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22 July 2022

Submission to the review of sustainability measures for Red Gurnard 3 (GUR 3) for 2022–23

Recommendations

1. **We recommend the Minister of Oceans and Fisheries** makes a precautionary decision for the future management of GUR 3 as there is a predicted decline in spawning stock biomass over the next five years.
2. **The submitters recommend** the Minister makes the following decisions for the future management of Gurnard 3 (GUR 3) -
 - a. Increase the Total Allowable Catch (TAC) from 1614 tonnes (t) to 1659 t.
 - b. Retain the Total Allowable Commercial Catch (TACC) at 1500 t.
 - c. Retain the tonnage set aside to allow for Māori customary interests at 3 t.
 - d. Retain the tonnage set aside to allow for recreational fishing interests at 6.
 - e. Increase the allowance set aside for fishing related mortality from 105 t to 150 t, 10% of the TACC.
3. **We recommend** the Government make meaningful changes towards its stated goal of more holistic management of our oceans based on a set of principles, including taking a precautionary approach to achieve the objective of promoting “an ecosystem-based approach to research, monitoring and management.”

The submitters

4. The New Zealand Sport Fishing Council (NZSFC) appreciates the opportunity to submit on the proposals for the future management of Red Gurnard Fishery (GUR 3). Fisheries New Zealand (FNZ) advice of consultation was received on 14 June 2022, with submissions due by 22 July 2022.

5. The NZ Sport Fishing Council is a recognised national sports organisation of 55 affiliated clubs with around 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. Red gurnard was introduced into the Quota Management System (QMS) in 1986. Gurnard 3 (GUR 3) is a combination of Fisheries Management Areas 3, 4, 5 & 6.
11. GUR 3 is the largest commercial red gurnard fishery, with GUR 7 the next largest, in terms of catch.
12. Landings of red gurnard in GUR 3 have exceeded the TACC every year since 2005 despite the fact that commercial catch limits for red gurnard in GUR 3 have had large and regular increases over the last 6 years, as follows -
 - a. 2013 - a TACC increase from 900 t to 1100 t.
 - b. 2016 - a TACC increase from 1100 to 1220 tonnes.
 - c. 2019 - a TACC increase to 1320 tonnes.
 - d. 2021 - a TACC increase from 1320 t to 1500 tonnes.
13. Red gurnard have a fast growth rate and relatively short lifespan, and fluctuations in recruitment may result in large fluctuations in stock biomass.

14. Red gurnard in GUR 3 are taken almost entirely by bottom trawl in fisheries targeted at red cod, barracouta, and flatfish. Some red gurnard are also taken in the target tarakihi and stargazer bottom trawl fisheries. So, both inshore and deep water trawl fisheries.
15. FNZ advises that targeting of gurnard from the east coast of the South Island has increased from below 10% to around 25% since 2018.
16. We understand from previous surveillance reports that there is a preference for gurnard over 27cm as few were being landed into processing sheds. Also, the [Heron report](#) (2016) highlighted the common practice of discarding small gurnard from inshore trawl vessels.

Proposals for GUR 3

17. [Proposal here](#)
18. **Table 1** - Fisheries New Zealand (FNZ) propose the following options for the Total Allowable Catch (TAC), the Total Allowable Commercial Catch (TACC), and associated allowances in the GUR 3 fishery.

Table 1: Proposed management options (in tonnes) for GUR 3 from 1 October 2022.

Option	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
Option 1 (<i>Status quo</i>)	1614	1500	3	6	105
Option 2	1695 ↑ (81 t)	1575 ↑ (75 t)	3	6	111 ↑ (6 t)

19. Fisheries New Zealand advises only small amounts of gurnard have been harvested by Māori customary fishers in the Gurnard 3 fishery. FNZ advises this may reflect that tangata whenua are using recreational fishing regulations for their harvest.
20. The National Panel Survey estimated recreational harvest at 2.01 t in 2012. The estimate in 2018 was 1.7 tonnes, well within the 6 t allowance. In FMA 3 the recreational daily bag limit for gurnard is 30 per person, per day, as part of the mixed species daily limit.

Discussion

Catch settings

21. The submitters do not support FNZ's Option 2, we suggest an amendment to Option 1, the status quo.
22. Landings of red gurnard in GUR 3 have exceeded the TACC every year since 2005 despite regular increases. It is clear that these regular TACC increases have failed to curb excess fishing effort and keep catches to statutory levels. Clearly there are other factors incentivising this overcatch. There are no proposals to change the deemed value rates applying in GUR 3.

