

Bob Gutsell
President
NZ Sport Fishing Council
PO Box 54242, The
Marina, Half Moon Bay,
Auckland 2144
secretary@nzsportfishing.org.nz



2022 Sustainability Review
Fisheries Management
Fisheries New Zealand
PO Box 2526
Wellington 6140
New Zealand
FMsubmissions@mpi.govt.nz



22 July 2022

Submission: Review of Sustainability Measures for the FMA 7 mixed trawl fishery (Snapper - SNA 7, Red Gurnard - GUR 7 and Rig - SPO 7) for 2022/23

Recommendations

1. **The submitters support** the Minister taking an ecosystem-based approach to managing the mixed finfish fishery of snapper, red gurnard and rig in FMA 7, taking into account the vulnerabilities of the interdependent species that are not currently under review and apply a balanced approach to setting TACs for GUR 7, RIG 7 and SNA 7 based on the best available information.
2. **The submitters recommend** the Minister makes the following decisions –
 - a. **In GUR 7**, retain the current Total Allowable Catch (TAC), no change to settings.
 - b. **In SPO 7**, retain the current Total Allowable Catch (TAC) for rig, no change to settings.
 - c. **In SNA 7** increase the Total Allowable Catch (TAC), the Total Allowable Commercial Catch (TACC), the allowance for fishing related mortality and adjust the recreational daily bag limit as follows -
 - i. Increase the TAC from 645 tonnes (t) to 688 t.
 - ii. Increase the TACC from 350 t to 380 t.
 - iii. Retain the tonnage set aside to allow for Māori customary interests at 20 tonnes.

- iv. Retain the tonnage set aside to allow for recreational fishing interests at 250 t.
 - v. Increase the tonnage set aside to allow for fishing related mortality from 25 t to 38 t.
 - vi. Initiate a process to change the individual recreational daily bag limit applying in FMA 7 as follows:
 1. Increase the DBL from 3 to 6 in the Marlborough Sounds; and
 2. Decrease the DBL in the remainder of FMA 7 from 10 to 6.
 - vii. Review the mixed finfish fishery in FMA 7 in 3 years' time to monitor any impacts of regulatory change, climate change and commercial fishing behaviour change due to onboard cameras and land-all catch.
3. **We recommend** the Minister facilitate a transition from indiscriminate bulk harvesting methods, such as towing trawl nets, as will become necessary in a 21st century decarbonised fishing industry under [New Zealand's Emissions Reduction Plan](#) (2022).

The submitters

4. The New Zealand Sport Fishing Council (NZSFC) appreciates the opportunity to submit on the review of sustainability measures for the FMA 7 mixed trawl fishery (Snapper - SNA 7, Red Gurnard - GUR 7 and Rig - SPO 7). Fisheries New Zealand (FNZ) advice of consultation was received on 14 June 2022, with submissions due by 22 July 2022.
5. The NZSFC is a recognised national sports organisation of 55 affiliated clubs with over 36,200 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. www.legasea.co.nz.
6. The New Zealand Angling & Casting Association (NZACA) is the representative body for its 35 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. The New Zealand Underwater Association is comprised of 43 clubs nationally who represent a cohort of approximately 160,000 participants in underwater activities in New Zealand. These activities include diving, snorkelling, freediving, fin swimming,

underwater hockey, spearfishing, underwater photography, underwater rugby, ghost diving marine clean up and Experiencing Marine Reserves. Through our membership we are acutely aware that the depletion of inshore fish stocks has impacted on the marine environment and our members' wellbeing.

