



Fisheries New Zealand

Tini a Tangaroa

Review of Sustainability Measures for Blue Cod (BCO 5) for 2020/21

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1 Stocks being reviewed

Blue Cod (BCO 5)

Parapercis Colias, blue cod, Rāwaru

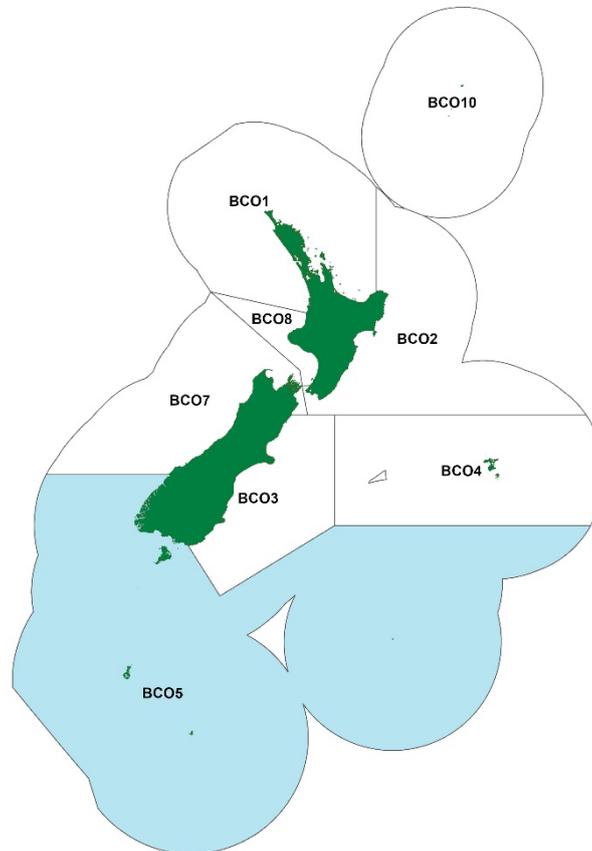


Figure 1: Quota Management Area (QMA) for BCO 5

2 Summary

1. Fisheries New Zealand is proposing to review the sustainability measures for blue cod in Quota Management Area 5 (BCO 5) for the 1 October 2020 fishing year.
2. Blue cod is an iconic species, important to all sectors in southern New Zealand. Management objectives for the fishery are set out in the National Blue Cod Strategy¹, which prioritises research and assessment of BCO 5, New Zealand's largest blue cod fishery.
3. Concerns about the BCO 5 fishery led to the total allowable catch (TAC) being reviewed in 2011 with the total allowable commercial catch (TACC) reduced by 20% and the recreational daily bag limit reduced from 30 to 20. Despite these reductions, continued concerns resulted in voluntary shelving being introduced by quota holders, and the regulated mesh size used on commercial cod pots being increased in 2017. In 2019 consultation also occurred on further measures as part of implementing the National Blue Cod Strategy, including a further reduction to the recreational daily bag limit.
4. A new stock assessment undertaken in 2019 concluded BCO 5 is below the target level of 40% B_0 , and that at the current catch (which is lower than the TACC) the stock is likely (>60%) to be overfished. While the stock is very unlikely to currently be below the soft or hard limit, a biomass

¹ <https://www.fisheries.govt.nz/protection-and-response/sustainable-fisheries/national-blue-cod-strategy/>

projection derived from the stock assessment concluded that at the current catch the biomass would continue to decline.

5. Based on this information, three TAC options are proposed for consultation. Options 2 and 3 are decreases and are thought to be within the range of yield estimates that should move the stock towards the target biomass. Option 1, on its own, is unlikely to achieve this and would rely on other measures implemented as part of the National Blue Cod Strategy for any improvement to BCO 5 stock status.

Option 1 is to maintain the *status quo* TAC of 1,452 tonnes. This option acknowledges that the biomass is not yet below the soft limit. While it allows for potentially greater utilisation in the short term, scientific projections suggest a continuing decrease in biomass (and lower yields) in the future.