23. GUR 3 catch was traditionally bycatch from other target trawl fisheries. We note that since 2018 commercial fishers on the east coast of the South Island have ramped up efforts to target gurnard.
24. It is implausible for commercial fishers and FNZ to argue that the excess catch in GUR 3 is unavoidable when the level of targeting in the east coast trawl fishery has increased from below 10% to around 25% since 2018.
25. If the Minister is to invoke the precautionary principle then he must use best available information and increase the TAC by 45 t and apply all of that increase to the allowance set aside to account for fishing related mortality.
26. As noted earlier, previous reports indicate an avoidable level of wastage of smaller gurnard. Increasing the tonnage set aside to allow for fishing related mortality from 105 t to 150 t will bring the allowance up to represent 10% of the TACC, a minimum application taking into account the historic wastage in this mixed trawl fishery.
27. Observer coverage on GUR 3 vessels has been, on average, below 5% in the past 5 years. The rollout plan for GUR 3 'cameras on vessels' is set to commence in June 2023. We recently [submitted in support](#) of the need for legislative and administrative changes to enable the rollout of cameras on commercial fishing vessels.
28. In future, once onboard cameras are operational, the Minister may be justified in setting aside a smaller percentage of the TAC to allow for other mortality. Not now.
29. The submitters do not accept FNZ's assertion that increasing the GUR 3 TACC "will increase the ability of fishers to target this species and may allow them to avoid bycatch of other less abundant species with overlapping depth profiles". The TACC for gurnard is already being regularly exceeded, any increase will only account for current overcatch, not provide for greater catches. For example, FNZ's Option 2 proposes a 75 t TACC increase, the Plenary reports GUR 3 catch for the 2020-21 year at 1646 tonnes. The previous year catch in excess of the TACC was 217 t.
30. Targeting of gurnard and other factors including the lack of any meaningful deterrents is the problem in GUR 3.
31. Any Ministerial decision to grant greater catches in GUR 3 would have to take into account the impact on other species in the mixed trawl fishery. The GUR 3 TACC could not be increased without also increasing the catches of red cod, giant stargazer, barracouta, tarakihi, and flatfish also taken by single trawl. These associated and potentially interdependent species are not in similar states of abundance to each other, especially east coast tarakihi, which has been assessed as below the management soft limit. Fisheries New Zealand are only just starting to try and quantify the effects of bottom trawling, and we cannot make risky increases when the associated fish stocks have vastly differing stock status.

32. 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 have opted to support no change to the TACC for GUR 3 and the 45 t increase in the TAC to be applied to the allowance for fishing related mortality.
33. The submitters urge the Minister to take a conservative approach for a number of reasons, including but not limited to the following -
- a. The majority of GUR 3 catch is inshore, in FMA 3. As catch overlaps with a variety of species, a conservative approach is required to mitigate impacts on other species which may not be in a similar state of abundance to red gurnard. There are high amounts of localised gurnard catch in the Flatfish 3 fishery, a fishery where flatfish stocks are predicted to vary in abundance in coming years.
 - b. Best available information suggests a recent shift in fishing selectivity to juvenile red gurnard in shallower areas (10-30m) . In deeper areas, (30-400m), there is a lower availability of juvenile female fish, relative to male fish. Based on these two factors, it seems appropriate to manage the stock conservatively to let juveniles grow, resulting in better yield per recruit, giving environmental, social, and economic benefits.
 - c. The FNZ plenary reports that “there is considerable uncertainty in the stock projections due to the uncertainty associated with the estimates of recent recruitment (especially the strong 2016 and 2019 year classes)”.
 - d. The 2022 quantitative stock assessment projections show the GUR 3 Spawning Stock Biomass (SSB) is likely to decrease over the next 5 years (Figure 1). And the annual fishing mortality rate is projected to increase from current levels.

GUR 3 stock status

34. The submitters suggest three year stock assessment reviews of the Gurnard 3 fishery using trawl survey biomass data. The first quantitative stock assessment of GUR 3 was completed in May 2022, and the last partial stock assessment was carried out in 2015.
35. The first stock assessment in 2015 relied heavily on Catch Per Unit of Effort (CPUE) indices taken from flatfish and mixed target fisheries. The 2022 quantitative stock assessment used a CPUE series from the mixed inshore bottom trawl fishery in Pegasus Bay/Canterbury Bight and the trawl survey data from FMA 3, where most of the catch is taken. In a number of gurnard, and other inshore fisheries, CPUE has not been used in assessments because of a lack of consistency over time and the effects of changes in fishing behaviour. The 2022 GUR 3 assessment dropped flatfish target trawl CPUE because of the reduction in available data and the reduced number of vessels.

