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26 July 2019

Joint recreational submission to the review of sustainability measures – Top of the South Island trawl fishery for 2019–20

Submission summary

1. The submitters support Option 1 for Red gurnard 7, no change to the TAC, TACC or allowances.
2. The submitters support Option 1 for Rig 7, no change to the TAC, TACC or allowances.
3. The submitters support Option 1 for John dory 7, no change to the TAC, TACC or allowances.
4. The trawl survey results for these three stocks have all declined since 2015 by varying amounts but the cycle in abundance is trending down and this is likely to continue for the two years before the results of the next trawl survey are available.
5. The interim management targets for these stocks need to be reviewed. Averaging trawl survey results across years of low abundance has clearly biased the target and soft limit low. If the same method had been used for Snapper 7 the result would be ridiculous.
6. The submitters do not support any increase in trawl fishing effort or TACs in FMA 7 until the new Maui and Hector's Dolphin Threat Management Plan is implemented and cameras are installed on all trawlers fishing this area to ensure validation of dolphin capture information.
7. The submitters support the setting of a TAC and allowances for ELE 7 even though the amounts are somewhat arbitrary.
8. Fisheries New Zealand need to have a consistent rationale or policy on setting an allowance for other sources of fishing related mortality. The submitters support the default setting of 10% of the TACC and expect that any variation from this is adequately explained.

The submitters

9. The New Zealand Sport Fishing Council (NZSFC) appreciates the opportunity to submit on the proposals for the future management of four stocks in the Top of the South trawl fishery: Red gurnard 7, Rig 7, John dory 7 and Elephant fish 7. Fisheries New Zealand (FNZ) advice of consultation was received on 18 June 2019, with submissions due by 26 July 2019.

10. The NZ Sport Fishing Council is a recognised national sports organisation with over 35,000 affiliated members from 55 clubs 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.
11. The New Zealand Angling and 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.
12. 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].
13. The submitter's appreciate the somewhat longer consultation period (29 working days) for this year's October sustainability round.
14. 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

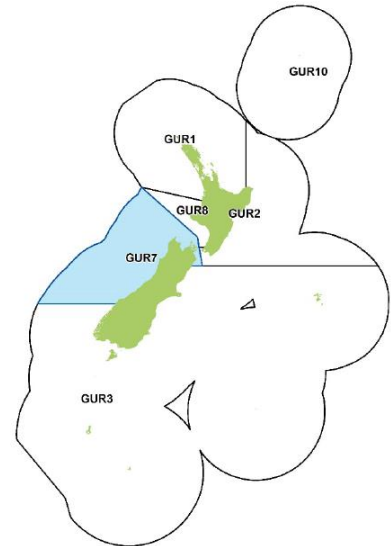
Summary of concerns

15. The submitters are concerned that there is a lack of principles and rigour in the way Fisheries New Zealand (FNZ) promotes Total Allowable Commercial Catch (TACC) increases and ignores cases for reductions. Repeatedly we see the practice of fishing down the stocks to less than half of best practice and then lobbying to hold them there. We are concerned that FNZ barely raises a whisper of objection, content to do the bidding for quota shareholders.
16. The three stocks slated for increases, Red gurnard 7, Rig 7, John dory 7 and Elephant fish 7, have no biomass estimates that would enable a full consideration of the merits or costs of proposals. Just agreeing that some averaging out of Catch Per Unit of Effort (CPUE) indices by a small group of industry actors is sufficient to manage these stocks is ludicrous. It is so shallow and self-serving that for FNZ to embrace and advance these claims diminishes their standing as a management authority.
17. The correct status is - we don't know the state of stocks, and in the absence of better information we are more likely to reduce TACCs than increase them when fisheries independent research suggests stocks are declining.
18. There is simply no place for Fisheries New Zealand's habit of increasing TACCs so they impose no constraints on catch.

