Document.

KIC agrees with the Consultation Document that the electronic catch reporting system now provides sufficient data to accurately assess the response of kina quality in "groomed" areas. This is because only high-quality kina are taken commercially, so any new areas fished commercially will show up as those which have responded positively to "grooming".

7. Summary

Targeted commercial harvest will quickly arrest and reverse the growth of kina barrens at no cost to the taxpayer, while providing valuable data for future management. KIC submits that Option 3 be implemented, with additional ACE to be issued to commercial and/or customary harvesters by Special Permit in specific areas requiring grooming; after agreement amongst stakeholders and in accordance with the proposed Commercial Harvest Strategy (attached to this submission).

KIC submits that Option 3 is necessary to provide for the Minister of Fisheries' request for the targeted culling of kina barrens. Commercial harvest is the only system of targeted culling (= "grooming") which is currently in place. Provision for grooming by other harvest sectors, especially customary, could also be developed. It has been demonstrated that grooming can achieve rapid improvement in ecosystem recovery. Grooming to the level provided by Option 3 will be sustainable, as there are vast areas of kina barrens in SUR 1A &1 B which cannot be arrested under current TACC settings. Further TAC/TACC increases may be needed.

While a precautionary approach to TAC settings is supported, KIC submits that the proposed Commercial Harvest Strategy will immediately provide the necessary blueprint for marine ecosystem enhancement through management of kina barrens via targeted harvest. Further delays on this issue are not warranted.

Yours faithfully

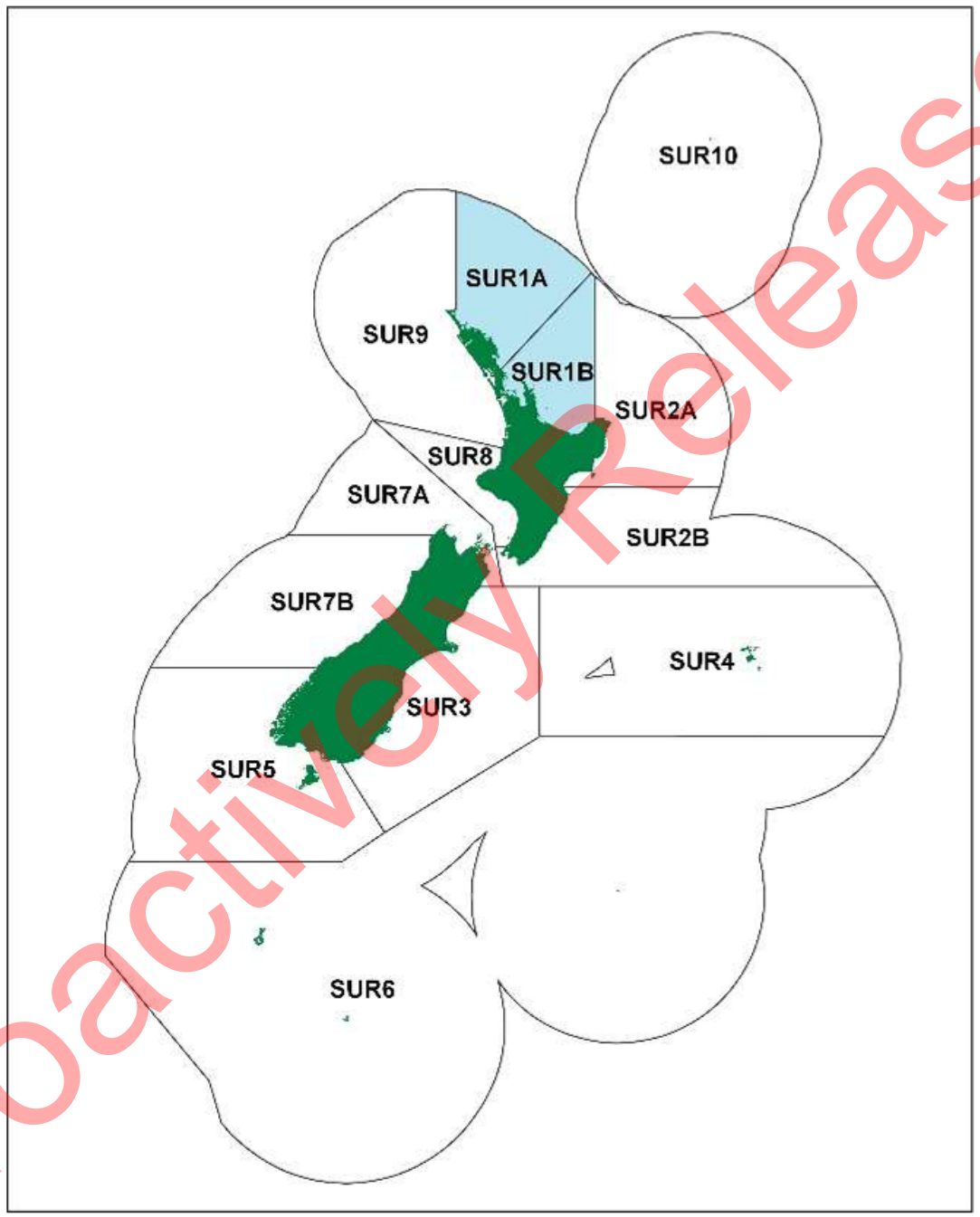
9(2)(a)

Bill Chisholm

For: KINA INDUSTRY COUNCIL.

Commercial harvest strategy for the kina fisheries SUR 1A and SUR 1B

27 June 2022



Contents

Part One: Introduction

Context

Kina (the urchin species *Evechinus chloroticus*) is highly valued by customary, commercial and recreational fishers. For many iwi, kina is a taonga species.

In the north east of the North Island, the commercial kina fishery comprises SUR 1A (east Northland) and SUR 1B (Hauraki Gulf and Bay of Plenty). Commercial harvesting is undertaken by free divers using hand gathering, thereby avoiding any non-target bycatch or interactions with protected species. North Island kina stocks were introduced into the Quota Management System (QMS) in 2003 and catch limits and allowances for SUR 1A and SUR 1B have remained at the levels set at that time. Kina have recently been observed to be abundant in many areas and there is potential for additional commercial utilisation. In order to ensure sustainability of the stocks and the wider marine ecosystem, and to provide for customary fishing rights and the interests of recreational fishers, the following key issues need to be addressed:

- Kina is a low knowledge stock and there has historically been insufficient information to determine stock status or trends in abundance;
- Kina is a sedentary, spatially variable species and a fine-scale spatial approach to management is therefore critical to provide for the interests of all users and avoid local depletion; and
- Kina play an important role in marine ecosystems and, in some areas of SUR 1A and SUR 1B, high densities of kina contribute to preventing the recolonisation of seaweeds, altering marine biodiversity and ecosystem structure in ways that are complex and not well understood.

The SUR 1A and SUR 1B industry has prepared this commercial harvest strategy in order to effectively implement the industry's contribution to addressing the kina management challenges identified above, and to integrate industry initiatives with wider marine management initiatives. The commercial harvest strategy may, in time, be put forward for approval by the Minister for Oceans and Fisheries as a fisheries plan under section 11A of the Fisheries Act 1996.

Scope

The commercial harvest strategy is being developed by kina industry representatives on behalf of all SUR 1A and SUR 1B quota owners, ACE holders and harvesters.

The strategy sets out actions that will be undertaken primarily by the fishing industry – that is, quota owners, ACE holders and harvesters. These actions will be implemented by industry within government management settings – i.e., within the constraints of the TACCs and current regulatory settings.

The commercial harvest strategy complements and is intended to integrate with other management initiatives relevant to the SUR 1A and SUR 1B fisheries including:

- Iwi Forum Fisheries Plans and other expressions of iwi aspirations including mātaitai reserves;
- The fisheries management functions of Fisheries New Zealand (FNZ), including:
    - The Hauraki Gulf Fisheries Plan (in development);

- FNZ's kina management plan (in development); and
- The Hauraki Gulf Marine Park Act 2000.

Fine-scale management approach

The SUR 1A and SUR 1B commercial harvest strategy is based on fine-scale, timely, and adaptive management responses. This management approach is particularly well suited to kina fisheries because the sustainability and abundance of sedentary species such as kina depends primarily on local conditions and local fishing effort rather than on stock-wide factors. The harvest strategy utilises information provided by commercial operators to FNZ's electronic catch and location reporting regime to carefully manage commercial harvesting activity at a sub-QMA level.

Part Two: Objectives, Strategies and Actions

Objectives

Objective 1: Enhance the sustainability and utilisation of SUR 1A and SUR 1B.

Objective 2: Understand and recognise the role of kina within the wider marine ecosystem.

Objective 3: Enhance industry performance.

Strategies and Actions

Strategies for enhancing sustainability and utilisation

Strategy 1.1 Comprehensive data collection: Improve the comprehensiveness and accuracy of information on the SUR 1A and SUR 1B fisheries by implementing the following actions:

1.1.1 Use data provided by commercial harvesters to FNZ's electronic catch and location reporting regime to detect fine-scale changes in the fisheries and inform management responses.

1.1.2 Incorporate diver-provided information into decision-making, including in relation to the spatial distribution, density and condition of kina.

1.1.3 Make use of fishery independent data, where available, including information from existing dive surveys.

1.1.4 Encourage FNZ to collect accurate, comprehensive and timely information on recreational kina harvest.

Explanation: *Commercial harvest information is the primary source of information about kina stocks. The commercial harvest strategy will be informed by timely, fine-scale, verifiable commercial harvest information collected using FNZ's mandatory electronic catch and location reporting regime and supplemented by information provided by commercial divers and other sources (e.g., existing and new dive surveys). Sustainability and utilisation of the kina fisheries also requires good information about the catch of all fishing sectors.*

Strategy 1.2 Increased commercial harvest levels: Support staged increases to the TACs and TACCs for SUR 1A and SUR 1B, while providing for the interests of non-commercial fishers, by implementing the following actions:

1.2.1 Clarify the information and research requirements necessary to support increased commercial catch levels in the two fisheries.

1.2.2 Commission appropriate research for review by the FNZ Shellfish Working Group.

1.2.3 Recommend a staged series of TACC increases and associated management measures to the Minister for Oceans and Fisheries.

1.2.4 Undertake to utilise a portion of any TACC increase in areas with abundant but poorer quality kina so as to improve kina quality in subsequent years.

Explanation: *TACCs for SUR 1A and SUR 1B were set conservatively (i.e., below historical catch levels) when the stocks were introduced into the QMS and have not been adjusted since. Commercial catches and catch per unit effort (CPUE) have been stable and the TACCs have been fully caught since QMS introduction. Although no estimates of stock abundance relevant to management targets are available, harvesters have observed that kina are currently abundant in many areas of SUR 1A and SUR 1B. The industry therefore considers that there are considerable additional sustainable utilisation opportunities for both fisheries.*

The introduction of electronic reporting in 2019 provides an opportunity to review SUR 1A and SUR 1B TACs and TACCs in light of the fine-scale information on catch and location that is now available. The kina industry is also prepared to commission additional research – including fisher-independent surveys and stock assessments – to ensure that any programme of TACC increases is sustainable. Carefully staging a series of TACC increases will allow the impact of increased commercial utilisation on kina populations and other users to be assessed. The practice of 'grooming' kina beds by fishing new areas and them leaving them for several years before re-harvesting can increase kina roe quality and provide benefits for all fisheries users, but this practice is currently limited by low TACCs.

*Spatial controls on commercial harvesting will help ensure that any additional commercial harvest can take place without contributing to localised depletion (**strategy 1.3**) or impinging on the interests of non-commercial fishers (**strategy 1.4**).*

Strategy 1.3 Reduce the risk of serial depletion: Reduce the risk of serial depletion by spreading commercial fishing effort within SUR 1A and SUR 1B on a rotational basis, using the following actions:

1.3.1 Focus harvesting effort on areas with high roe content.

1.3.2 Leave areas unfished for at least 12 months after harvesting.

1.3.3 Monitor harvested areas to ensure that kina numbers do not increase to excessive levels of abundance.

Explanation: *The management of commercial harvesting at a sub-QMA level can help spread fishing effort and catch and manage the risk of local depletion. Kina is currently abundant in SUR 1A and SUR 1B and the spread of commercial fishing effort is therefore guided primarily by targeting areas with high roe content on a seasonal basis. Harvested areas are left unfished for a period of time and progress is monitored before harvesting resumes.*

Strategy 1.4 Spatial separation: Minimise adverse effects of commercial harvesting on customary fishers and recreational fishers by the following actions:

1.4.1 Identify areas of particular significance for customary harvesting of kina in consultation with iwi and hapū representatives, note the identified areas within the commercial harvest strategy, and avoid commercial harvest within the identified areas.