8. Collectively we are '*the submitters*'. The 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 these reviews and would like to be kept informed of future developments. Our contact is Helen Pastor, secretary@nzsportfishing.org.nz

Background

10. Snapper occupy a wide range of habitats, including rocky reefs and areas of mud and sandy bottom. They are serial spawners, releasing many batches of eggs during spring and summer. Snapper first reach maturity from 20 to 28 cm fork length at 3-4 years of age. The snapper from Tasman Bay/Golden Bay (and the west coast North Island) grow faster and reach a larger average size than elsewhere.
11. There is an updated stock assessment and 5-year projections for SNA 7 showing a significant and sustained increase in biomass following some particularly good years of recruitment (young fish entering the fishery). These year classes are poorly estimated as they have only been observed once (2018 year class) or twice (2017 year class) in the trawl survey series and have not yet appeared in the commercial fishery.
12. A management review in 2020 increased the TACC by 100 tonnes (t) to 350 t, the recreational allowance stayed at 250 t and customary allowance stayed at 20 t.
13. Red gurnard have a fast growth rate and relatively short lifespan, and fluctuations in recruitment may result in large fluctuations in stock biomass. The Fisheries Plenary concluded that the trawl survey data since 1992 was a better index of trends in abundance than the commercial CPUE time series, however no new trawl survey data is available this year.
14. The catch limits for red gurnard in GUR 7 have increased frequently.

- 2015 - a TAC increase from 855 to 919 tonnes, a TACC increase from 785 to 845 tonnes.
 - 2017 - a TAC increase to 1065 tonnes, and a TACC to 975 tonnes.
 - 2019 - a TAC increase to 1176 tonnes, and the TACC to 1073 tonnes and the recreational allowance increased from 25 t to 38 tonnes.
 - 2020 - a TAC increase to 1295 tonnes, and the TACC to 1180 tonnes.
 - 2021 - a TAC increase to 1422 tonnes, and the TACC to 1298 tonnes and the recreational allowance increased to 42 t.
15. The first quantitative stock assessment was carried out for GUR 7 in 2022. It was based on commercial catch data and trawl survey results only. There was no explicit allowance for unreported catch, recreational catch, or customary catch (Figure 2).
16. Rig or spotted dogfish in SPO 7 are mainly caught by trawl and in a target set net fishery along with other shark species, including school shark and spiny dogfish. Set net restrictions to protect Hector's dolphins have reduced the available fishing area for rig in SPO 7.
17. Rig are found throughout New Zealand waters. They can make extensive migrations and move into shallow areas to give birth before returning to waters up to depths of 400 m in autumn. Farewell Spit is a known nursery ground for rig in Tasman Bay and Golden Bay. Rig feed on a variety of benthic invertebrates, particularly crustaceans, echinurans and molluscs.
18. An assessment of the relative abundance of rig was completed in 2022 based on the West Coast South Island trawl survey series and two standardised abundance indices based on reported commercial catch rates (CPUE) (Figure 3). The [May 2022 Plenary Report](#) concludes that SPO 7 is about as likely as not (40-60%) to be at or above the proxy management target. Overfishing is also about as likely as not to be occurring.

Proposal

19. [Proposal here](#)
20. Fisheries New Zealand (FNZ) propose the following options for the Total Allowable Catch (TAC), Total Allowable Commercial Catch (TACC) and associated allowances of the FMA 7 mixed trawl fishery. Any changes will apply from 1 October 2022. (Table 1)

Table 1: Proposed management options (in tonnes) for SNA 7, GUR 7 and SPO 7 from 1 October 2022.

Stock	Option	TAC	TACC	Allowances		
				Customary Māori	Recreational	All other mortality caused by fishing
SNA 7	Option 1 (<i>Status quo</i>)	645	350	20	250	25
	Option 2	743 ↑ (102 t)	450 ↑ (100 t)	20	250	23 ↓ (2 t)
GUR 7	Option 1 (<i>Status quo</i>)	1,422	1,298	17	42	65
	Option 2	1,582 ↑ (160 t)	1,450 ↑ (152 t)	17	42	73 ↑ (8 t)
SPO 7	Option 1 (<i>Status quo</i>)	373	298	15	33	27
	Option 2	371 ↓ (2 t)	315 ↑ (17 t)	15	25 ↓ (8 t)	16 ↓ (11 t)