Proposal to increase Total Allowable Catch for Red Gurnard in GUR 7

Background

19. Red gurnard have a fast growth rate and relatively short lifespan, and fluctuations in recruitment may result in large fluctuations in stock biomass, exacerbated by the high exploitation rate.
20. The catch limits for red gurnard in GUR 7 were reviewed in 2014 when the Total Allowable Catch (TAC) was increased from 855 to 919 tonnes and the Total Allowable Commercial Catch (TACC) was increased from 785 to 845 tonnes. In 2017 the TAC was increased to 1065 tonnes and the TACC to 975 tonnes.
21. The Fisheries Plenary concluded that the trawl survey data since 1992 was a better index of trends in abundance than the commercial Catch Per Unit of Effort (CPUE) time series. The Plenary also set a management target of the average of 10 West Coast South Island trawl survey biomass estimates from 1992 to 2013, excluding the 2003 survey estimate because of a large negative change in catchability that year.



Proposals

22. Fisheries New Zealand propose the following options for the Total Allowable Catch (TAC), Total Allowable Commercial Catch (TACC) and associated allowances for Red Gurnard in GUR 7 (Table 1). These include TACC increases of 10% or 20%. FNZ also propose to increase the allowance for recreational fishing interests by 50%, to 38 tonnes.

MPI rationale for increasing the TACC

23. Fisheries New Zealand rationale for reviewing Red gurnard 7 includes:
 - a. Red gurnard stock size can be highly variable from year to year.
 - b. Information from the West Coast and top of the South Island trawl survey in 2017 and the preliminary results from the 2019 trawl survey show that the relative biomass has stayed at a high level and is three times higher than the current target level. The numbers of pre-recruits remain high indicating good recruitment in the short term.
 - c. Two different options are proposed to allow for consideration of the uncertainty in the available information and the management of sustainability risk. The Information Principles in the Fisheries Act require that caution be applied when making decisions.

Table 1: Proposed options for the TAC, TACC and allowances in tonnes for red gurnard 7.

Stock	Option	Total Allowable Catch (t)	Total Allowable Commercial Catch (t)	Allowances		
				Customary Māori (t)	Recreational (t)	All other mortality caused by fishing (t)
GUR 7	Option 1 (<i>Status quo</i>)	1,065	975	15	25	50
	Option 2	1,176 ↑	1073 ↑ (10%)	15	38 ↑ (50%)	50
	Option 3	1,273 ↑	1170 ↑ (20%)	15	38 ↑ (50%)	50

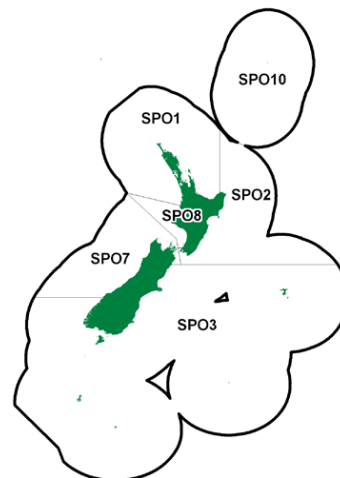
Submission

24. The submitters support Option 1 for Red gurnard 7, no change to the TAC, TACC or allowances.
25. The submitters support the use of data from fishery independent surveys and believe they will become increasingly important as fishing gear and technology changes.
26. The trawl survey index has declined since 2015, though given the wide confidence intervals it is hard to determine by how much.
27. It is common that fish stocks have natural cycles in abundance. A fundamental property of cycles is that increases don't last. They are followed by a decline. Increasing catch allowances when abundance is on the way down may exacerbate the inevitable decline when it comes. As abundance declines trawl effort has to increase to catch the TACC, putting unsustainable pressure on associated stocks.
28. Hector's dolphins occur around most of the South Island in three recognised sub-populations. The smallest and most vulnerable sub-population of Hector's dolphin in New Zealand is off the north coast of the South Island. The fisheries risk to Hector's dolphins for the north coast South Island is moderate; with commercial fishing estimated to be responsible for on average around one Hector's dolphin death per year (range 0.36-2.2). Of these, commercial trawls are estimated to be responsible for around 30% of the deaths. However, reporting rates of dolphin deaths and the estimated population size that underlie this estimate are both uncertain. The risk assessment calculates that, to achieve the desired outcome with high certainty, residual risk needs to be reduced by at least 52 percent.
29. The submitters do not support any increase in trawl fishing effort or TACs in FMA 7 until the new Maui and Hector's Dolphin Threat Management Plan is implemented and cameras are installed on all trawlers fishing this area.
30. The submitters are concerned that FNZ does not have a consistent rationale or policy on setting an allowance for other sources of fishing related mortality. For trawl caught fish where a minimum legal size (or industry minimum economic size) results in discarded fish there needs to be a more consistent approach. Usually the allowance set aside to account for fishing related mortality is set as a proportion of TACC. If changes to the TAC are made the submitters support the default setting of 10% of the TACC and require that any variation from this is adequately explained.