1.4.2 Otherwise seek to reduce overlap between commercial harvesting activity and areas known to be utilised by non-commercial harvesters.

***Explanation**: There are a number of areas within SUR 1A and SUR 1B that are closed to commercial kina harvesting for customary fishing purposes, including mātaitai reserves and temporary closures under section 186A. However, customary harvesting also takes place outside these areas. The kina industry will avoid operating in areas of particular significance for customary harvesting, and will generally seek to reduce spatial overlap with areas known to be utilised by non-commercial fishers. Areas of particular significance to customary harvesting will be listed within this commercial harvest strategy as they are identified.*

Strategy 1.5 Timely in-season management responses: Ensure that the any issues associated with strategies 1.3 and 1.4 that arise within the fishing year are addressed in a timely manner by:

1.5.1 Specifying a contact person with responsibility for responding to any complaints about harvesters not complying with spatial measures in the commercial harvest strategy.

1.5.2 Using electronic reporting data and diver feedback to identify areas that should not be subject to further harvesting within a season, and informing commercial harvesters of the need to avoid those areas.

***Explanation**: These actions help ensure that if any issues associated with the implementation of the commercial harvest strategy arise during the season, they are able to be addressed in a timely and transparent manner.*

Strategies for recognising the role of kina in the ecosystem

Strategy 2.1 Reducing barrens habitat: Support kina management approaches that help restore healthy marine ecosystems by implementing the following actions:

2.1.1 Encourage and participate in appropriate research, including the managed harvesting of kina barrens under a special permit, to provide a better understanding of the relationship between kina abundance, kina harvesting strategies, other environmental factors, and the prevalence of 'barrens habitat'.

2.1.2 Where information is available, adopt commercial harvesting patterns that constrain or reduce areas of barrens habitat.

***Explanation**: Barrens habitat (sometimes referred to as kina barrens) can be found in water depths of less than 12m, and is characterised by high densities of kina and reduced colonisation by seaweeds, resulting in different assemblages of seaweeds, invertebrates and fish life. The causes of barrens habitat are poorly understood. The kina industry can improve understanding of the role commercial harvesting could play in reducing the impact of barrens through an approved research programme undertaken using a special permit. Commercial harvesting can also help reduce the spread of barrens as it will enable more 'grooming' of edges of the barrens, improving quality of kina at the margins.*

Strategy 2.2 Habitat of particular significance for kina management: Protect areas that are particularly important for kina life cycles by:

2.2.1 Identifying and mapping kina habitats of particular significance for fisheries management (HPSFM) in this strategy as new information becomes available.

2.2.2 Working with relevant Iwi and community groups to ensure that important kina habitat is protected from adverse effects of fishing and non-fishing activities, including activities managed under the Resource Management Act 1991 (RMA) or equivalent legislation.

Explanation: *Fisheries Act section 9(c) requires decision makers to take account of the principle that HPSFM should be protected. At this time, no particular HPSFM for kina have been identified, although it is recognised that kina require dense aggregations for successful spawning. Other marine and terrestrial activities can have adverse effects on kina habitat – for example, urban runoff or the discharge of sediment from land disturbance.*

Strategies for enhancing industry performance

Strategy 3.1 Professional and responsible harvest crews: Improve the performance of harvest crews by requiring all harvesters to use best practices for:

a) Harvesting, handling and landing of kina;
b) Biosecurity;
c) Protecting the fishery from theft; and
d) Recreational take by commercial operators.

Explanation: *Good harvesting practice builds on existing industry practices, and is an essential component of effective management of kina fisheries.*

Strategy 3.2 Shared fishery responsibility: Engage with iwi, relevant community groups, and FNZ to promote the shared interests of iwi and all stakeholders in the responsible management of the SUR 1A and SUR 1B fisheries, including by the following actions:

3.2.1 Liaise with FNZ and Te Ohu Kaimoana to facilitate engagement between the kina industry and relevant iwi to address common management issues for the SUR 1A and SUR 1B fisheries.

3.2.2 Through FNZ, encourage the participation of mandated representatives of the recreational fishing sector in the management of kina fisheries.

3.2.3 Participate in multi-stakeholder fisheries management planning processes relevant to SUR 1A and SUR 1B.

Explanation: *The kina industry will work with other agencies to help inform Iwi and local communities of the commercial harvest strategy, to seek support for industry management measures, and to integrate the commercial harvest strategy with other fisheries management initiatives.*

Part Three: Monitoring and review

Monitoring

Copies of the commercial harvest strategy will be provided to:

- All SUR 1A and SUR 1B quota owners, ACE holders and harvesters;
- Through the Iwi Forums, all iwi within the SUR 1A and SUR 1B areas;
- Fisheries New Zealand;
- Through FNZ, all participants in the Hauraki Gulf Fisheries Plan process and/or FNZ kina plan process;
- Anyone else who requests a copy.

The kina industry will monitor the implementation of the commercial harvest strategy using:

- Electronic catch and location reporting data;
- Information provided by commercial harvesters; and
- Feedback from FNZ and other fisheries stakeholders.

Review

The commercial harvest strategy will be adjusted and will continue to evolve in response to new information that becomes available.

PĀUA INDUSTRY COUNCIL

P.O Box 947, Pipitea, Wellington, 6011, New Zealand | www.paua.org.nz

Submission on the review of the sustainability measures for kina (SUR 1A & SUR 1B) for 2023/24

14 July, 2023

Introduction

1. Thank you for the opportunity to submit on the review of the sustainability measures for kina (SUR 1A & SUR 1B) for 2023/24. This submission provides the view of the Pāua Industry Council Ltd. (PIC).
2. PIC is a national level organisation that represents the interests of stakeholders in the commercial pāua fishery. PIC is mandated and directed by pāua quota share owners and harvesters to undertake work on their behalf for the betterment of the pāua fishery and to advance and protect their interests.

The status of the SUR 1A and SUR 1B fisheries

3. The TAC in SUR 1A and SUR 1B has remained unchanged for 20 years. Over this time the fishery has been fully utilised (annual catches have always been close to the TACC). The TAC was set at a precautionarily low levels lower than maximum historical catch records in these areas. The TAC was reviewed once in 2019 where no changes were made due to concerns over lack of fisheries information for appropriate management.
4. Kina abundance has been widely reported to have significantly increased throughout SUR 1A and 1B over the last 20 years.
5. Increases in kina abundance often present as high-density patches of kina (kina barrens) which have significant effects on local macroalgal communities and their associated ecosystems. Kina from kina barrens generally have a low gonad index (roe quality), making them less desirable for harvesting across all sectors.

6. Increasing the harvest of kina is a potential means of reducing kina barrens to improve local ecosystem diversity, improving gonad indices and enhancing the utilisation of the kina fishery for all sectors.

Proposal for increasing the TAC

7. PIC supports Option 3 for TAC increases for SUR 1A and SUR 1B.
8. PIC understands the need for a cautious approach to TAC increases for any fishery where there is low information or stock status is unknown. We submit that kina is a unique fisheries species where very high abundance has known and obvious deleterious impacts on wider associated ecosystems, which has potential implications for other fisheries species.
9. From the information provided in the Ministry's discussion paper and our conversations with researchers and commercial harvesters, we believe the levels of kina abundance in the areas can more than sustain the TACs proposed in Option 3.
10. The 2019 introduction of electronic reporting (ER) and geospatial positioning reporting (GPR) to allow for fine scale catch reporting for kina harvesting should serve to alleviate concerns for making no changes to the TAC in the 2019 review.
11. Increasing the TAC will allow for greater utilisation of the kina fishery, with potential benefits to other associated fisheries which is in keeping with an ecosystem-based approach to fisheries management. It will enhance the capacity of the commercial kina industry which will carry wider economic benefits for New Zealand. It will also allow for the growth of the wider 'commercial dive fishery' sector creating greater career opportunities for harvesters and new entrants.

Kina barrens and wider ecosystem considerations

12. A primary consideration in this review is the benefit of increasing the TAC to reduce the existence of kina barrens. PIC submits that increasing the TAC at the highest proposed level (Option 3) has the greatest likelihood of having a meaningful effect in reducing kina barrens. We understand that reducing kina abundance is only one part of the solution to reducing the effects of kina barrens, and that other management and enhancement initiatives must also be considered.
13. There has been extensive research to show that targeted removal of kina from barrens can have significant positive effects on local macroalgal abundances and associated species. We note that the vast majority of research on kina barrens and associated ecosystems has been undertaken by Auckland University at sites primarily within SUR 1B.
14. The macroalgae that are depleted with the formation of kina barrens are an important part of marine ecosystems that support key fisheries species, including pāua. Pāua rely on macroalgae as a food source, predominantly when it is broken up as drift algae. Control of kina barrens with increased kina harvesting could therefore promote ecosystem approaches to fisheries management.

15. There is limited commercial pāua take from the areas of interest (PAU1 TACC is 1.93 t), however pāua are still widely distributed through the area and subject to high levels of recreational and customary harvest. These pāua populations could benefit from the ecosystem effects of kina barrens maintenance with potential increased food supply. Increasing kina harvest to control barrens may be relevant in other areas of high importance to the commercial paua fishery in the future (e.g., in Nelson/Marlborough - PAU7).
16. We understand that increased kina harvest cannot remove the effects of kina barrens in isolation, and that management of key kina predators (i.e., rock lobster and snapper) are also important considerations. However, we feel the role of snapper and rock lobster in maintaining these ecosystems is potentially overstated in the discussion paper, as kina are not the main dietary preference for rock lobster, and kina barrens are still prevalent in areas at the southern limit of the range of snapper where they are not abundant (e.g., in the Marlborough Sounds).
17. Kina barrens are associated with the deterioration of habitats that are important for other key fisheries species. Reducing kina barrens with increased kina harvest could therefore support the protection of habitats of particular significance for fisheries management (as per Section 9(c) of the Fisheries Act).

Tangata whenua

18. PIC recognises the importance of kina to customary fisheries. We also note that given the importance of kina to as a kai moana to Māori, a high proportion of the recreational harvest will be taken by tangata whenua. There is a risk that increasing the TAC could impact customary or recreational fishing areas.
19. We understand that most commercial kina harvest occurs in remote areas and offshore islands, however PIC would encourage arrangements or MOU to be developed with hapu and/or iwi to ensure that commercial kina harvest does not impact important customary fishing areas. We understand that conversations between commercial harvesters and tangata whenua to this effect have already taken place in some areas.
20. We also note that increasing the TACC would be of economic and social benefit to iwi as major quota owners in both SUR 1A and SUR 1B stocks.

Ongoing management of commercial kina fisheries

21. The Kina Industry Council has developed a Commercial Harvest Strategy (the Strategy). The Strategy outlines means for ensuring sustainability and increasing utilisation of commercial kina stocks, with consideration for the role of kina in wider fisheries ecosystems. In particular, the Strategy details the importance of accurate fine scale data collection, rotational harvest to reduce the risk of serial depletion and to increase roe quality, and spatial separation to mitigate effects on customary and recreational kina fisheries.

22. Current ER/GPR reporting systems will help enable the implementation of these initiatives, for example catch caps to facilitate rotational harvesting, and ensuring commercial harvesting occurs only in agreed areas away from those of high customary importance.
23. The Strategy has the potential to be formalised as a Fisheries Plan for SUR under s11A of the Fisheries Act. This would help entrench management strategies addressing sustainability, utilisation and wider ecosystem benefits of well managed kina harvesting.
24. There is the potential risk that increasing the TAC to the level prescribed in Option 3 may be too high and unsustainable (despite the lack of information to currently ascertain levels of estimated biomass). PIC submits that a catch per unit effort (CPUE) based harvest control could be developed to control the levels of kina TACC and safeguard any sustainability concerns.
25. PIC supports the coordination commercial harvest with research organisations to increase our understanding around the control of kina barrens and associated ecological impacts. Additional harvest of this nature should be undertaken under special permit, rather than being part of the TACC.
26. PIC supports the ongoing investigation into the utility of enhancement tools such as translocation to control kina barrens and enhance gonad indices prior to harvest. It could be considered whether this could be undertaken as an 'approved purpose' under Section 97(1)(c) as has recently been approved in pāua fisheries.