21. Option 1 for SNA 7, GUR 7 and SPO 7 represents the status quo, no change.
22. SNA 7 option 2 - **There is an error** in the summary table above, (Table 1). The proposed increase in the TAC is **98 t not 102 t**. The proposed increases represent a 15% TAC increase, a 100 t or 29% increase to the TACC and an 8% decrease to other mortality.
23. GUR 7 option 2 - 11% increase to the TAC, 12% increase to the TACC, and a 12% increase to the allowance for other mortality.
24. SPO 7 option 2 - 0.5% decrease to the TAC, 6% increase to the TACC, 24% decrease to the recreational allowance, 41% decrease to the allowance for other mortality.
25. The level of Māori customary harvest in these stocks is unknown, FNZ assume it is well within the current allowances.
26. The best available information on recreational harvest is from the National Panel Survey 2017-18. Estimated annual recreational harvest in SNA 7 is 147 t (CV +/- 15), GUR 7 is 38 t (CV +/- 3), and SPO 7 is 19 t (CV +/- 5).

Ecosystem-based fisheries management

27. As noted by the Prime Minister's Chief Science Advisor (PMCSA), there are many parts of the Fisheries Act 1996 (the Act) that remain under-used and this submission advocates for better use of sections 9 and 10 of the Act. Full use of these principles will take the government along the path to more ecosystem-based and precautionary decision making, meeting the objectives and principles of the Oceans and Fisheries portfolio and the recently announced [Oceans Vision](#). In this submission we apply sections 9 and 10 to this process to ensure that matters of uncertainty, precaution, and the obligation to following generations are given obligatory weight.

28. The move from single species stock assessments for a limited number of species determining catch settings to an ecosystem considered process for setting catch limits is supported by both the Minister and the PMCSA.
29. For stocks in a mixed fishery appropriate, precautionary catch settings must be applied to each stock. However, it is impractical to attempt to maximise catches in a mixed species fishery when the availability and productivity of the species are dissimilar. In these circumstances it will always be necessary to leave a dominant species (such as snapper) more abundant to protect the more vulnerable from depletion. In FMA 7 affected species include snapper, red gurnard, rig, flatfish, tarakihi and John dory. Juvenile hāpuku are also caught in this mixed trawl fishery.
30. SNA 7 and GUR 7 commercial catch cannot be increased by the amounts proposed by FNZ without risking over catch of tarakihi, John dory, and flatfish species also taken by single trawl. These associated and potentially interdependent species are not in a similar state of abundance as snapper. Fisheries New Zealand is only just starting to try and quantify the ecosystem impacts of bottom trawling, and we cannot make risky increases when these fish stocks have vastly differing productivity and stock status.
31. The submitters support the shift towards more holistic management of our oceans based on a set of principles including taking a precautionary approach to achieve the Government’s objective of promoting “an ecosystem-based approach to research, monitoring and management”, we recommend the Minister facilitate the transition of the snapper and rig fisheries in FMA 7 into commercial bottom longlining.

Impacts of trawling

32. The submitters are deeply concerned about the effects of trawling on inshore biodiversity and productivity. The prospect of an increased number of trawl tows and a larger trawl footprint will have an unknown and unmeasured detrimental effect on the benthic environment. There is poor understanding of the impacts of trawling, such as the effect on benthic habitats and resuspension of fine sediments.
33. FNZ do not envisage a substantial increase in trawling for snapper as they note that commercial fishers have shifted to deeper water and reduced the headline height of trawl gear to minimise catch.
34. Historically, there have been major issues with discards and dumping in the southern trawl fisheries. The [Heron report](#) (2016) revealed that senior officials were aware of

widespread dumping and failed to act. Fast forward to 2022 and taking account of the prospect of onboard cameras, and the uncertainty in how trawl effort may change relative to a TACC increase, it does not make sense for Fisheries NZ to be proposing a TACC increase while also suggesting a reduction in the allowance set aside to account for fishing related mortality. The Inshore Fisheries Assessment Working Group decided that a 10% allowance for other fishing mortality was the best estimate for use in the SNA 7 stock assessment. FNZ proposes the reduction based on moving towards having an allowance for other mortality at 5% of the TACC. The Minister cannot take this proposal seriously.