Proposal to increase Total Allowable Catch for Rig in SPO 7

Background

31. 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 has reduced the available fishing area for Rig in SPO 7.
32. Total reported landings of rig increased rapidly during the 1970s and early 1980s. Rig were introduced into the Quota Management System in 1986. Landings declined to less than half those of the previous decade in response to TACCs that were set at levels that were lower than previous catches
33. The catch limits for rig in SPO 7 were reviewed in 2018 when the TAC was increased from 306 to 346 tonnes and the TACC was increased from 246 to 271 tonnes.
34. The Southern Inshore Working Group has set the soft limit at the average of the two worst years from the West Coast South Island trawl survey with biomass estimates of 144 tonnes in 2003 and 153 tonnes in 2005 from the area surveyed. The management target was set by the working group at twice the soft limit.



Proposals

35. Fisheries New Zealand propose the following options for the total allowable catch (TAC), total allowable commercial catch (TACC) and associated allowances for rig in SPO 7 (Table 2). These include proposing TACC increases of 10% or 20%.

Table 2: Proposed options for the TAC, TACC and allowances in tonnes for rig 7.

Stock	Option	Total Allowable Catch (t)	Total Allowable Commercial Catch (t)	Allowances		
				Customary Māori (t)	Recreational (t)	All other mortality caused by fishing (t)
SPO 7	Option 1 (<i>Status quo</i>)	346	271	15	33	27
	Option 2	373 ↑	298 ↑ (10%)	15	33	27
	Option 3	400 ↑	325 ↑ (20%)	15	33	27

MPI rationale for increasing the TACC

36. Fisheries New Zealand rationale for reviewing rig 7 poorly presented this includes:
 - a. Fisheries New Zealand considers SPO 7 to be likely (>60% probability) to be at or above target levels [Comment: FNZ do not state that this is the assessment from the 2017 trawl survey results which have already been used to increase the TACC in 2018].
 - b. The preliminary estimated biomass for 2019 is also slightly down on 2017 and 2015 but remains high comparative to earlier trends.
 - c. Size composition data from the West Coast South Island (WCSI) trawl survey catches suggests strong recruitment in recent years.

Submission

37. The submitters support Option 1 for Rig 7 (SPO 7), no change to the TAC, TACC or allowances.
38. Since 2015 the trawl survey index has been trending down (Figure 1). Although the confidence intervals are wide, the trend is clear. Fisheries New Zealand are proposing to increase catch while the stock is declining.
39. The submitters support the use of data from fishery independent surveys and believe they will become increasingly important as fishing gear and technology changes. The WCSI trawl surveys provide estimates of relative biomass, not total biomass for a species in FMA 7. It is the trend across several surveys that need to be given more weight in decision making than a result in a single year.
40. It is important to note that the 2003 trawl survey biomass estimate was not used as part of the calculation to set a proxy target for Red gurnard 7 because of a large negative change in catchability that year. Even though the average of all the survey estimates from 1992 to 2013 (10 years excluding 2003) was used, 2003 was the lowest trawl survey estimate for SPO 7 (Figure 1). Given this, it must not be used in setting the soft limit, especially when based on the survey average from only two years (2003 and 2005). The proxy management target for SPO 7 is simply double the soft limit.
41. The management target needs to be reset at a Plenary Meeting not a Southern Inshore Working Group Meeting, and must not be used by Fisheries New Zealand as justification for increasing the TACC again in 2019.
42. It is common that fish stocks have natural cycles in abundance. A fundamental property of cycles is that increases don't last. They are followed by a decline. Increasing catch allowances when abundance is on the way down may exacerbate the decline. As abundance declines trawl effort has to increase to catch the TACC.
43. Hector's dolphins occur around most of the South Island in three recognised sub-populations. The smallest and most vulnerable sub-population of hectors dolphin in New Zealand is off the north coast of the South Island. The fisheries risk to Hector's dolphins for the north coast South Island is moderate; with commercial fishing estimated to be responsible for on average around one Hector's dolphin death per year (range 0.36-2.2). Of these, commercial trawls are estimated to be responsible for around 30% of the deaths. However, reporting rates of dolphin deaths and the estimated population size that underlie this estimate are both