Conclusion

27. PIC submits that the TAC should be increased as per Option 3 given the relatively low and fully utilised TACC for the last 20 years and the widespread agreement that kina abundance in the regions has increased significantly in this time. We agree with the need for caution with increasing the TAC with low information fisheries, but emphasise that kina is a unique species where increased abundance manifesting in kina barrens has serious deleterious wider ecosystem effects impacting other fisheries.
28. The primary benefits of increasing the TAC under Option 3 are:
    a. The potential to use targeted rotational harvesting to control kina barrens, increase localised macroalgal abundance, and enhance fisheries supporting ecosystems.
    b. Increased utilisation of the kina fishery promoting economic and social benefits nationally and in communities where harvest and processing occurs as well as enhanced career opportunities in the commercial dive fishery sector.
29. We perceive there to be two primary risks with increasing the TAC at these levels, but believe these can be mitigated:

a. The risk of impacting areas of high importance to customary and recreational kina harvesting can be mitigated through consultation with hapu/iwi and development of MOU on what areas should be avoided for commercial harvest. This can be monitored with ER/GPR reporting systems.
b. There is a potential risk that the increased TAC may lead to reduction of stocks below sustainable levels. This could be mitigated with the development of a harvest control rule that would adjust the TACC based on catch rates or if there were sustainability concerns from stakeholders.

Thank you for considering our submission.

Yours sincerely,

9(2)(a)

Dr. Tom McCowan
Science Officer
Pāua Industry Council Ltd.
9(2)(a)

NZ ROCK LOBSTER INDUSTRY COUNCIL LTD

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13 July 2022

Review of sustainability measures for kina (SUR 1A & 1B) for 2023/24

1. This submission provides the view of the NZ Rock Lobster Industry Council Ltd (NZ RLIC). NZ RLIC is an umbrella organisation for nine regional organisations known as CRAMACs, which operate in each of the rock lobster (CRA) management areas of New Zealand. CRAMACs represent the interests of CRA quota owners, processors, exporters, vessel operators and fishermen (quota share owner-operators and Annual Catch Entitlement (ACE) owners) in each of the nine QMAs that make up New Zealand fisheries waters. The rock lobster sector deploys 220 vessels, has over 430 quota share owners, and employs over 1,800 FTEs (many in regional and coastal localities).

Catch limit increases

2. The Ministry Discussion Paper provides information to support the review of catch limits for kina and acknowledges that addressing concerns about over abundance of urchins is likely to require a combination of interventions. Increasing utilisation of kina in areas where there is abundant biomass is an obvious and appropriate response.

3. The TACCs in SUR 1A and SUR 1B are unchanged since they were set 20 years ago. SUR 1A and SUR 1B are usually fully utilised annually (catch is close to the TACC) and the TACCs have only been reviewed once in that period (2019) with no change made.

4. There is no formal stock assessment and biomass estimates are not available for kina. However, information from commercial operators suggests high abundance in many areas and an inability to constrain urchin populations even in areas harvested. This has led to excessive urchin concentrations and a reduction in urchin gonad quality. This information on abundance also comes from scientists from academic institutions working on the north east of the North Island. The Ministry Discussion Document references research from some particular locations.

5. We support the Ministry's conclusion that overall kina biomass for both SUR 1A and SUR 1B has increased in recent decades and the current catch settings are very conservative. Overall kina biomass in these two areas is very high compared to the proposed total allowable catch settings. Commercial fishers report that they find it increasingly difficult to find areas where kina abundance is not excessive, and there find areas where kina roe quality is good. Commercial fishing by rotating areas fished to constrain urchin abundance

can allow for levels of algal abundance and growth which maintains a suitable environment for good yields from urchins and maintains the quality of the benthic environment.

6. Consideration of these moderate increases in the TACCs, and the security of access they provide, will support the investment the kina diving industry needs to make in infrastructure to upgrade equipment and processing capacity, obtain and train personnel, and improve commercial markets.

7. For these reasons and the considerations outlined below we support Option 3 for TAC increases. These proposed TAC increases are moderate given the information available on abundance and their effect on biomass can be monitored. We also support enabling additional commercial harvest as outlined below through directed fishing.

8. Research is needed including more information to support future adjustment of catch limits. Data collected, particularly through ER and GPR since 2019 can be used to assess stocks (monitoring of fine scale CPUE) and spatially manage harvesting. This fine scale management can be used to limit additional catch to areas of high/excessive abundance (directed fishing) and to catch spreading to avoid localised depletion.

Tangata whenua

9. Commercial fishers report that they avoid harvesting in area of SUR 1A and 1B QMAs known to be of importance to for customary or recreational fishing. Most commercial fishing occurs at offshore islands and isolated coastal areas. The commercial kina industry has informal arrangements, and has assembled knowledge of are important to customary fishing, which are avoided. This engagement with Maori is also facilitated because a considerable proportion of the ACE in these areas originates from Maori entities and they are able to communicate their preferences for areas where commercial diving should be avoided.

10. Tangata whenua in the region also support a planned approach to utilising kina. Efforts need to be made to involve them appropriately in developing options. There is a pressing need to review the kina catch limits, and it is important to provide tangata whenua with the available information to support their engagement in those discussions. Involvement of Maori and recognition of their interests needs to include both the non-commercial customary perspective and the commercial interests that Maori have as a major quota owner in both the SUR 1A and 1B stocks.

Environmental considerations

11. There is a question as to the extent to which increasing commercial harvest will address issues of kina over abundance in areas of "urchin barrens". There is evidence that regular rotational harvest of an area to remove a proportion of the urchins can prevent the development of barrens[1]. Although the overall effect cannot be quantified, increased harvesting of kina will reduce algal grazing and increase macroalgae, with consequent benefits for invertebrates and teleosts on rocky reef systems and their biodiversity. The proposed TAC increases can only assist in addressing concerns about the emergence and prevalence of urchin barrens.

[1] Recent high court proceedings; NZRLIC & ANOR v MINISTER OF FISHERIES & ORS; CIV – 2020-485-320

12. In the introductory section, the Ministry Discussion paper suggests urchin barrens are "an ecosystem consequence of fishing". This is inconsistent with other parts of the paper which explain the other factors which influence the abundance and distribution of urchins (wave exposure, temperature, sedimentation and other terrestrial runoff, recruitment, disease, toxic microalgae etc). Some other statements in the paper somewhat overstate and simplify the science available on the role of predators including snapper and rock lobster, and particularly large predators, on the prevalence of urchin barrens.

Planned kina management

13. The Ministry has signalled in the draft Hauraki Gulf Management Plan the need for specific focus on improved management of kina. Following the deferral of any management changes in 2019, the Minister instructed the Ministry to develop a management plan that would support the review of catch limits for the stocks. The need for that plan is pressing. Research on kina populations to improve the understanding of their spatial distribution, density and condition is key to informing management considerations. The fine scale information that has been collected is important to inform management to address the environmental impacts of urchin barrens.

14. This research and management should explore and implement other steps that could be taken to address excessive aggregations of kina. There are a range of other measures can be considered to achieve this.

15. *Localised removal initiatives*; There have been substantial efforts to address increasing populations of urchin on the Australian east coast[2] where there has been concern about barrens and their threat to native biodiversity for nearly 20 years. The most direct and comprehensive methods of control in Australia have employed direct removal or culling by commercial divers. Divers have been used to reduce the density at urchin barren sites in Tasmania, New South Wales and Victoria. In more accessible areas with higher catch rates, commercial harvesting has proven to be an effective control option.

16. A recent review in New Zealand[3] of 79 sea urchin removal projects worldwide concluded that culling was often the most practical method of removal of excessive urchins. Urchin removal led to an increase in macroalgae in 70% of studies and a further 21% showed partial increases. Restoration effectiveness is increased by essentially removing all urchins from the affected area. NZ RLIC supports further discussion of this approach and how it is authorised.

17. *Targeted harvesting*; NZ RLIC supports in principal the consideration of authorising commercial harvesting beyond the new TACCs in areas that target over-abundance of kina (directed fishing). Although areas of high kina density tend to have low gonad quality, this varies seasonally and at some times of the year these areas may provide viable commercial returns. Technology (GPS) and electronic reporting can be used to monitor and control such harvesting operations and they potentially provide a mechanism to address excess kina abundance at low cost compared to funding removal. The areas authorised can be located to address any tangata whenua concerns about adversely affecting customary take. They could potentially be organised to improve the quality of kina in important customary

[2] https://www.frdc.com.au/fish-vol-28-2/multi-pronged-strategy-targets-invasive-urchins; 2020

[3] Sea urchin removal as a tool for macroalgal restoration; Miller et al 2022

locations. Commercial operators report that I their discussions iwi have been supportive of proposals for targeted harvesting to improve kina stocks in their areas.

18. To support targeted harvesting, the Kina Industry Council has developed a Commercial Harvest Strategy, which provides a comprehensive approach to managing harvest, collecting information and engaged customary and recreational stakeholders.

19. *Translocation:* The Ministry Discussion Paper notes that trials suggest moving urchins to areas with suitable food supply can increase the gonad quality at both the receiver and donor sites. This approach could be used in combination with the targeted removal and harvesting options outlined above.

20. *Increase abundance and size of predators*. The Ministry has suggested that increased predation from snapper and rock lobster would reduce urchin abundance and they have suggested consideration of a maximum legal size for lobsters. The Ministry advice tends to overstate the role of larger spiny rock lobsters in preying upon kina suggested by available research, and the potential for lobsters to reduce the prevalence of barrens. Research suggests lobsters are scarce in barrens habitat, that lobsters substantially prefer other prey and urchins constitute a small proportion of diet, and there are questions about which predators of kina are most important. Information supporting a hypothesised trophic cascade with the diminution of top down predator control of kina is currently limited to two marine reserves on the north east coast. The rock lobster industry is however interested to discuss the potential benefits of a maximum legal size for kina predators. This needs to consider the costs and benefits and carefully assess the likely outcome of the measures.

21. *Scuba*; The harvest of sea urchins is currently limited to free diving. Consideration should be given to authorising the use of scuba to allow more efficient harvest. Discussion of this shift would need to address risks of localised depletion, and should consider how to distribute distribute catch and effort. The careful fine scale management of paua in some areas shows that this can be undertaken successfully. These discussions would need to involve Iwi in a particular locality so that their interests can be taken into account. Scuba may be particularly important to complement efforts to reduce the prevalence of barrens discussed above.

Conclusion

22. All of the measures outlined above should be considered for their role in reducing the prevalence of kina barrens. However, the subject of this review is the increase in catch limits for SUR 1A and SUR 1B. For the reason outlined in this paper, NZ RLIC supports the TAC increases set out in Option 3. The increases represent a very low sustainability risk given information available from commercial fishing operations, scientists and other stakeholders about high kina abundance across these areas.

23. In additional we support the consideration of authorising directed commercial diving in addition to the new TACCs, where that fishing is directed at locations with excessive kina abundance. We also support active consideration of other measures that would likely assist in mitigating the potential for increased prevalence of barens, particularly authorising localised removal initiatives on barrens themselves.

Thank you for considering this submission.

Yours sincerely

9(2)(a)

Mark Edwards
Chief Executive Officer
New Zealand Rock Lobster Industry Council

SPECIALTY & EMERGING FISHERIES

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Fisheries Management
Ministry for Primary Industries
P O Box 2526
Wellington 6011.

12th July 2023

Emailed to: FMsubmissions@mpi.govt.nz

Re: Sustainability Review 2023, Fisheries New Zealand, Ministry for Primary Industries, PO Box 2526, Wellington 6140.

Submission on: Review of sustainability measures for kina (SUR 1A & SUR 1B) for 2023/24. Fisheries NZ Discussion Paper No: 2023/05

This submission is made on behalf of the Specialty and Emerging Fisheries Group (S&EF). S&EF Group is a representative collective of commercial fishing associations operating mainly niche fisheries and markets and represents approximately $140 million in annual economic return. The contact person is Mr Bill Chisholm, email bill@chisholm.co.nz, phone (027) 2214739. Should a hearing be held on this issue, then the submitter would like to be heard.

S&EF Group supports the submissions from the Kina Industry Council (KIC), Peter Herbert and Cando Fishing Ltd, and agrees with all points made in their submissions. This submission should be read in conjunction with these other submissions, as we agree with all points made in them but do not in general wish to repeat all points raised.

In addition to representing all SUR stocks (via the Kina Industry Council), the Specialty & Emerging Fisheries Group represents a number of other inshore fisheries which are potentially affected by the increased development of kina barrens. These include:

- BCO4 – Chatham Islands blue cod habitat
- BCO5 – Southland blue cod habitat
- BUT5 – Southland butterfish habitat
- KBB3G and KBB4G – Giant kelp in the Chathams and Otago Coast

These fisheries are all at risk of being adversely affected by kina barrens. Accordingly, immediate management measures need to be put in place to arrest the spread of kina barrens, and repair the ecosystem damage done by them. This needs to be done in a staged and effective way, while ensuring sustainability of the SUR

resource. Consequently, S&EF Group supports OPTION 3, and endorses the KIC submission that this Option be enhanced through allowing for further ACE allocations via Special Permit, on a case-by-case basis (after agreement with other stakeholders).