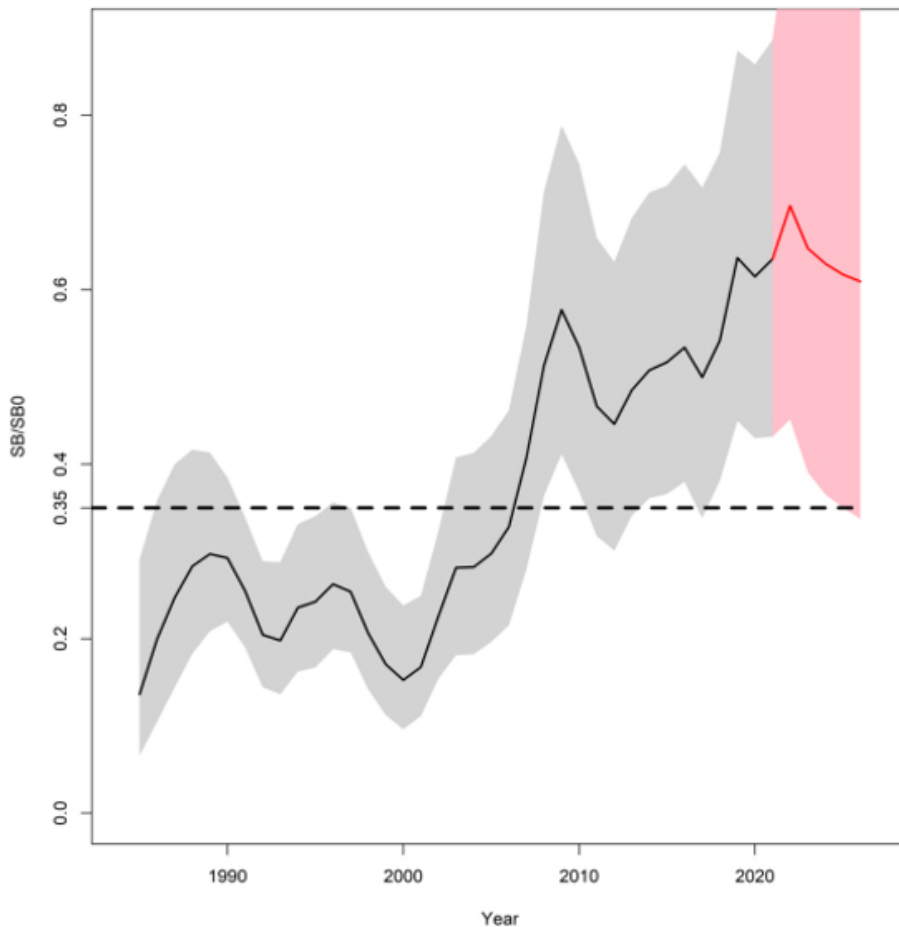


Figure 1. Results of the 2022 GUR 3 stock assessment showing the relative size of the spawning stock biomass compared to the estimate of exploited biomass in 1985. The dotted line is the interim stock target of B35 (35% of the unfished biomass). The red line is the estimated future biomass over the next 5 years (2021–2025) at current catch levels. The shaded area represents the level of uncertainty. (Source: Fisheries New Zealand Plenary, May 2022)

36. According to the above Figure 1, the GUR 3 fish stock is well above the interim target of 35% of unfished biomass (B35). The plenary report notes that fishing mortality (F) in 2020–21 was estimated to be at about FSB40%. So overfishing is about as Likely as Not (40–60%) to be occurring and **spawning stock biomass is projected to decline over the next 5 years at current catch levels.** This is a result of poor recruitment estimated by trawl surveys, hence lower accumulation of biomass in the coming years.
37. The East Coast South Island (ECSI) trawl surveys included a shallower depth range (10 to 30 m) in 2012 primarily to better target gurnard and they contain a long time series of information that has been collected in a consistent way, independent of the gear alterations and changes in fisher behaviour. There is no real or significant increasing trend in any of the ECSI trawl survey gurnard biomass indices since 2012 (Figure 2).