uncertain. The risk assessment calculates that, to achieve the desired outcome with high certainty, residual risk needs to be reduced by at least 52 percent.

44. The submitters do not support any increase in trawl fishing effort or TACs in FMA 7 until the new Maui and Hector's Dolphin Threat Management Plan is implemented and cameras are installed on all trawlers fishing this area.
45. The submitters are concerned that FNZ does not have a consistent rationale or policy on setting an allowance for other sources of fishing related mortality. For trawl caught fish where a minimum legal size (or industry minimum economic size) results in discarded fish there needs to be a more consistent approach. Usually this allowance for fishing related mortality is set as a proportion of TACC. If changes to the TAC are made the submitters support the default setting of 10% of the TACC and require that any variation from this is adequately explained.

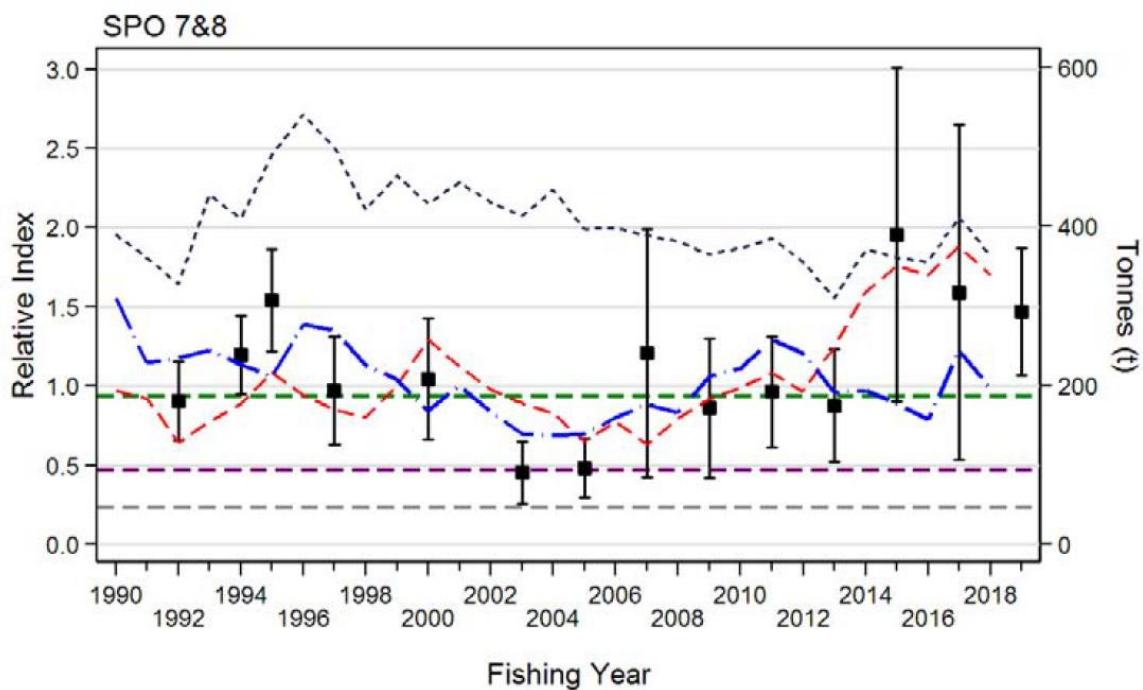


Figure 1: The West Coast South Island trawl survey results (black squares with confidence intervals) scaled to have an average of 1.0 on the left-hand scale. The 2019 survey index is preliminary. The agreed Soft Limit (average: 2003 and 2005 WCSI survey biomass estimates=0.49 on the left-hand scale) is shown as a purple line, and the calculated BMSY proxy ($=2 \times \text{Soft Limit}$) is shown as a green dashed line and the calculated Hard Limit ($=0.5 \times \text{Soft Limit}$) is shown as a grey line. The grey dashed line is commercial landings in tonnes on the right-hand scale.

Proposal to increase Total Allowable Catch for John Dory in JDO 7

Background

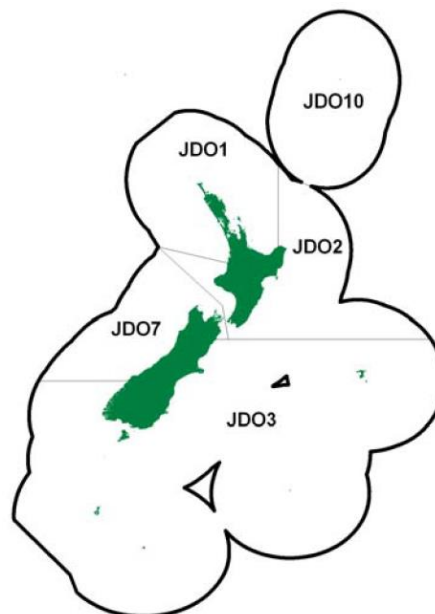
46. John dory spawn more than once in a season. The eggs are large and pelagic, taking 12-14 days to hatch. Initially John dory grow rapidly, reaching 12 to 18cm after the first year. Females then grow larger than males. Females mature at 29 to 35cm. Males mature at 23 to 29cm. John dory are considered to have a maximum age of 12 years.

47. John dory populations can fluctuate widely as a result of varying levels of recruitment.