35. In a mixed trawl fishery of species with varying characteristics and variable productivity the tonnage set aside to allow for fishing related mortality must be a minimum of 10% of the TACC.
36. We submit the Minister makes a precautionary decision considering the impacts of trawling and applies the following -
 - a. No change to the TACCs for red gurnard and rig;
 - b. A modest TACC increase of 30 t for snapper;
 - c. Increases the other mortality allowance to 10% of the TACC; and
 - d. Commits to a review within 3 years to monitor catches, behaviour, and fishery performance.
37. The submitters acknowledge there are a limited number of commercial fishers actively trying to reduce their environmental impact from trawling. The transition from indiscriminate bulk harvesting methods, such as towing trawl nets for 4 hours or more will not be easy, but is necessary in a 21st century decarbonised fishing industry under [New Zealand's Emissions Reduction Plan](#) (2022).
38. Currently, change is driven by a few dedicated innovators. Change is long overdue, yet we know that high value, higher quality catch using more selective fishing methods only becomes viable with biomass at higher levels. A precautionary approach to TACC increases now will enable fisheries managers to monitor if there is any increase in abundance and review catch settings in the future.

Discussion SNA 7 and GUR 7

39. If the Minister is to invoke the precautionary principle he will need to be provided with ALL the best available information and resist the pressure to apply option 2, the TAC and TACC increases, as proposed by Fisheries New Zealand and commercial interests.

40. We strongly object to this process where there are only two options presented in the discussion paper - the status quo or substantial increases as proposed by commercial interests - a 100 t TACC increase in SNA 7 and 152 t increase in GUR 7.
41. Historically, we were presented with more than one option for change and a raft of data to support those options or any other option that submitters can justify. The poor quality of recent proposal papers combined with the lack of supporting data denies many submitters the opportunity to make informed comments. Once again, this behaviour points towards a ministry captured by the commercial sector that it is supposed to be regulating.
42. Is productivity changing? The new stock assessments were accepted by the Plenary, and both show significant increasing trends since 2010. Data from the biannual trawl survey are influential in these trends and predict continued high recruitment in SNA 7. If these stocks are heading towards or exceeding the estimate of unfished biomass (B_0) while being fished at a high rate, then it raises questions about the veracity of the model assumptions, how useful is using a percentage of B_0 for setting management targets, and do we underestimate the potential for stock abundance to return, if given a chance? (Figure 1)

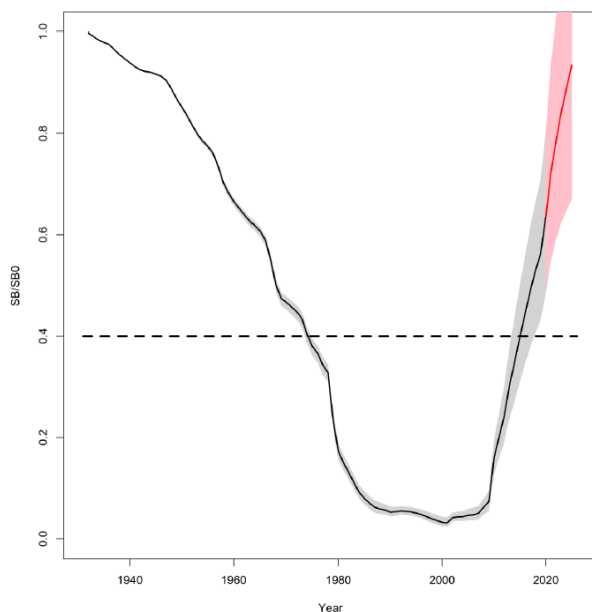


Figure 1: Results of the 2022 SNA 7 stock assessment showing the relative size of the spawning stock biomass compared to the estimate of unfished biomass in 1935. The dotted line is the interim stock target of B40 (40% of the unfished biomass). The red line is the estimated future biomass over the next 5 years (2021–2025) based on current catch and the shaded area is the model uncertainty.

43. The updated stock assessment for SNA 7 is strongly influenced by the high estimates of recent recruitment of the 2017 and 2018 year classes, resulting in an increase in

total biomass during the projection period (Figure 1). These year classes are poorly estimated as they have only been observed once (2018 year class), or twice (2017 year class), in the trawl survey series and have not yet appeared in the commercial fishery.