In conclusion, S&EF Group supports sustainable fisheries and marine ecosystem management based on robust and transparent science. This is best achieved by Option 3 which will effectively manage kina barrens.

Yours faithfully

9(2)(a)

Bill Chisholm – Manager

SPECIALTY & EMERGING FISHERIES GROUP

Fisheries New Zealand, Ministry for Primary Industries,

PO Box 2526,

Wellington 6140

16th July 2023

Submission from Cando Fishing Ltd on: Review of Sustainability Measures for Kina (SUR 1A, SUR 1B) for 2023/24

The address for service is Attn: 9(2)(a) . Phone 9(2)(a) . Email 9(2)(a)

Cando Fishing Ltd (CFL) does kina harvesting, processing and marketing throughout the South Island, principally SUR5, SUR3 and SUR7A. Having read the Discussion Paper (Fisheries New Zealand Discussion Paper No: 2023/05), it is clear that the management of kina barrens is a nationwide problem, not just confined to SUR 1A and 1B. Our divers are increasingly coming across kina barrens in South Island waters, and finding that existing barrens have grown. This is particularly noticeable around D'Urville Island and other parts of SUR7A, but kina barrens are starting to appear in SUR3 off the Moeraki Coast. We have concerns about the Fiordland kina as well, because water temperatures there have increased a lot over the last 10 years and kina barrens seem to increase with water temperature.

The Minister of Fisheries has asked that more work is done on targeted culling of kina. CFL agrees with the conclusions from the Discussion Paper that kina barrens can be managed through increased commercial ACE being made available for "grooming". It is best that targeted culling (= "grooming") is done through managed harvest, because better catch/position records are gained through Electronic Reporting. Also, kina barrens are managed for free by commercial harvesters. There are more big advantages here because grooming kina barrens improves the quality of the end-product – the kina roe, so better market prices are gained. Also, the big arguments about who's responsible for kina barrens (climate change or predator removal) are reduced, because we will be able to manage barrens through commercial grooming.

Therefore, CFL submits that Option 3 is the best Option for the ongoing sustainable management of kina stocks in SUR 1A and SUR 1B. Furthermore, CFL endorses the conclusions in the Discussion Paper and suggests that they be extended to SUR7A, SUR3 and SUR 5 forthwith. CFL has 16 years of fine-scale harvest data recording for SUR5, so a sustainability review can be implemented ASAP, with a view to managing kina barrens if they become a problem. There is also a study proposed (with NIWA) to map the extent of the kina resource in SUR3, including the extent of kina barrens.

CFL attended the National Workshop on kina barrens, held in March 2023. At this workshop it became clear that the best way to manage kina barrens was through grooming. Herb Herbert gave a presentation on how this was done, and this was well-received by all participants at the Workshop. CFL is able to do the same type of grooming in the South Island, where necessary.

The Status quo Option is not recommended because the kina barren problem has only gotten worse under this regime. Option 2 is nowhere near enough for Herb to groom the kina barrens present in SUR 1A and 1B. Option 3 provides commercial harvesters enough of a guarantee, so they can upgrade their equipment, personnel and markets to get started on the kina barren problem. We need similar Options for SUR 3, SUR5 and SUR7A.

Therefore, in conclusion, CFL supports OPTION 3, and suggests it be implemented as soon as possible.

Yours faithfully

Campbell McManaway
For: CANDO FISHING LTD.

16th July 2023

Sustainability Review 2023,

Fisheries New Zealand,

PO Box 2526, Wellington 6140.

Submission on: Review of Sustainability Measures for Kina (SUR 1A, SUR 1B) for 2023/24

This is a submission by Peter Herbert (Herb), 9(2)(a) . 9(2)(a) , email 9(2)(a) on the above Review.

I have carefully read the Discussion Document - Discussion Paper No: 2023/05. I have also discussed the situation in SUR 1A and 1B with my colleagues, other fishers, local iwi and Iwi Fisheries Forums. I provided a presentation on kina barren "grooming" to the March 2023 National Workshop on Kina Barrens. This was well-received by commercial and customary kina harvesters alike, and acknowledged as parallel anecdotal knowledge with current science investigation.

I support Option 3 in its entirety, including the settings for customary, recreational and other allowances. I also support the proposal outlined in the Kina Industry Council (KIC) submission for an enhancement to Option 3 whereby additional kina ACE over and above Option 3, can be allocated to targeted areas, after agreement amongst stakeholders and in accordance with a Commercial Harvest Strategy for kina. This is consistent with the proposal in the Discussion Document (paragraph 11) which says - *An integrated management approach will be developed in close collaboration with tangata whenua and other stakeholder groups, including commercial kina fishers.*

The reasons why I support Option 3 are listed below:

1. Introduction.

As previously outlined in my submission on the 2019 sustainability round for SUR 1A & B, my family started the current industry from scratch in 1992. At that stage there was no kina processing up and running. My company is currently the only registered export premises with RMP audits in NZ concentrating on Kina. The pack house license ID is SUNZ2. The Export License Permit ID is SUNZ1. I have dived for kina in SUR 1A and 1B since 1992. A provisional catch history was allocated from the 1990 - 1991 catch years, before I started. When kina entered the QMS in 2004 the allocation was based on the previous years' catch history (i.e. 1994 -2003). That catch history was nearly 100 % based on my efforts over those years.

2. Allocation history

As per my 2019 submission, Graeme McGregor of the (then) Ministry of Fisheries (MFish) and I had extensive communication when the initial and final allocation papers were written in August 2003. I requested that, based on catch experience and catch history, SUR 1B be at least 180 tonne. He recommended 160 tonne, and for some reason 140 tonne was allocated.

Presumably this lower figure was arrived at arbitrarily as part of the "precautionary" policy mentioned in the Discussion Document. I also commented that SUR1A was an under-developed fishery, and should have a similar allocation to SUR 1B, because the available habitats and problems with kina barrens were the same. However, because there was no catch history, MFish decided to apply the mantra that: *'In the absence of any scientific information, the minister must err on the side of caution*'.

The 2023 Discussion Document now correctly concludes that the extent of the kina resource, and the kina barren problem, is so bad that TACC increases in SUR 1A &1B are warranted. I agree with the Discussion Document that this is evidenced by the consistent harvest every year at the maximum level. There has been no change in CPUE and it has almost certainly reached saturation-level. Electronic reporting data now demonstrates that local depletion in all harvested areas is not happening. Furthermore, there have been few (if any) complaints about local depletion of kina stocks in SUR 1A or 1B, while there are increasing problems with kina barrens and the quality of kina is declining in kina barren areas in SUR 1A and 1B.

3. Specific comments on SUR 1A

This fishery was vastly under-allocated in the first place. Both myself and Darryl Walker harvest around the Hen and Chicken Islands. We both have been astounded at the recovery of barrens in places like Boulder Bay, just east of Lady Alice Island. We have tried to rotate our harvesting efforts north of here to groom areas. 'Grooming' consists of harvesting, leaving for 3+ years and then re-harvesting.

I have achieved effective grooming in most parts of the Cavalli Islands. There is no doubt that the quality of Kina in this area has improved due to my efforts. The colour and yields have significantly improved. Now I am not venturing any further than the established 'grooming areas' because doing so uses up ACE which is in seriously short supply (thanks to MFish's "cautious approach").

In 2019 I mentioned concerns about barrens appearing in increasing numbers. e.g. Lion Rock north of the Bay of Islands, Pyramid Rock further north, and large parts of Doubtless Bay (Knuckle Point etc). These barrens are now larger than in 2019, and I cannot manage them because of the lack of ACE.

I submit that the SUR 1A fishery can easily support option 3 in a sustainable manner.

4. Specific comments on SUR 1B

This is my "home" fishing area. In SUR 1B, CPUE has flat-lined since 1998. This is entirely due to my fishing effort, as I am virtually the only commercial kina harvester working this area.

I had a catch target of 600kg/diver/day in 1994. This is the same in 2023. CPUE hasn't changed at all in the last 30 years. It has reached saturation. The Option 3 increase is warranted because of the problem with kina barrens, and the fact that CPUE has reached saturation, as outlined in the Discussion Document. Electronic reporting now allows us to look at CPUE on a fine-scale, so TACC's can be reviewed if there is any hint of a sustainability problem in a specific area. I am happy for another review if the CPUE drops or electronic position reporting indicates problems with local depletion. As outlined in the Discussion Document, fine scale catch-position data will significantly aid in the management of the kina resource, and kina barrens. Electronic catch-position reporting now provides the

fishery with much more accurate information in a more timely manner. Any CPUE trends can be addressed quickly, either via the proposed KIC Harvest Strategy, or through sustainability reviews.

5. Kina Barrens

I agree with the Discussion Document that one of the biggest problems with marine ecosystems in general, and the kina fishery in particular, is the increasing development of kina barrens. This is a natural phenomenon, but the precise cause/effect of expanding kina barren areas is not well known. The Discussion Document has adequately highlighted this problem, as a result of the CRA1 decision and the subsequent Ministerial directive to consider further measures on the targeted culling of kina.

To back up the problem described by the Discussion Document, there is documented evidence that kina barrens are a problem and are appearing more regularly. This evidence can be found at:

http://taputeranga.org.nz/the-marine-life/invertebrates/sea-urchins-kina/

https://www.facebook.com/NewZealandGeographic/photos/a.399647764099/10156533886454100/?type=3

https://www.nzherald.co.nz/front-page-top-stories/news/article.cfm?c_id=698&objectid=11372552

Management of kina barrens can be a difficult task. For example, see:

https://youtu.be/ybpHdLzWXqw

This video is at one of my 'groomed' sites. I tried to extend this groomed site but the site was too big and extensive to make this possible with the currently limited amount of ACE available. I can nibble away at some barrens each Nov – Jan, but the recovery of viable roe is only about 5%. This means that I have to take a hit on the ACE whenever the grooming of a new barren is attempted.

Kina quality in the groomed areas has unquestionably improved (see youtube video for evidence). The improved and more consistent quality of kina make selling into local and export markets easier. Note that these markets are principally to urban whanau in NZ and Australia. This "urban whanau" demand has grown, with the quality which can be produced from groomed areas being a selling point. When I harvest kina from virgin areas, I get complaints. Colour is dark and quality is inferior. Some refunds are required to keep customer satisfaction and confidence with SUNZ. These areas respond to "grooming" over the next 2 harvests.

6. Future management

I endorse the submission of the Kina Industry Council, which states that Option 3 is necessary, along with further enhancement options. I also endorse the future management of kina being done through a Commercial Harvest Strategy. Should local depletion become a problem, this can be quickly identified from electronic reporting data and quickly addressed through the Strategy, by doing ACE shelving or implementing a "dashboard system" (as well as TACC reviews), as outlined in the Strategy.

Data from electronic reporting, and further research on kina barrens, will allow for robust future management of this fishery for the benefit of everybody (Customary, Recreational and Commercial). Other management practices could be investigated to improve harvest-based kina barren management, through allowing such methods as UBA (underwater breathing apparatus), dashboard systems and formalized Fisheries Plans.

In conclusion I strongly support Option 3 as the best Option for kina barren management and sustainable utilization of the kina resource. This is consistent with commercial and customary harvesters' expectations, as well as the Minister's directive to look into targeted kina culling.

Yours faithfully

Herb (Peter) Herbert

From: Bill Chisholm
To: FMSubmissions
Cc: 9(2)(a)
Subject: Addendum to submission of Peter (Herb) Herbert
Date: Monday, 17 July 2023 11:09:15 am

To: Fisheries New Zealand, Ministry for Primary Industries, PO Box 2526, Wellington 6140
From: Bill Chisholm, on behalf of Peter (Herb) Herbert
Subject: Additional Submission on Review of Sustainability Measures for Kina (SUR 1A, SUR 1B) for 2023/24

Dear Sir/madam

This is an addition (in italics) to the submission lodged by Peter (Herb) Herbert by email on 16th July 2023. The address for service for this addition is: Attn: Peter Herbert (Herb), 9(2)(a) Ph 9(2)(a) or 9(2)(a), email 9(2)(a)

Currently, a Fisheries Assessment Report is being prepared for SUR1A and 1B (Neubauer & Tornquist in prep. - Characterisation of the New Zealand kina SUR 1A and SUR 1B fisheries from 1989-90 to 2020-21). This report provides detailed analyses of commercial catch rates, Catch per unit Effort (CPUE), destinations and landing returns in SUR 1A & 1B since 1990. The Report includes a more recent analysis of Electronic Reporting landing returns. This Report provides a strong baseline for the ongoing sustainable management of commercial harvest in SUR 1A & 1B through the Electronic Reporting system.