48. They were introduced into the QMS in 1986 with a TAC in JDO 7 of 70 tonnes. Commercial catch and survey estimates were low during the 1990s. Landings increased from the year 2000 with the commercial catch often exceeding the TACC despite TACC increases in 2004, 2009, 2012 and 2016.

49. The catch limits for John dory in JDO 7 were last reviewed in 2016 with the TAC increasing from 161 to 206 tonnes and the TACC was increased from 150 to 190 tonnes. The allowance for recreational fishing increased from 2 to 4 tonnes.

50. The management target was set at the average West Coast South Island trawl survey biomass estimate for the 10 surveys from 1992 to 2011, including 2003.



Proposals

51. Fisheries New Zealand propose the following options for the Total Allowable Catch (TAC), Total Allowable Commercial Catch (TACC) and associated allowances for John dory in JDO 7 (Table 3). These include proposing TACC increases of 10% or 20%.

Table 3: Proposed options for the TAC, TACC and allowances in tonnes for John dory 7.

Stock	Option	Total Allowable Catch (t)	Total Allowable Commercial Catch (t)	Allowances		
				Customary Māori (t)	Recreational (t)	All other mortality caused by fishing (t)
SPO 7	Option 1 (<i>Status quo</i>)	346	271	15	33	27
	Option 2	373 ↑	298 ↑ (10%)	15	33	27
	Option 3	400 ↑	325 ↑ (20%)	15	33	27

MPI rationale for increasing the TACC

52. Fisheries New Zealand rationale for reviewing John dory 7 poorly presented this includes:
- a. Fisheries New Zealand considers JDO to be very likely (>90% probability) to be at or above target levels. But then FNZ state that preliminary results from the 2019 WCSI trawl survey, however, indicate a decline in relative biomass, with wide confidence intervals which cross below the target line. FNZ say the scientific basis for an increase in utilisation is weaker than for GUR 7 and SPO 7.
 - b. John dory is principally a bycatch species. Maximum constant yield estimates based on catch data are therefore uncertain, and it is difficult to determine whether changes in reported catches indicate changes in stock abundance or changes in target species.