44. FNZ are proposing changing the TACs for SNA 7 and GUR 7 based on the new information in the Plenary reports but then offer the Minister, tangata whenua, stakeholders, and others just a single management option of large a TACC increase for both stocks. This is so unreasonable it raises the following questions for FNZ:
- a. Was the TACC increase for snapper of 100 t, plus 10 t for other sources of fishing mortality, the only option assessed using the stock assessment?
 - b. How was 100 t selected over any other option? ; and
 - c. Where is the rationale and range of projections for selecting that as the only option for SNA 7?
45. There appears to be a case for a TAC increase in SNA 7 based on the updated stock assessment and ongoing good recruitment. The submitters support an alternative option of 30 t be offered to the Minister, as this will better align with taking a precautionary approach and our recommendations for GUR 7 and SPO 7.
46. The first quantitative stock assessment was carried out for GUR 7 in 2022. It was based on commercial catch data and trawl survey results only. There was no explicit allowance for unreported catch, recreational catch, or customary catch. For the base case and with current commercial catch, stock abundance is predicted to decline during the 5 year projection period, although the biomass remains at high level throughout the period (Figure 2).

SNA 7 recreational daily bag limit

47. FNZ are recommending large increases in the SNA 7 TAC and the submitters expect that some of the benefits of the increase in the SNA 7 stock are shared with the recreational fishers in the Marlborough Sounds. Currently their recreational bag limit is 3 snapper per person - even if the fish landed in the Sounds are caught outside the Sounds where the bag limit is 10 per person.
48. We have recommended the Minister initiate a process to change the individual recreational daily bag limit applying in FMA 7 as follows:
- a. Increase the DBL from 3 to 6 in the Marlborough Sounds; and
 - b. Decrease the DBL in the remainder of FMA 7 from 10 to 6.

49. The submitters have made the recommendation for a 6 DBL on the basis that it supports earlier comments from the Marlborough Recreational Fishers Association. However, we believe the Minister would be justified in consulting on a DBL of 7 per person, per day, to align with fishing opportunities in SNA 1 and given the increasing abundance of snapper.

GUR 7 projected decline

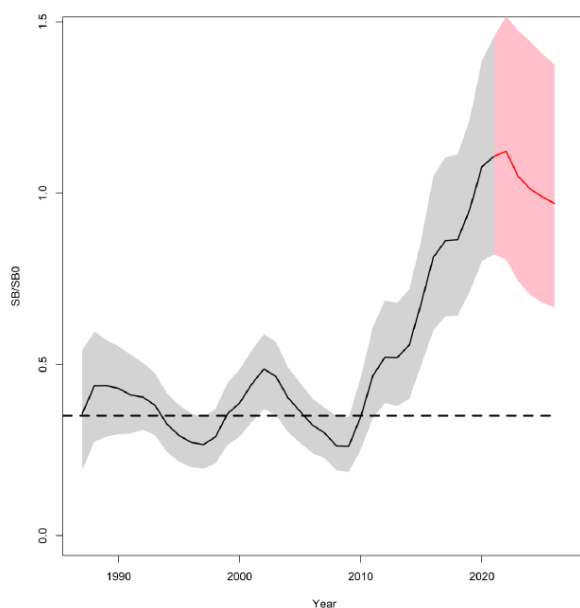


Figure 2: Results of the 2022 GUR 7 stock assessment showing the relative size of the spawning stock biomass compared to the estimate of exploited biomass in 1985. The dotted line is the interim stock target of B35 (35% of the unfished biomass). The red line is the estimated future biomass over the next 5 years (2021–2025) with a TACC of 1,298 t with no allowance for other sources of fishing mortality and the shaded area is the model uncertainty.

50. Questions for Fisheries New Zealand -

- a. How was the proposed GUR 7 TACC increase of 152 t, plus 8 t for other sources of fishing mortality selected over any other option?
- b. Where is the data to support a 12% increase to the TACC?
- c. On what basis is the allowance for fishing related mortality set at 5% of the TACC?