Option 2 proposes to reduce the TAC to 999 tonnes. Within this TAC, the TACC would be set at 874 tonnes, the allowance for Customary Maori increased to 20 tonnes, the allowance for recreational fishing reduced to 85 tonnes (based on updated catch estimates), and the allowance for other sources of fishing related mortality unchanged at 20 tonnes. Option 2 is based on a projection from the November 2019 BCO 5 stock assessment which estimates that, at 80% of current catch level, there is a 50% chance the fishery would rebuild to be at, or above, target within 5 years (Option 2 represents a proposed catch of 80% of the “current catch”²).

Option 3 sets the TAC at 825 tonnes and, within this TAC, sets the TACC at 700 tonnes. Allowances would be the same as Option 2. This is the most cautious option and takes into account there may be changes in fishing patterns that are not captured in the stock assessment that may be masking the declines in abundance (the assessment may be optimistic).

6. Fisheries New Zealand seeks your input and views on the options proposed.
7. In addition to this year’s TAC review, BCO 5 quota holders have requested approval of a harvest control rule or ‘Rebuild Rule’. Under such a rule, future TACs would change according to agreed steps as BCO 5 biomass increases (or decreases). The rule aims to ensure a more responsive approach to TAC setting to ensure the stock reaches the target biomass. Fisheries New Zealand seeks initial views on the use of this rule in the BCO 5 fishery ahead of further examination and consideration.

3 Quota Management System

8. BCO 5 was put into the quota management system in 1986, with a 1 October to 30 September fishing year. Only a TACC was set at that time, being 1,190 tonnes. Subsequent to a significant number of allocations from the Quota Appeals Authority and section 362 of the Fisheries Act 1996, the TACC reached 1,548.471 tonnes by 2001.
9. In 2011 a TAC of 1,452 tonnes was set and the TACC was reduced by 20% to 1,239 tonnes. At the same time the recreational daily bag limit was reduced from 30 per person to 20 per person.
10. Since 2016/17 commercial fishers have shelved annual catch entitlement (ACE) in the following proportions by year;

FISHING YEAR	Percentage ACE Shelving
2016/17	8.5%
2017/18	7.6%
2018/19	6.7%
2019/20	14%

11. Catch has been below the TACC in recent years, over and above the amount of ACE shelved. Catch in the 2019/20 fishing year was 827 tonnes, 33% below the current TACC.

² The current catch, as used in the stock assessment, is the average catch of the three fishing years from 2015/16 to 2017/19 and being 1,092 tonnes. This figure is less than the TACC by 147 tonnes.

12. There are commercial fishing area closures for Paterson Inlet and the internal waters of Fiordland. Commercial fishing is also prohibited within the mātaihai and marine reserves located in the BCO 5 QMA (see Table 1).

4 Legal basis for managing fisheries in New Zealand

13. The Fisheries Act 1996 provides the legal basis for managing fisheries in New Zealand, including the Minister's responsibilities for setting and varying sustainability measures. See the separate document Overview of legislative requirements and other considerations at <https://www.fisheries.govt.nz/dmsdocument/40502> for more information.

5 Treaty of Waitangi obligations

5.1 Input and participation of tangata whenua

14. Iwi Fisheries Forums and Forum Fisheries Plans are the main ways to provide for input and participation of tangata whenua. Te Waka a Māui me Ōna Toka Iwi Forum (the forum) is the South Island iwi fisheries forum — it includes all nine tangata whenua Iwi of Te Wai Pounamu.
15. At the 12 November 2019 hui, Fisheries New Zealand sought the forum's input into the BCO 5 review. The forum advised a preference for input through the forum process. Ngai Tahu is the iwi with mana moana over BCO 5, and has stated that they consider this review of BCO 5 to be a high priority.
16. Prior to a proposed March 2020 forum hui on 18 March 2020, Fisheries New Zealand provided forum members with fisheries management material for discussion at the hui, including the proposal in this paper to review the BCO 5 TAC. Information was sought on whether customary limits remained appropriate. Due to travel restrictions the intended hui was cancelled.
17. Given the disruption due to COOVID-19, further input from the forum has been impacted. Any further input provided will be via electronic means and will be included in the final advice and recommendations provided to the Minister. Input provided may result in an alternative option being presented to the Minister for his decision on the management settings for BCO 5.