Submission

53. The submitters support Option 1 for John dory 7, no change to the TAC, TACC or allowances.
54. The trawl survey index has been trending down over last four years. The statement that the John dory 7 is very likely to be above that target in 2017 does not apply given the 2019 preliminary result, which shows that biomass may already at or below the interim target (Figure 2). The distinction between these two survey results is poorly articulated in the discussion document.
55. Previously, the Ministry have said they will respond to trawl survey results in John dory 7 *“large fluctuations in stock biomass also mean management measures are required to rapidly reduce catches at times of persistent low recruitment”*. However, we note that there have been years of low abundance in JDO 7 yet there has never been a decrease in the TACC, only increases in response to higher survey results.
56. It is common that fish stocks have natural cycles in abundance. A fundamental property of cycles is that increases don't last. They are followed by a decline. Increasing catch allowances when abundance is on the way down may exacerbate the decline. As abundance declines trawl effort has to increase to catch the TACC. We do not want any increase in trawling.
57. Hector's dolphins occur around most of the South Island in three recognised sub-populations. The smallest and most vulnerable sub-population of hectors dolphin in New Zealand is off the north coast of the South Island. The fisheries risk to Hector's dolphins for the north coast South Island is moderate; with commercial fishing estimated to be responsible for on average around one Hector's dolphin death per year (range 0.36-2.2). Of these, commercial trawls are estimated to be responsible for around 30% of the deaths. However, reporting rates of dolphin deaths and the estimated population size that underlie this estimate are both uncertain. The risk assessment calculates that, to achieve the desired outcome with high certainty, residual risk needs to be reduced by at least 52 percent.
58. The submitters do not support any increase in trawl fishing effort or TACs in FMA 7 until the new Maui and Hector's Dolphin Threat Management Plan is implemented and cameras are installed on all trawlers fishing this area.