51. In a mixed trawl fishery, the Minister must set aside an allowance for fishing related mortality that equates to a minimum of 10% of the TACC.

52. The FNZ Discussion Document states that no projections for the 152 t increase or any others were undertaken. This is not good enough, especially when FNZ has also failed to tell tangata whenua, stakeholders, and others that GUR 7 is projected to decline by about 15% over five years with the TACC at the current level of 1,298

tonnes. with no allowance for other sources of fishing mortality, customary or recreational catch. No doubt if an extra 800 t of gurnard were caught over the next five years the decline would be much greater. Indications are that recruitment has been low over the last few years. Where is the rationale for selecting the 152 t increase given the predicted decline?

53. We submit the Minister must be informed that the GUR 7 stock is predicted to decline if the TACC is increased by 152 t on 1 October 2022.
54. Historically, gurnard stocks have periodic cycles of stock increases and declines. Given the current decline in recruitment, and the management options presented in the discussion document, the submitters must support no change to the TAC for GUR 7 in 2022.
55. There have been five GUR 7 TACC increases over the last 7 years and the increase proposed in 2022 is by far the largest. If large multi-species TACC increases based on a selection of available data are proposed to trigger pre-set decision rules, then this document is another excellent case study that supports the submitter's opposition to automated decision rules.

Discussion Rig 7 (SPO 7)

56. For SPO 7, set net catch has declined, from 64% of the catch to 31% in 2018, with the balance taken up by bottom trawl and (in the most recent three years) Danish seine nets. On 1 October 2020, new commercial and recreational set net fishing closures out to 4 nautical miles offshore took effect within Golden Bay and Tasman Bay, from Farewell Spit to Cape Soucis (Raetihi).
57. An assessment of the relative abundance of rig concluded that SPO 7 is about as likely as not (40-60%) to be at or above the proxy management target. Overfishing is also about as likely as not to be occurring.
58. The May 2022 Plenary report also highlighted the contradiction in the declining trend in the trawl survey data with the increasing trend in CPUE (Figure 3). There has been a decline in setnet fishing effort in Tasman Bay and Golden Bay (area 038) in recent years, and the Plenary concludes that this CPUE index is no longer useful as a measure of rig relative abundance (blue line Figure 3).