5.2 Kaitiakitanga

18. Information provided by forums, and iwi views on the management of fisheries resources and fish stocks, as set out in Iwi Fisheries Plans, are the way that tangata whenua exercise kaitiakitanga in respect to fish stocks.
19. Rawaru (blue cod) is identified as a taonga species in the Te Waipounamu Iwi Forum Fisheries Plan. The Forum Fisheries Plan contains objectives to support and provide for the interests of South Island iwi, including the following which are relevant to the options proposed in this paper:
 - **Management objective 1:** To create thriving customary non-commercial fisheries that support the cultural wellbeing of South Island iwi and whanau;
 - **Management objective 3:** To develop environmentally responsible, productive, sustainable and culturally appropriate commercial fisheries that create long-term commercial benefits and economic development opportunities for South Island iwi; and
 - **Management objective 5:** to restore, maintain and enhance the mauri and wairua of fisheries throughout the South Island.
20. Fisheries New Zealand considers that this review contributes to all of these Management objectives.

21. Table 1 lists the customary fisheries areas that fall within BCO 5.

Table 1: Customary fisheries areas within BCO 5

	Management type
Te Waka a Te Wera Mātaitai	Mātaitai Reserve
Pikomamaku Mātaitai	Mātaitai Reserve
Kaikuka Mātaitai	Mātaitai Reserve
Horomamae Mātaitai	Mātaitai Reserve
Waitutu Mātaitai	Mātaitai Reserve
Oreti Mātaitai	Mātaitai Reserve
Motupōhue Mātaitai	Mātaitai Reserve

22. Commercial fishing is not permitted within mātaitai reserves, but recreational and customary fishing is allowed. The proposals in this paper, which aim to generally increase blue cod biomass are likely to also increase the health of blue cod stocks in these customary fisheries areas.

6 Relevant acts, plans, strategies, statements and context

23. Management objectives for the fishery are set out in the National Blue Cod Strategy, which prioritises research and assessment of BCO 5, New Zealand's largest blue cod fishery. The TAC options (particularly Options 2 and 3, proposed in this paper are consistent with these objectives.

24. There are also a number of acts, regional plans in place within FMA 5, including:

- Those associated with the Fiordland Marine Area, which integrate a number of marine protection and fisheries mechanisms to manage coastal and marine resources.
- Regional coastal plans to address the cumulative effects of activities in the coastal marine area, and the adverse impacts from land-based activities on the marine environment.

25. The Draft National Inshore Finfish Fisheries Plan (2019) provides guidance on management objectives and strategies for finfish fisheries. The new Draft National Inshore Finfish Fisheries Plan will guide the operational management of inshore finfish fisheries for the next five years. The Plan is aimed at progressing New Zealand towards ecosystem-based fisheries management. The five key focus areas of the Plan are: managing individual stocks, enhancing benefits for customary, commercial and recreational fisheries, enabling integrated multi-stock management, improving local fisheries, and improving environmental performance. Public consultation on the draft plan closed 19 February 2020. Thirty-nine submissions, ranging across a number of themes were received, which Fisheries New Zealand is currently considering.

7 Current state of the stocks

26. The best available information on the BCO 5 stock is the November 2019 stock assessment, updated Plenary Document, updated Catch Per Unit Effort (CPUE) assessments and catch landing returns.

27. Concerns about the BCO 5 fishery started to become evident from the mid 2000s. In 2011 the TAC was reviewed with the TACC reduced by 20% and the recreational daily bag limit reduced from 30 to 20. Despite these reductions, sustainability concerns persisted resulting in voluntary shelving being introduced by quota holders in 2016/17, the regulated mesh size used on commercial cod pots being increased in 2017 and, in 2019, consultation on a further reduction to the recreational daily bag limit along with other measures.

28. In the most recent stock assessment update (Doonan I, 2020), BCO 5 was assessed to be below the default target biomass. The stock status is currently assessed relative to a default target biomass level of 40% B_0 , and an associated soft limit of 20% and hard limit of 10%.
29. The 2019 Plenary concluded that the 2019 biomass was estimated to be 36% B_0 ; and is unlikely (< 40%) to be at or above the Management Target. Overfishing is likely (> 60%) to be occurring with the exploitation rate ($U_{40\%SB}$) now considered to have been above the Overfishing Threshold since 1990. The current catch (average of 2015/16-2017/18) is likely (>60%) to cause over fishing to continue. Note the current catch period does not include the very low landings in the immediate past fishing year. The previous year's catch (2018/19) was 827 tonnes, 413 tonnes below the TACC.
30. This is the second stock assessment for BCO 5, the previous one was carried out in 2013. The 2019 assessment used an age-based Bayesian model. The model was fitted separately to data from Statistical Areas 025, 027 and 030 where 90% of blue cod in the fishery are caught.