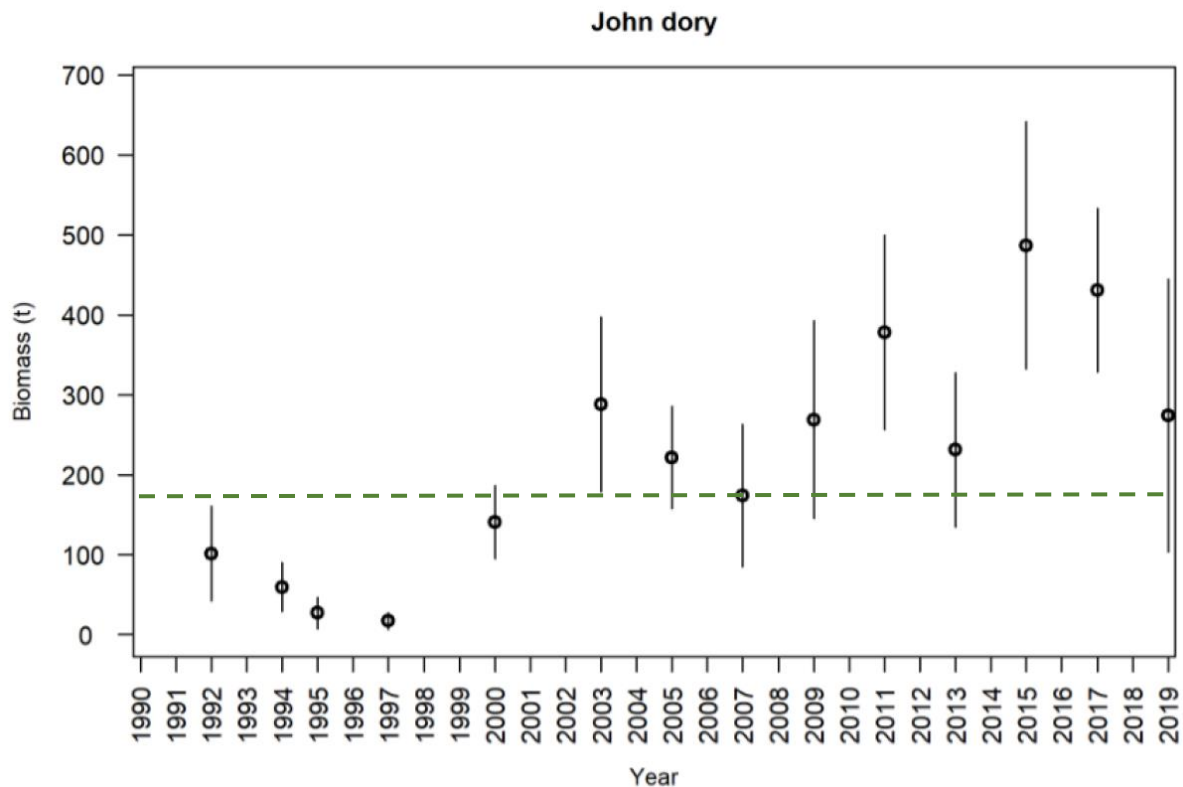


Figure 2: The West Coast South Island trawl survey biomass estimates for John dory including the preliminary 2019 survey result. Interim target biomass green dashed line.

Proposal to Set a Total Allowable Catch for Elephant fish 7

59. This is the first time a TAC has been set for the Elephant fish 7 (ELE 7) fishery. In setting a TAC for elephant fish, customary, recreational, and other sources of mortality allowances are also required. When introduced into the QMS, a TACC was based on the historic commercial catch levels, and in 1986 there was no requirement to set a TAC or allowances.
60. There is little information on the non-commercial catch and other sources of fishing mortality for ELE 7. Therefore, setting of allowances seems somewhat arbitrary, but that has been the case for a number of fisheries. The submitters note that the TACC for ELE 7 was exceeded in 2018 and there are some historic reports of high discard rates in some areas. Better information on catch and discards is needed.
61. The submitters are concerned that FNZ does not have a consistent rationale or policy on setting an allowance for other sources of fishing related mortality. For trawl caught fish where a minimum legal size (or industry minimum economic size) results in discarded fish there needs to be a more consistent approach. Usually this allowance for other fishing related mortality is set as a proportion of TACC. If changes to the TAC are made the submitters support the default setting of 10% of the TACC and require that any variation from this is adequately explained.

Discussion on Multi-species effects

62. The submitters support the evaluation of multi-species effects for inshore finfish fisheries. While fishers are required to report a single target species for each fishing event, they are most often targeting a species mix that suits the market or their Annual Catch Entitlement (ACE) holding.
63. The term bycatch is overused and not that useful in a multi-species mixed fishery where the target species is recorded after the catch is landed and may not accurately represent the fishers intended catch when putting the gear in the water. The species mix of catch in an area may be better represented by fishing depth, season and a suite of reported target species as has been used in previous catch per unit effort analysis. The WCSI analysis used a fishery definition for bottom trawl tows targeting gurnard, red cod, tarakihi, barracouta, stargazer, and blue warehou.
64. The submitters need to comment on the final paragraph of this section. It states:
“Overall, Fisheries New Zealand considers the proposed increases in gurnard, rig and John dory..... are sustainable in the context of high biomass trends and/or stocks that are above target levels of abundance. This is particularly the case, given that these stocks are regularly monitored and the increases will be re-evaluated during stage 2 of this review.” The trawl survey biomass index for gurnard, rig and John dory are all trending down. Red gurnard is the only one that is safely above the target level. The WCSI trawl survey is used to monitor these stocks and the next survey will be in 2021. So, there will be no new information to re-evaluate the stocks other than commercial catch from the 2018-19 fishing year, which was taken under the old TACC. Stage 2 will only be assessing flatfish and snapper in 2020.
65. The interim targets used for these gurnard, rig and John dory stocks needs to be reviewed. The method of setting a target using the average CPUE or survey index that includes the years when the fishery was most depleted is no longer good enough. These estimates will be closer to the soft limit than the target in modern fisheries management.
66. As we are seeing again this year, with the tarakihi management plan developed by commercial fishers, they are happy fishing stocks around the soft limit rather than rebuilding them to a real world target biomass in line with international best practice.