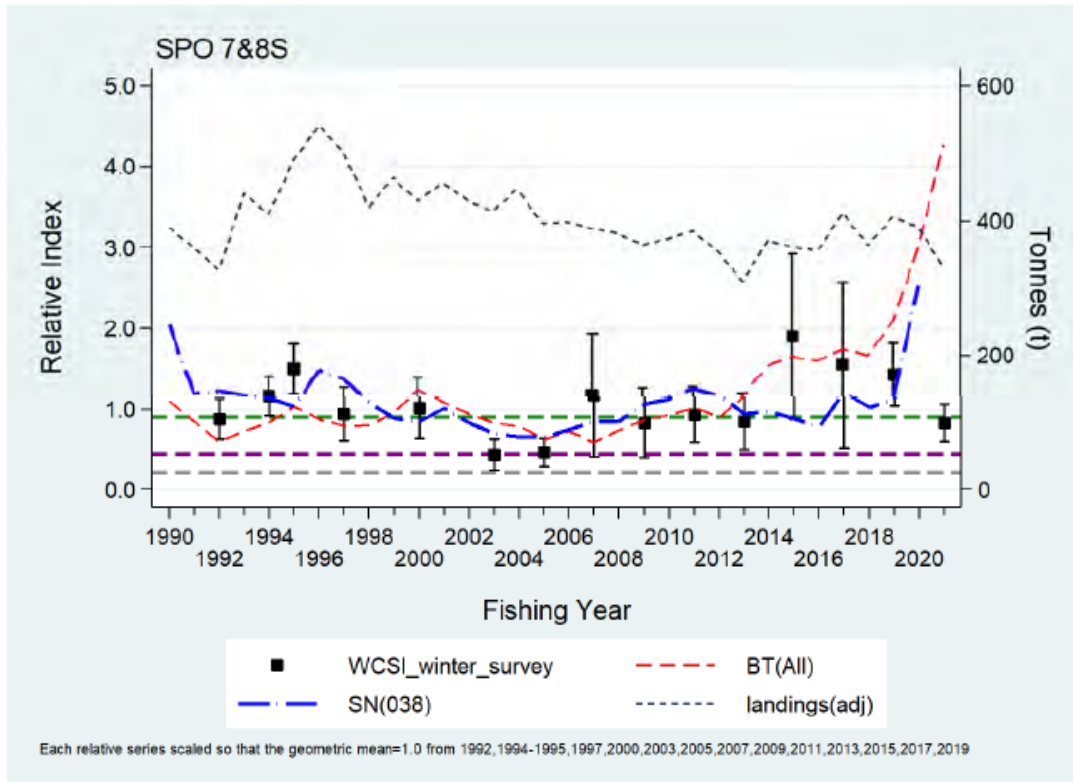


Figure 3: Comparison of the west coast South Island (WCSI) trawl survey and two accepted CPUE indices BT(All) and SN(038) with the adjusted QMR/MHR landings for SPO 7. Adjustments were made to ensure that all catch values in every year are based on a common conversion factor. The agreed Soft Limit (average: 2003 and 2005 WCSI survey biomass estimates=0.49) is shown as a purple line, and the calculated BMSY proxy (=2×Soft Limit) is shown as a green line and the calculated Hard Limit (=0.5×Soft Limit) is shown as a grey line. The 2021 index value for the SN(038) analysis (blue dashed) was dropped because it was based on a single vessel.

59. In 2018 the inshore trawl fleet transitioned to electronic and geospatial position reporting of effort, catch and fine scale fishing location. When more detailed catch reporting has been introduced in the past there has been a change in reporting behaviour which affects Catch Per Unit of Effort (CPUE). For example, when trawl catch and effort reporting transitioned from daily reporting (CELRs) to tow by tow reporting (TCEPRs) the difference is significant, and the CPUE time series is split between reporting forms. The rig CPUE analysis does not split these form types but makes some adjustments for daily catch and prorating catch across trips.

60. The massive rise in trawl CPUE of rig only occurs after 2018 and the introduction of electronic reporting and so **must be treated with caution** (red line Figure 3).

61. Historically, there have been problems with commercial fishers reporting rig catch as processed weight not whole weight as required on the forms. Changes in how fishers report catch using the various electronic platforms available have been problematic in several fisheries.

62. The rig limit reference points and target are all based on the West Coast South Island (WCSI) trawl survey results. The submitters are disappointed that FNZ chose to ignore the trend in recent trawl survey results in favour of an implausibly high spike in CPUE, which increases by two and a half times over 3 years since 2018.
63. **The Minister must be advised that a shark stock biomass increasing over 80% per year is an implausible result and should be flagged as such to ensure he makes a precautionary decision.**
64. SPO 7 - recreational catch has been on the decline since 2000. FNZ suggests this is due to the increasing availability of snapper and the numerous method and area restrictions limiting the traditional use of set nets to catch rig.
65. There are several CPUE time series that are no longer used as an index of abundance, including snapper longline in the Hauraki Gulf and Bay of Plenty (replaced by trawl survey), SNA 7 trawl from October to December, and GUR 7 where the comment was:
- “The Plenary concluded in 2021 that the GUR 7 trawl survey time series is a better index of trends in abundance than the CPUE time series, primarily because it is more consistent through time and is not affected by changes in fishing behaviour.”*
66. The submitters support Option 1, to retain the current TAC for SPO 7 on the basis that best available information must be used, and when that information is uncertain, unreliable, or inadequate a precautionary decision must be made. And taking into account the following -
- a. There is a declining trend in the WCSI trawl survey index which is more reliable than the recent trawl CPUE index of relative abundance.
 - b. The TACC has been under caught since 2018-19.
 - c. Rig can be released alive by commercial fishers under the current provisions in the Fisheries Act (Schedule 6); and
 - d. The Minister must give effect to s10 in the Fisheries Act by using best available information when making his decision.