Yours faithfully

Bill Chisholm, Chisholm Associates,
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Ph (027) 2214739
Email bill@chisholm.co.nz
Website www.chisholm.co.nz

EnviroStrat
Impact Investment Project Development

Level 2, 152 Quay Street
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ENVIROSTRAT.CO.NZ

20 July 2023

Ministry for Primary Industries
Fisheries New Zealand
PO Box 2526, Wellington

Re: Review of sustainability measures for kina (SUR 1A & SUR 1B) for 2023/24

This submission is on behalf of Kinanomics NZ Ltd, an entity established to validate the viability of enhancing wild caught kina in land-based aquaculture systems, to produce quality roe suitable for export into East Asian markets. Kinanomics will utilise barren urchins, that currently have no commercial value and are a barrier for kelp forest regeneration.

The Kinanomics project was launched late last year and is led by natural resource sector project developer EnviroStrat, in collaboration with Ngati Porou Seafoods and international restorative aquaculture company Urchinomics. The Government is partnering with Kinanomics through the *Sustainable Food and Fibre Futures fund* administered by MPI.

Kinanomics supports the maximum proposed increase (Option 3) for both quota management areas (SUR 1A and 1B).

This support assumes this decision will be made in close consultation with Iwi and hapū, and there will be suitable provisions in place to maintain traditional customary harvesting areas (and any expansion of those under increased customary allocation) without the threat of commercial utilisation.

Justification for this position is described in the sections below.

Increased TAC

Data collected by the Ministry (i.e. CPUE data) suggests the kina fishery under the current management settings can absorb increased fishing effort. This is supported by commercial fisherman who harvest the majority of kina ACE (>90%) in SUR 1A and 1B (Sea Urchin New Zealand Ltd, SUNZ). We understand SUNZ harvest mostly on a rotational basis[1], revisiting collection areas often on a three yearly cycle. This cyclic 'grooming' approach increases food availability (kelp and algae) for the remaining kina, which in turn increases roe yield, and reduces the probability of the area transitioning to a barren.

We understand that in many cases, kina barrens are developing in areas adjacent to groomed areas, providing further anecdotal evidence the fishery can tolerate an increased catch allowance (and further opportunities for barren prevention).

[1] Areas routinely harvested by commercial fishing are maintained where there is no overlap with traditional collection areas of Māori.

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An increase in TAC will allow a proportional increase to the recognised economic, social and environmental benefits associated with expansion of the wild caught fishery. We support this.

Kina barren management

We recognise any increase in TACC isn't designed to resolve the barren issue, but could be considered as a preventative measure to mitigate the spread of barrens (as highlighted above). Barren kina (found in high densities in areas where kelp has been grazed down to bare rock) typically have a very low roe yield, and are not commercially viable to harvest. We note any increase in TACC does not provide an incentive for commercial fisherman to harvest existing barren kina, and contribute to kelp recovery.

The Kinanomics enhancement model provides an avenue to utilise those low value barren kina. It is designed to leverage a resource that is currently unutilised, to create commercial, environmental and social benefit through a new aquaculture industry.

We understand Fisheries NZ are developing advice for the Minister of Oceans and Fisheries on suitable ecosystem-based management approaches to address the barren issue, and targeted culling has been tabled as a potential option. Evidence supports the efficacy of kina removal for kelp restoration, although culling as a management tool is often considered to be culturally inappropriate (as kina are taonga), and dedicated culling campaigns are expensive to deliver. Kina extraction for roe enhancement purposes could be a powerful tool to rehabilitate barrens, and will deliver a new and innovative aquaculture industry (roe export) that aligns well with the Governments goal to grow the aquaculture sector to $3 billion in annual sales by 2035.

We strongly encourage Fisheries NZ to consider extraction and enhancement as a management option to support ecosystem recovery.

We seek a close and ongoing collaboration with Fisheries NZ to develop this opportunity. Kinanomics could be a vehicle to explore the efficacy of urchin removal as an ecosystem management tool, and it is our intention to work with Government representatives in the coming months to understand options under the regulatory pathway to obtain barren kina for enhancement purposes. We note these conversations would provide useful information that could inform your management advice to the Minister.

I look forward to engaging with the Fisheries NZ team in due course. If you would like any information on the Kinanomics project, please do not hesitate to get in touch.

Yours Sincerely
9(2)(a)

For Kinanomics NZ Ltd

Attention: FMsubmissions@mpi.govt.org

Submission on Review of sustainability measures for kina (SUR 1A & SUR 1B) for 2023/24

Feedback on review of sustainability measures for kina (SUR 1A & SUR 1B) for 23/24

In summary… What are the key points?

- **We support the status quo option for TAC because of the lack of stock assessment information on which to base an increase in TAC**
- **We object to a proposed increase in TAC being considered in part as a means of addressing or controlling expansion of kina barrens**
- **There are large assumptions being made on potential role of fishery in reducing barrens without any evidence to support**
- **We suggest an alternative approach to address kina barrens, as outlined below**

We support the status quo option for TAC until such time that a proper stock assessment or dedicated monitoring to estimate kina abundance/biomass has been conducted. Although we expect that a proper stock assessment/dedicated monitoring would confirm the abundance/biomass of kina across SUR 1A and 1B is high enough to support TAC increases, any decision made prior to collecting sufficient information sets a dangerous precedent. A reliance on fisheries catch data alone is inadequate to manage a fishery.

We object to the following language under "Why are we proposing a review?" (Paragraph 2 and 10):

> *Paragraph 10: "In recent years the emergence of kina barrens as an ecosystem consequence of fishing has gained considerable attention, and discussions regarding their management are currently underway. It is important to note that the proposed increases to catch limits are not intended as a measure to use in isolation to address kina barrens. A comprehensive set of measures will be developed to address the ecosystem effects of fishing through future engagement over the next year."*

This suggests that an increase in TAC is being used at least in part to manage kina barrens. Similarly, we feel as though the language used throughout is contradictory, in places stating an increase in TAC is not being proposed as a solution to kina barrens, but in others being suggested as a potential tool in addressing kina barrens or limiting their formation. We strongly disagree with an increase in TAC being considered a method to either address or prevent expansion of kina barrens, as stated several times:

> *Paragraph 89: "The proposed increases to the TAC of SUR 1A and SUR 1B provide for additional sustainable utilisation of the kina resource and may also contribute to managing the expansions of kina barrens in the short to medium term"*
>
> *Paragraph 127: The manner in which commercial harvesting takes place, such as grooming or rotational fishing of areas, is also not seen as a resolution to the issue of kina barren areas, but it could offer a mechanism that may assist in managing expansion in fished areas through the reduction of kina density.*
>
> *Paragraph 156: "FNZ notes, however, that while commercial harvest of kina may potentially contribute to reducing the expansion of barrens, this approach is not a solution for effective kina barren management. Further strategies and considerations are required to ensure the sustainable management and conservation of important coastal marine ecosystems."*

No evidence is provided to support any of the above statements. The reversal of kina barrens requires a significant decrease in kina densities to below 1 adult /m^2 (Shears & Babcock 2003). However, as stated in Paragraph 127 proposed increases to TACC is unlikely to result in any meaningful increase in commercial harvest within existing barrens. If commercial fishers are not targeting kina within existing barrens, increases in TAC are unlikely to have any tangible impact on existing areas of barrens. Suggesting that increased commercial effort will prevent kina barren expansion is purely speculative and ignores that context-dependencies regarding kina barren formation, i.e. they are not a ubiquitous feature across northeastern New Zealand (Shears et al., 2008). Simply removing kina from an area with existing algal forests does not mean that this area would have become a kina barren if it were not fished. Similarly, there is also no evidence that customary or recreational catch currently plays any significant role in managing kina barrens. Increasing the allowable catch for both sectors is unlikely to suddenly change this unless customary and recreational TAC allowances provide for targeted restoration activities.

Despite suggesting throughout the documentation that increases to TAC may contribute to the management of existing kina barrens, and prevention of further barren expansion, there do not appear to be any mechanisms (in place or proposed) to monitor these potential benefits. Catch data will not provide any information on environmental impacts.

The underlined language from paragraphs 128 and 159 which suggests harvest can improve the quality of remaining kina is unsupported by any evidence. In general, fishermen avoid harvesting from urchin barrens due to the generally low quality of roe within barrens and these may not be viable for harvest (Paragraph 37, James 2007, James et al., 2007, Worthington and Blount, 2003). While harvest or removal of a majority of kina from barrens can increase roe quality of remaining kina (James and Herbert 2009, Miller et al, unpublished data), this is unlikely to be true where kina are harvested from an area which already has kina with roe of good quality.

> *Paragraph 128: Moreover, it is possible these harvesting practices may enhance the potential utilization for other sectors by improving the quality of kina left between harvests through reduced competition. Therefore, while concerns exist regarding local depletion*

affecting Iwi and other sectors' local kina gathering areas, there may also be overlapping benefits. Should concerns arise regarding concentrated fishing efforts, particularly in areas of significance to other sectors, FNZ is prepared to engage with all parties and review management settings accordingly

Paragraph 159: This option also considers social, cultural, and economic benefit by providing for increased utilisation and it is likely that the increased harvest of kina in both SUR 1A and SUR 1B will increase the overall quality of kina in many areas within the QMAs.

We acknowledge that kina barrens are a common feature in northeastern New Zealand (particularly within SUR 1A and 1B), kina over-abundance has been demonstrated to cause "kina barrens" in areas with consequent ecological impacts. Kina barrens have been prevalent in parts of this region for many decades (Dartnall, 2022; Kerr & Grace, 2005; Lawrence, 2019; Shears & Babcock, 2004, 2007). However, the overall extent of barrens or abundance of kina are unknown and we again emphasize that this information is necessary, particularly if commercial fishing will predominantly occur outside of existing kina barrens, before any TAC changes can be considered.

In general, given the highly targeted nature of kina harvesting, **we do not believe that this fishery poses an undue risk to the aquatic environment and agree there may be a role for kina harvest for restoration benefits, however this is not adequately addressed in the proposed TAC increases**. While commercial harvest can be a part of restoration activities to meet restoration objectives, strategies need to include incentives to ensure sea urchins are harvested within barrens, and harvested to sufficiently low densities to meet restoration objectives. **We propose an alternative TAC increase below which considers both commercial harvest and restoration objectives.**

As an alternative to a general increase in TAC, **we strongly encourage the development of management strategies specifically to address kina barrens**. This could include harvest (or passive [i.e. marine protection and increase in sea urchin predators] or other active restoration methods) specifically from within kina barrens. We strongly recommend this be managed separately from an increase in TAC to ensure that restoration objectives are met (i.e. kina are removed from barrens and densities sufficiently reduced to allow for kelp restoration). For example, additional quota/permit for kina for "restoration" of a specific area could be developed, with applications open to commercial (e.g. new or existing fishermen,entrepreneurs), iwi, or community groups for a specific defined area of kina barren, which could provide for greater social, economic, and cultural well-being by being accessible to a wider net of people and support job creation. When sea urchins are of sufficient quality, or can be improved through roe enhancement, harvest should be encouraged. For example, in Tasmania, "take-all" harvest from barrens (Larby, 2020, 2021) or harvest in combination with culling (Lee et al., 2021) can ensure urchin densities are sufficiently reduced to allow kelp regrowth.

We also want to emphasize that even such **a targeted approach to kina barrens is only a temporary solution**. **Kina removal does not address the underlying cause of high kina densities and cannot restore a fully functioning kelp ecosystem on its own.** If kina harvest

and/or removal is considered as a tool for kelp forest restoration, it should be incorporated with other management measures to increase kelp forest resilience and biodiversity (e.g., marine protected areas, predator protection or enhancement). This will ensure that kelp restoration efforts have the greatest ecological, socio-economic and cultural outcomes in the long-term.

In addition, we would like to provide additional information for the following statements:

In paragraph 36, it appears to imply that kina barrens average 20 individuals/m^2. However, we believe it is worth clarifying that most barrens in this region have a much lower average density (e.g. 4-8/m^2 in Miller & Shears 2023).

In paragraph 48 (Recreational), the estimate of 161 g/kina is likely an underestimate, as this referred to an average weight of all kina in barrens, rather than those of harvestable size and maturity. 161 g would equate to a kina of ~72 mm test diameter (Miller, unpublished data).

9(2)(a)

Dr. Arie Spyksma

9(2)(a)

Dr. Paul Caiger

Celia Balemi

9(2)(a)

Kelsey Miller

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Feedback on review of sustainability measures for kina (SUR 1A & SUR 1B) for 2023/24

Stet Limited

Kina (*Evechinus Chloroticus*) are an endemic species and an integral part of rocky reef ecosystems in Aotearoa New Zealand. There is a social perception that they are a pest that causes Kina barrens. However it is humans that create barrens by removing Kina predators (mostly Tāmure / Snapper and Kōura / Crayfish[1]). Kina barrens are the symptom of a sick reef. Kina barrens are a Major socioecological concern. The proposed increase in the TAC for Kina is unlikely to reduce Kina barrens as:

[1] Babcock, R. C., Kelly, S., Shears, N. T., Walker, J. W., & Willis, T. J. (1999). Changes in community structure in atemperate mrine reserves. *Marine ecology progress series*, *189*, 125-134.