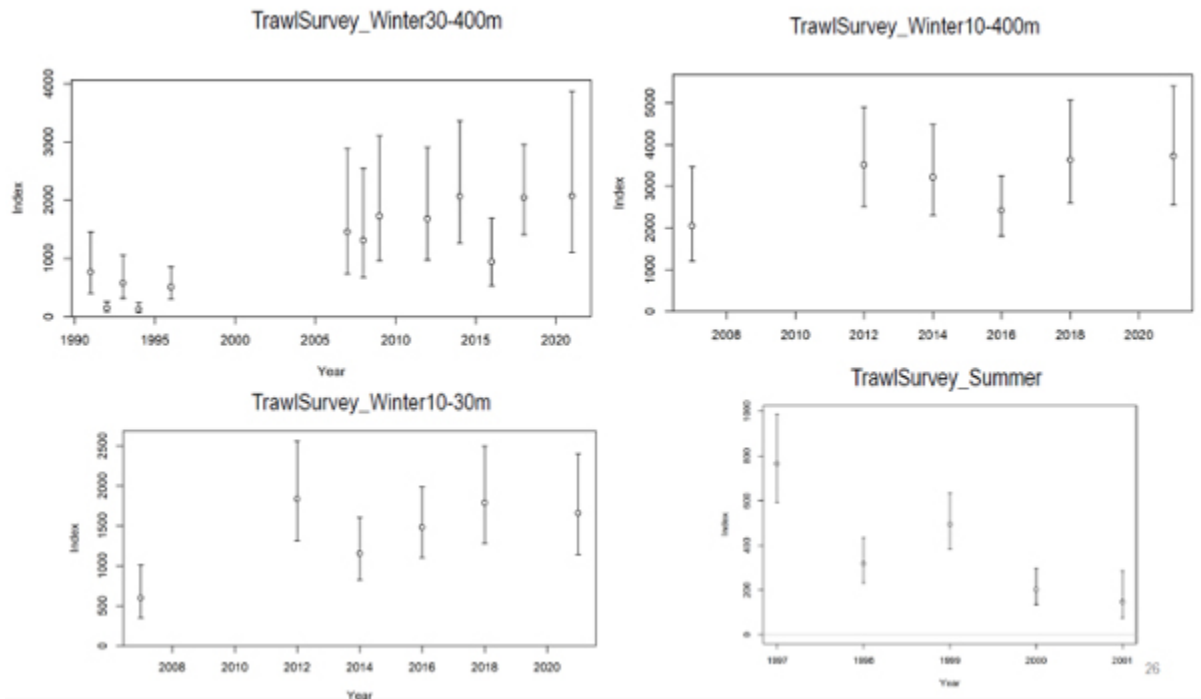


Figure 2. The results from NIWA trawl surveys on the east coast of the South Island, the circle is the point estimate and the lines show the 95% confidence interval. (Source: Fisheries New Zealand Plenary, May 2022)

38. Based on the above information, we submit the Minister must be informed that the circle is the point estimate and the lines show the 95% confidence interval.

Rebuild policy

39. The New Zealand Sport Fishing Council has developed a National Gurnard Policy which is due for ratification at the upcoming AGM in September. The Policy aims to support the rebuilding of gurnard stocks to the target level of 50% of unfished biomass (B50). To achieve this restoration of red gurnard we need to improve yield per recruit by reducing the mortality of small fish, by phasing out the use of trawl gear in inshore waters, and by encouraging an ecosystem-based approach to fisheries management.

Impacts of trawling

40. The submitters are deeply concerned about the effects of trawling on inshore biodiversity and productivity. The prospect of any increase in the 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.

41. Fisheries New Zealand’s proposal mentions some of the trawled areas are polychaete worm beds, and these are vulnerable to benthic fishing disturbance. Polychaetes play an important role in marine ecosystem function, helping reduce atmospheric carbon emissions. Habitats

such as these are becoming more important to conserve under climate change pressure. The trawling footprint and trawling effort needs to be reduced, not increased.

42. There is growing international and local pressure to reduce the trawl footprint and trawling effort. 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).
43. The submitters support the Government's shift towards more holistic management of our oceans based on a set of principles in their Vision, including taking a precautionary approach to achieve the objective of promoting an ecosystem-based approach to research, monitoring and management, and to support the development of a high-value marine economy that provides equitable wellbeing benefits.