- Fishers avoid barrens, as the Kina are in poor condition
- Recovery of macroalgal beds requires reducing grazers to well below the initial threshold of overgrazing[2] In the Hauraki Gulf it's about 1 per square meter[3].
- Removing kina to this threshold requires massive effort (more than 50 scuba hours per hectare to cull and double that to collect[4])

However the increase in TAC will suppress the symptoms of overfishing on rocky reefs that are near the tipping point of becoming barrens. New markets for Kina (Kina ranching) mean the TAC is likely to be used. Fisheries New Zealand has no plan to restore damage caused by overfishing and is continuing to take an '*eating down the food chain'* approach to fisheries management. The agency has not quantified the scale of barrens it has created, the impact the barrens have on fisheries productivity or the cost to remedy them. We do not support the increase in TAC without proposals to reduce the TAC of key predators.

Proposed 'localised removal initiatives' are unlikely to provide a long-term solution to restore kelp forests and full ecosystem function on their own.[5]

Thank you for considering our recommendations.

Shaun Lee
Director
Stet Limited
shaun@stet.co.nz

[2] Ling SD et al. 2015 Global regime shift dynamics of catastrophic sea urchin overgrazing. Phil. Trans. R. Soc. B 370: 20130269. http://dx.doi.org/10.1098/rstb.2013.0269
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[4] Miller, Kelsey & Shears, Nick. (2022). The efficiency and effectiveness of different sea urchin removal methods for kelp forest restoration. Restoration Ecology. 31. 10.1111/rec.13754.
[5] Miller KI, Enemies Blain CO and Shears NT (2022) Sea Urchin Removal as a Tool for Macroalgal Restoration: A Review on Removing "the Spiny". Front. Mar. Sci. 9:831001. doi: 10.3389/fmars.2022.831001

Review of sustainability measures for kina (SUR 1A & SUR 1B) for 2023/24

I strongly favour a move to Option 3 and indeed I question whether Kina should even be a Quota species.

As documented the abundance of Kina barrens is a significant issue in many areas and harvesting of more Kina can only be beneficial for the environment. The commercial fishers have all been in the industry for a long period and they are effectively incentivized to ensure the long-term viability of kina in the areas that they harvest.

I believe that there will remain an abundant amount of kina available for Customary Catch under this change and indeed I am happy to also see a significant increase in this catch. Kina has always been a favourite seafood of Maori but it should be remembered that a majority of Maori consume Kina that is caught by Commercial Fisherman. The retail price of Kina Pots has increased over the last 10 years by more than any other seafood in New Zealand which now makes it unaffordable for many. I hope that an increase in the commercial catch will potentially lead to some relief in these price increases although the fact that the quota is so tightly held may mean this is not the case.

Regards

Andrew Spence

From: 9(2)(a)
To: FMSubmissions
Subject: Review of sustainability measures for October 2023
Date: Wednesday, 7 June 2023 7:30:07 pm

As a commercial diver, of 6 years, I have noticed more kina barrens around the SUR1a & SUR1b areas. This also has an impact on other reef fish. The kelp or seaweed that some species depend upon is disappearing. Alot of these reefs are in areas where it is impractical for recreational fishers to visit, such as Mokohinau Islands, Great Barrier Island and the Hen and Chickens Islands.

I strongly feel a cull of kina in these areas is absolutely necessary. I fully support an increase of around 25%. With periodic increases or decreases as is required to maintain a healthy ecosystem.

I would also support a step towards either surface assisted breathing or self contained underwater breathing apparatus being permitted for collection of SUR1a & SUR1b.

Don't hesitate to contact me if you have any questions or concerns.

Yours sincerely
Matt Caldwell
Ph 9(2)(a)

Chatham Islands Enterprise Trust
Group Of Companies

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Chatham Islands Electricity Limited
Chatham Islands Forestry Limited
Chatham Islands Ports Limited
Chatham Islands Management Limited
Chatham Islands Quota Holdings Limited
Chatham Islands Shipping Limited

2023 Sustainability Review, Fisheries Management,
Fisheries New Zealand,
PO Box 2526,
Wellington 6140.

5th July 2023

Emailed to:fmsubmissions@mpi.govt.nz

Submission on the Review of Sustainability Measures for Red Gurnard (GUR3) for 2023/24 Fisheries NZ Discussion Paper No: 2023/104

To Whom It May Concern,
The Chatham Islands Quota Holding Co (CIQH) is a significant quota owner in the waters adjacent to the Chatham Islands and hold 8.17% of the GUR3 quota shares. The revenue generated from this quota holding makes a significant contribution to the wellbeing of the entire island population, therefore maintaining healthy and abundant fish stocks is mission critical.

CIQH have no concerns over the health of the GUR3 fishery and believe the proposed increase presents no risk to the fish stock.

CIHQ wish to support Option 2; to have the TAC/TACC increased in GUR3.

Yours sincerely,

9(2)(a)

Greg Johansson
Director/Fisheries Asset Manager
Chatham Islands Quota Holding Ltd
9(2)(a)

17 July 2023

Mr. James Andrew
Manager Deepwater Fisheries
2023 Sustainability Review
Fisheries Management
Fisheries New Zealand
PO Box 2526
Wellington 6040

By email: 9(2)(a) FMsubmissions@mpi.govt.nz

Dear James,

REVIEW OF SUSTAINABILITY MEASURES FOR SILVER WAREHOU FOR 2023-24

(1) Background

1. Thank you for the opportunity to submit on FNZ's Review of Sustainability Measures for deepwater fisheries for 2022-23.
2. The Seafood New Zealand Deepwater Council (DWC) has a strong and unified mandate to represent our members, who collectively own some 63% of all commercial quota shares and 91% of the quota shares for all deepwater species, including quota in the fisheries for hake, hoki, jack mackerel, ling, orange roughy, oreos, scampi, southern blue whiting, and squid.
3. DWC's role is to enable deepwater quota owners to collaboratively realise their vision to be trusted as the best-managed deepwater fisheries in the world.
4. To give effect to this, DWC works in close alignment with Fisheries New Zealand (FNZ), the Department of Conservation, and others to enable New Zealand to obtain the maximum benefits from our deepwater fisheries resources, within a responsibly managed long-term sustainable framework.
5. This submission is provided on behalf of owners of silver warehou (SWA 3 and SWA 4) quota owners who are members of the Seafood New Zealand Deepwater Council (DWC). Collectively, members of DWC own 95% of the quota shares for each of SWA 3 and SWA 4.

Review of sustainability measures for silver warehou (SWA 3) for 2023-24

6. The FNZ Discussion Paper No: 2023/08 *Review of sustainability measures for silver warehou (SWA 3) for 2023/24*, outlined the following management proposals for SWA 3:
   - **Option 1**: (Status Quo) Retaining the current TACC at 3,610 tonnes.
   - **Option 2**: Increasing the TACC by 390 tonnes (10.8%) from 3,610 tonnes to 4,000 tonnes
7. Deepwater quota owners note that other than the proposition on page 13 of the Sustainability Review paper which indicates that [the proposed measures in option 2] "*represent a 4.8% increase to the combined SWA 3/4 TACs and a 10.8% increase to the SWA 3 TAC*" the proposed sustainability measures for silver warehou do not extend at all to SWA 4, notwithstanding that "*the best available information indicates that the abundance of silver warehou in SWA 3 (and SWA 4) appears to have remained at a high level for an extended period of time*."

(2) Quota Owners' Submissions: SWA 3 & SWA 4

Option 1: (Status Quo) Retaining the current TACC at 3,610 tonnes.

8. Owners of SWA 3 (& 4) quota **do not support this option**.
9. It is noted that the proposition for the management of SWA 3 in 2023-24 that is outlined on page 13 of the Sustainability Review paper at retaining the current TACC forgoes "*the utilisation opportunity that the best available information indicates is likely to exist for this stock*."
10. Quota owners agreed with the conclusion, as noted, that there is an opportunity to increase the utilisation of SWA 3; but also iterate that rather than an *opportunity* to increase the TACC, given current levels of biomass and catches, the review might be better characterised as a necessary increase to calibrate levels of bycatch in other fisheries and mitigate the effects of excess catches in the form of deemed values.

Option 2: Increasing the TACC by 390 tonnes (10%) from 3,610 tonnes to 4,000 tonnes.

11. Owners of SWA 3 (& 4) quota **support** this option (but it is **not the preferred option**).
12. Owners of SWA 3 (& 4) quota submit that a 10% increase is not sufficient to minimise its impact on other fisheries (e.g., hoki and squid), and mitigate the adverse effects these settings have on fishers who are liable for deemed values.
13. The proposed 10% or 390 tonnes increase (TACC of 4,000 tonnes) is still below the annual landings of 2020-21 (4,076 tonnes). Considering there is no sustainability concern with this stock and an indication that the biomass has markedly increased, it would be appropriate to consider a TACC which is above recent annual landings and to allow for modest headroom in the near future.
14. Quota owners' landings have exceeded the TACCs in SWA 3 in 2019-20, 2020-21 and 2021-22, even with the 10% increase to the TACC in 2020-21. Annual deemed value costs incurred by quota owners for this stock have been $327,000 and $386,000 for the past two years. An increase of 10% will alleviate some of this cost but if the upward trend in biomass is to continue, these costs will remain.
15. **DWC submits that FNZ amend Option 2 to better reflect the requirements of the fishery and increase TACC by an additional 5% to 15% (from 4,000 t to 4,152 t). This better meets the objective of maintaining the stock at or above target levels. In addition, it would alleviate unnecessary deemed value costs.**
16. DWC notes that even with an increase to the SWA 3 TACC of 542 tonnes (15%), it is very unlikely that fishing effort will be affected if a larger increase to the TACC as the majority of SWA is taken as bycatch in the Chatham Rise hoki and squid fisheries.
17. The catch and availability of SWA 4 ACE are constrained by the current limits as with SWA 3, with landings being within 90% of the TACC for a number of years. FNZ considering it a 'greater need' (we disagree) for an increase in SWA 3 is no reason to not propose an increase for SWA 4.
18. To these ends DWC proposes an additional Option 3 (below) which proposes an increase of 15% (instead of 10% as proposed by FNZ) for SWA 3, and additionally proposes an identical increase of 15% to the TACC for SWA 4 from 4,500 tonnes to 5,175 tonnes.

Seafood New Zealand
DEEPWATER COUNCIL

Option 3: (Alternative Option) Increasing the TACC by 15% in SWA 3 and SWA 4.

19. Owners of SWA 3 & SWA 4 quota **support** this option (and it is **the preferred option**).

20. DWC is disappointed that management options for SWA 3 and 4 were not specifically communicated with DWC before public consultation. A lack of communication has resulted in two QMAs that are intrinsically interdependent being managed differently.

21. Given consistent messaging from DWG (and DWC) over the years with respect to both SWA 3 and SWA 4, DWC is disappointed that this sustainability round excluded SWA 4 from the review. DWC strongly submits that it is artificial to manage one QMA differently from the other when it is known that these two "*stocks"* are highly interrelated.

22. In 2019, in response to funding excessive levels of deemed values, Deepwater Group (now the Deepwater Council) submitted that the Minister and FNZ review the TACCs for each of SWA 3 and SWA 4, as a matter of priority. The DWG submission proposed that based on the best available science and a consideration of the economics (i.e. the unnecessarily high-cost impost of deemed values), the TACCs for each of SWA 3 and SWA 4 should be increased from 1 October 2019 to the current catch levels by increasing each TACC between 10% and 20%.

23. In 2020, FNZ proposed an increase to both SWA 3 and SWA 4 TACCs of 10% for the 2020-21 year. DWG submitted that the increases in the TACCs for SWA 3 and SWA 4 should be 20%, not 10% as proposed by FNZ in Option 2. The submission noted that 10% was insufficient in light of the information from the characterisation of both stocks, information in FNZ's own scientific reports and the performance of these fisheries in recent years. DWG made this submission noting that:[1]

    "the best available information for the three silver warehou stocks within SWA 3 and SWA 4, the Deepwater Fisheries Assessment Working Group concluded that the abundance of silver warehou throughout both QMAs appears to have been increasing over much of the last 30 years."

24. **DWC strongly submits, as we have in previous years, both SWA 3 and SWA 4 requires an increase in the TACC to a level that provides the requisite headroom to avoid the constraining of other fisheries where SWA is a significant bycatch and to minimise the adverse effects of deemed values on fishers.**

Stock Assessments: SWA 3 and SWA 4

25. DWC continues to have major concerns with the SWA 3 & 4 stock assessment process. Since 2016, there have been major efforts and significant science costs ($200-300k) expended in three attempts at a stock assessment for SWA 3 and 4 with little value returned. The most recent assessment was supposed to look at a different approach for these stocks but again the assessment got stuck in the 'uncertainties' resulting in a failed assessment.

26. DWC will again request that FNZ holds a meeting to discuss other options to assess SWA 3 and 4. We believe what must be considered is an approach along the principles of management procedure evaluation, using trawl survey and age data as a foundation along with commercial catch data in a more "real time" annual setting, rather than conventional approaches which appear inappropriate for this species.

Stock Structure: SWA 3 and SWA 4

27. Notwithstanding the obvious interdependent relationship between SWA 3 and SWA 4, the stock structure for SWA 3 and 4 is not known. The Plenary acknowledges that:[2]

    "*It is uncertain whether the same stock migrates from one area to another, spawning whenever conditions are appropriate, or if there are several separate stocks. The current management areas bear little relation to known spawning areas and silver warehou distribution*."

[1] FNZ (2023) - Review of Sustainability Measures for Silver Warehou (SWA 3 and 4) for 2020/21 - FNZ Discussion Paper No: 2020/07; para 28 (page 8)

[2] FNZ (2023) - May 2023 Fisheries Assessment Plenary, (Part 3) p 1475

28. Following this, we note scientific assessment work (CPUE assessments, attempted stock assessments) have all proceeded on the basis that SWA 3 and SWA 4 are highly interrelated. Not only was the overall objective of this assessment research "*to develop an assessment of biomass in relation to management targets for silver warehou (Seriolella punctata) in SWA 3 and SWA 4*."[3]

29. What is more the Plenary report highlights the inability of the 2023 research to reject a single stock hypothesis (especially for SWA 3 and SWA 4:[4]

> "*An assessment of a stock including all of Chatham Rise and Southland (SWA 3 and SWA 4) was then attempted in 2023. The available catch and effort data, observer length and female maturity data, and age sample data could not reject a single stock hypothesis*."

30. The Plenary noted that the combined SWA 3 and SWA 4 stock hypothesis, itself, was an alternative to the previous Western Chatham Rise (WCHAT) / East Coast South Island (ECSI) stock assessment which was rejected by the working group.

31. Notwithstanding the lack of success of the stock assessments to provide a robust *assessment of biomass in relation to management targets*, The CPUE is indicative of an increasing biomass trend. See SWA 3 and 4 CPUE index plots.[5]

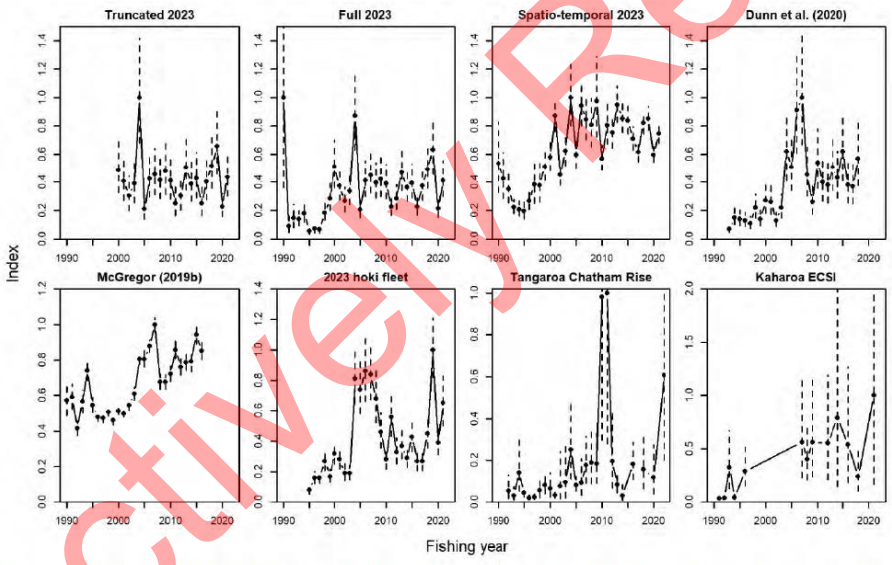


Figure 3: SWA 3 and SWA 4 CPUE indices. The 2023 indices are from Dunn & McGregor (in prep), and are the delta-lognormal CPUE index using observer data starting in 1999–2000 ('Truncated') or 1989–90 ('Full'); the spatio-temporal index using the same data; and a CPUE series using commercial data from selected hoki-target factory trawlers ('Hoki fleet'). Other indices are: Dunn et al (2020), a standardised CPUE series using commercial data to 2017–18 from west Chatham Rise; McGregor (2019b), a CPUE series derived from commercial data accepted and used in the 2018 (rejected) assessment; the *Tangaroa* Chatham Rise trawl survey core strata biomass index, and *Kaharoa* east coast South Island trawl survey series biomass index. Vertical broken lines indicate the 95% CI of the indices, but the y-axis does not extend to the upper CI of some trawl survey estimates.

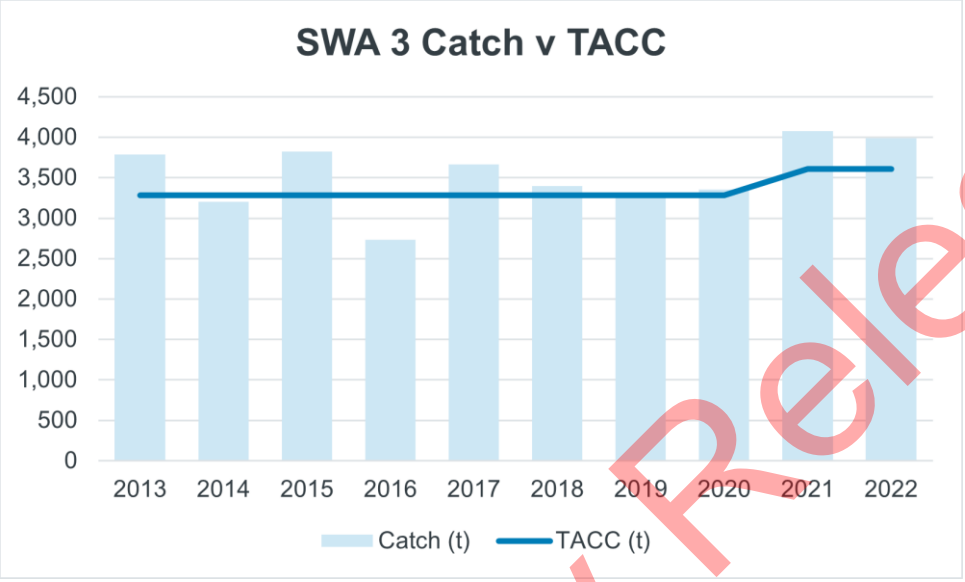
32. While CPUE estimates are unreliable, especially in terms of their ability to provide robust biomass estimates, they are indicative and can provide an indication of localised abundance. DWC notes that the CPUE series (above) for both SWA 3 and SWA 4 are indicative of increased abundance.

33. The Plenary also notes that the Chatham Rise and ECSI trawl surveys have shown a "*broad upward biomass trend*" (with "*a historical high in 2021*").[6] It is also noted that due to uncertainty brought about by "*the influence of large occasional catches of silver warehou, the Chatham Rise and ECSI trawl surveys*;" … "*they do corroborate the general biomass increase seen in the CPUE series*."

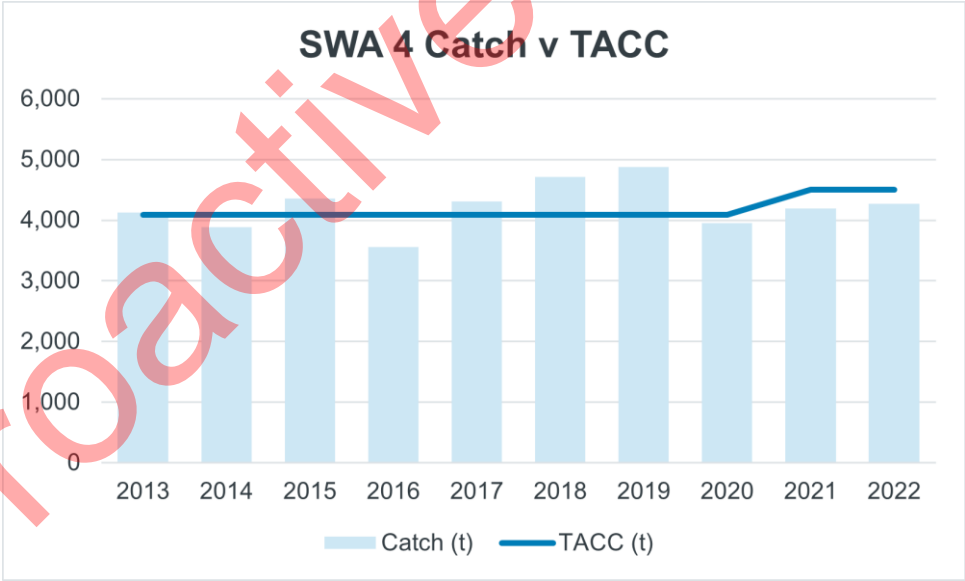
[3] FNZ (2023) - Review of sustainability measures for silver warehou (SWA 3) for 2023/24, FNZ Discussion Paper No: 2023/08; para 22 (page 3)
[4] FNZ (2023) - May 2023 Fisheries Assessment Plenary, (Part 3) p 1475
[5] FNZ (2023) - May 2023 Fisheries Assessment Plenary, (Part 3) p 1478 (figure 3)
[6] FNZ (2023) - May 2023 Fisheries Assessment Plenary, (Part 3) p 1478.

Catches: SWA 3 and SWA 4

34. **SWA 3:** Landings have exceeded the TACCs in SWA 3 in 2019-20, 2020–21 and 2021–22, even with the 10% increase to the TACC in 2020-21, the likelihood of landing exceeding catch limits remains high (with SWA 3 catches in 2020-21 and 2021-22 (being 13% and 10% above the TACC respectively)

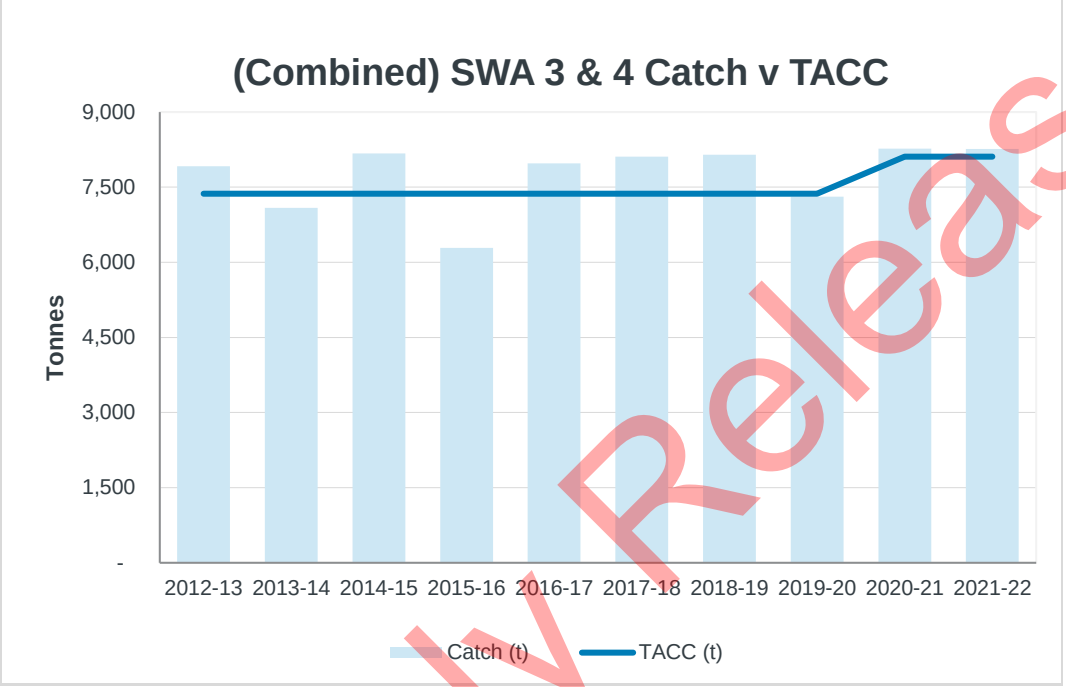


35. **SWA 4:** Landings have not exceeded the TACCs in SWA 4 since the 10% increase in 2020–21. In 2019-20, 2020-21 and 2021-22 catches were 97%, 93% and 95% below the TACC respectively. However, given that only two years earlier catches exceeded the (then) TACC by 19% and 15% respectively.



36. **SWA 3 & 4:** Given that the best available information with respect to stock structure acknowledges that both SWA 3 and SWA 4 are "*highly interrelated,*" that a single stock structure (particularly for SWA 3 and 4) "*was unable to be rejected,*" and that the "*current management areas bear little relation to known spawning areas and silver warehou distribution*;" it is not unhelpful to look at catches from SWA 3 and 4 together.

37. In the two QMAs, combined catches have exceeded combined TACCs in 7 of the past 10 years, including 2020-21 and 2021-22, after the TACC had been increased in both QMAs by 10%.



38. Considering, recent landings in relation to catch limits and the increasing biomass trend, it would be appropriate to consider a TACC which is above recent annual landings and which provides for modest headroom in the near future.

39. For many of our operators, the majority of silver warehou taken in SWA 3 and SWA 4 is taken as bycatch in the hoki Chatham Rise fishery (and in the squid fishery). It is very unlikely that fishing effort will be affected if a larger increase in the TACC, on the contrary DWC notes that the constraining of the TACC has the effect of making SWA 4 silver warehou a choke species, in these fisheries.

40. DWC notes that, even after the previous TACC increases, there is arguably insufficient headroom within either SWA 3 and SWA 4 (and both in combination), to provide for adequate ACE to avoid exceeding the TACC and associated deemed values.

Deemed Values: SWA 3 and SWA 4

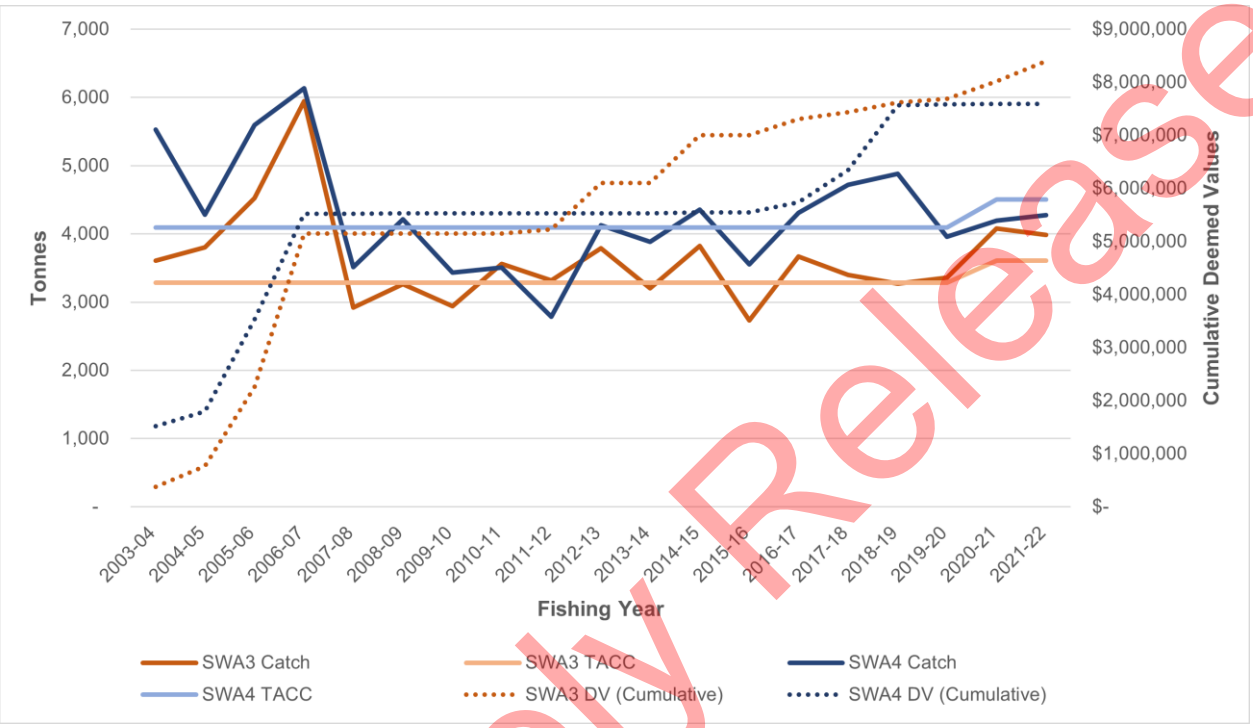
41. The exceeded catches have resulted in excessive deemed value costs.

42. Between 2003-04 and 2021-22, industry has paid some $15,989,512 (SWA 3: $8,399,411 and SWA 4: $7,590,101) in deemed values to the Crown for these stocks where both TACCs are arguably, based on the best available scientific assessments, still set too low.

43. Landings have exceeded the TACCs in SWA 3 in 2019-20, 2020-21 and 2021-22, even with the 10% increase to the TACC in 2020-21. As a result, annual deemed value costs incurred by quota owners for SWA 3 have been $327,000 and $386,000 for the past two years. The proposed increase of 10% will alleviate some of this cost but if the upward trend in biomass is to continue, these costs will remain, and/or will be felt in SWA 4.

44. For SWA 4, while the effects have been tempered somewhat by a reduction in DV settings for 2019-20, SWA 4 DVs will likely remain an issue notwithstanding the 10% increase in the TACC in 2020-21.

45. For the period 2003-04 to 2021-22, the TACCs catches, and accumulated deemed value payments are shown in the figure below.



46. However, DWC contends that for such stocks where legitimate targeting and true incidental/unavoidable bycatch can occur concurrently in any one year, across a broad fleet annual DVs can be a blunt tool. However, these DVs become unreasonable when they result in cumulative DV costs when adaptive catch settings are not implemented when necessary.

47. DWC notes that in the case of silver warehou, which are largely bycatch fisheries, fishers have little control over the catch in relation to TACC; coupled with significant annual changes in relative abundance or catchability that is the norm for SWA 3 and 4, annual DVs can be unreasonable.

48. DWC submits that low and slowly responsive sustainability settings have resulted in the loss of legitimate increased catch opportunities (indeed operators on these fisheries have suffered large and unnecessary deemed value bills instead).

Proposed (Alternative) Option 3 Summary

49. The DWC **alternative proposal to increase the TACC in SWA 3 by 15% (TACC of 4,152 tonnes) and SWA 4 by 15% (TACC of 5,175 tonnes)** represents an additional increase of 195 tonnes to the SWA 3 proposal in Option 2, and an increase of 652 tonnes to the SWA 4 TACC of 4,500 tonnes.

50. This proposed increase for both SWA 3 and SWA 4 would alleviate ACE availability issues, provide necessary headroom in order to minimise effects of other Chatham Rise fisheries such as HOK 1 and SQU 1T, as well as align with the statutory objective *to maintain the stock at or above a level that can produce maximum sustainable yield*, based on the best available information (which "*indicates that the abundance of silver warehou in SWA 3 (and SWA 4) appears to have remained at a high level for an extended period of time*").

(3) Other Submissions

KIN 7 & 8

51. DWC supports Southern Inshore Fisheries Management Company's (Southern Inshore) submission with regard to the need to increase KIN 7 (and KIN 8). The lack of ACE in both fisheries is not assisting the potential utilisation opportunity on the WCSI and in the south Taranaki Jack mackerel fishery.
52. The KIN 7 and 8 CPUE increased considerably from 2006/2007 to 2016 and has been relatively stable at a high level since. Because there are indications of recent high recruitment, it is anticipated that the spawning stock will remain at current catch levels, and the vulnerable biomass is expected to remain above the target level.
53. If not included for this round, we strongly support it being included for next year's October sustainability round.

SKI 3 & 7

54. DWC again supports the submissions of Southern Inshore Fisheries Management Company and the SNZ Inshore Council on utilisation opportunities for both SKI 3 and SKI 7. The TACC increase for both fisheries in 2020-21 was too conservative and has not been able to provide sufficient ACE for the gemfish catch in hoki or squid fisheries. Both SKI 3 and SKI 7 have been overcaught in recent years, even since the TACC was increased. The best available information suggests the biomass of the stocks has increased 10-fold since 2015, with fishing effort decreasing during the same time.
55. As with KIN 7 and 8, we request that these stocks be put forward for the next sustainability round.

Conclusion

The DWC is happy to engage in further discussions with FNZ on any matters pertaining to this submission before FNZ finalises their advice on the sustainable management of these fisheries.

9(2)(a)

Aaron Irving
Seafood New Zealand Ltd
Deepwater Council

Maruehi Fisheries Limited

17 July 2023

Fisheries New Zealand
Fisheries Management Team
By email: fmsubmissions@mpi.govt.nz

Review of Sustainability Measures for October 2023 Fishing Year

Tēnā koe,

Maruehi Fisheries Limited ('MFL') is fully committed to the sustainable management of its fisheries and marine ecosystem and ensuring their protection and continued productivity for future MFL generations to come.

Of the ten fish stocks being reviewed by Fisheries NZ for the 1 October 2023 Sustainability Round, only one is directly relevant to MFL, being SWA3. MFL's position with respect to SWA3 is set out below.

SWA3

Fisheries NZ (*FNZ*) options:

Option	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
Option 1 *(Status quo)*	3,646	3,610	0	0	36
Option 2	4,040 (↑ 394 t)	4,000 (↑ 390 t)	0	0	40 (↑ 4 t)

MFL supports **Option 2.** We are comfortable recent research supports a modest increase.

Nāku noa, nā,
9(2)(a)

Director
Maruehi Fisheries Limited

Te Paataka o Tangaroa Ltd
A Subsidiary Company of Te Kaahui o Rauru

17 July 2023

Fisheries New Zealand
Fisheries Management Team
By email: fmsubmissions@mpi.govt.nz

Review of Sustainability Measures for October 2023 Fishing Year

Tēnā koe,

Te Pataka o Tangaroa ('TPoT') is fully committed to the sustainable management of its fisheries and marine ecosystem and ensuring their protection and continued productivity for future TPoT generations to come.

Of the ten fish stocks being reviewed by Fisheries NZ for the 1 October 2023 Sustainability Round, only one is directly relevant to TPoT, being SWA3. TPoT position with respect to SWA3 is set out below.

SWA3

Fisheries NZ (*FNZ*) options:

Option	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
Option 1 *(Status quo)*	3,646	3,610	0	0	36
Option 2	4,040 (↑ 394 t)	4,000 (↑ 390 t)	0	0	40 (↑ 4 t)

TPoT supports **Option 2.** We are comfortable recent research supports a modest increase.

Nāku noa, nā,
9(2)(a)
Director
Te Pataka o Tangaroa

17 July 2023

Fisheries New Zealand
Fisheries Management Team
By email: fmsubmissions@mpi.govt.nz

Review of Sustainability Measures for October 2023 Fishing Year

Tēnā koe,

Taranaki Iwi Fisheries Limited ('TIFL') is fully committed to the sustainable management of its fisheries and marine ecosystem and ensuring their protection and continued productivity for future generations to come.

Of the ten fish stocks being reviewed by Fisheries NZ for the 1 October 2023 Sustainability Round, only one is directly relevant to TIFL, being SWA3. TIFL's position with respect to SWA3 is set out below.

SWA3

Fisheries NZ (*FNZ*) options:

Option	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
Option 1 *(Status quo)*	3,646	3,610	0	0	36
Option 2	4,040 (↑ 394 t)	4,000 (↑ 390 t)	0	0	40 (↑ 4 t)

TIFL supports **Option 2.** We are comfortable recent research supports a modest increase.

Nāku noa, nā,
9(2)(a)

Alexander McKinnon
Investment Manager
Taranaki Iwi Fisheries Limited

17 July 2023

Fisheries New Zealand
Fisheries Management Team
By email: fmsubmissions@mpi.govt.nz

Review of Sustainability Measures for October 2023 Fishing Year

Tēnā koe,

Raukawa Asset Holding Company Limited ('RAHC') is fully committed to the sustainable management of its fisheries and marine ecosystem and ensuring their protection and continued productivity for future generations to come.

Of the ten fish stocks being reviewed by Fisheries NZ for the 1 October 2023 Sustainability Round, only one is directly relevant to RAHC, being SWA3. RAHC's position with respect to SWA3 is set out below.

SWA3

Fisheries NZ (*FNZ*) options:

Option	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
Option 1 *(Status quo)*	3,646	3,610	0	0	36
Option 2	4,040 (↑ 394 t)	4,000 (↑ 390 t)	0	0	40 (↑ 4 t)

RAHC supports **Option 2.** We are comfortable recent research supports a modest increase.

Nāku noa, nā,

9(2)(a)

Alexander McKinnon
Investment Manager
Raukawa Asset Holding Company Limited