8 Recent catch levels and trends

31. BCO 5 commercial catch is almost exclusively taken by the target cod pot fishery operating within Foveaux Strait and around Stewart Island (Statistical Areas 025, 027, 029 and 030). There is also some commercial effort in Fiordland, but to a much lesser extent.
32. Figure 2 below shows that commercial catch in BCO 5 has been declining since 2003/04 when a high of 1,557,437 tonnes was taken. In 2018/19, 827 tonnes was landed. The CPUE for statistical areas 025, 027 and 030 also show a declining trend from the early to middle 2000s. The CPUE for statistical area 025 (which traditionally accounts for 50 to 60% of the fishery) shows a decline. On the other hand, however, randomised potting surveys for statistical area 025, undertaken in 2010, 2014 and 2018, show no clear trend in catch rates over the time series.

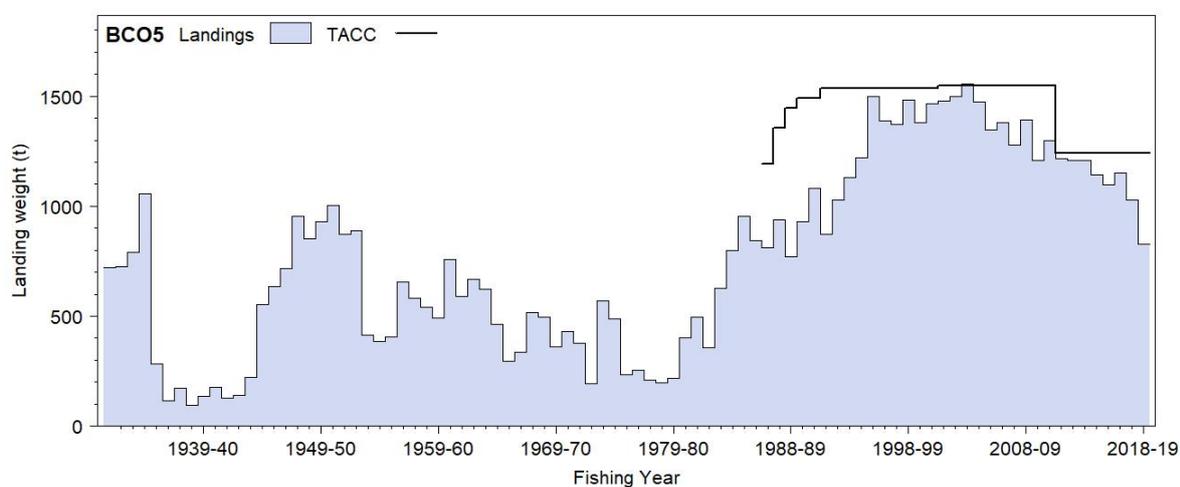


Figure 2: Annual Commercial Landings for BCO 5 (in tonnes)

33. The current allowances for customary fishing were set based on best available information of customary catch, however, the reported customary catch is intermittent and depends on when significant occasions are held in the area. Customary authorisations of up to 14 tonnes are recorded at times of important hākari (feast or celebration).
34. The National Panel Survey of 2017/18 provides the best information on BCO 5 recreational catch. The 2017/18 survey estimates approximately 67 tonnes of recreational catch across BCO 5. This is 33% more than the 2011/12 survey estimate, suggesting that recreational effort could be

increasing. In addition, there is an annual average of 16 tonnes section 111³ recreational catch (which is consistent over time). An early (2001/02) estimate of recreational catch of 229 tonnes (on which the current recreational allowance is based) used telephone diary methodology, and is now thought to be implausibly high and unreliable.

Table 2: Summary of the National Panel Survey of Marine Recreational Fishers results from BCO 5.

Fish stock	2011/12 Estimated harvest (tonnes)	2017/18 Estimated harvest (tonnes)
BCO 5	44	67

9 Projections of biomass

35. Ten-year stock projections have been conducted for the three Statistical Areas (025, 027, 030) at constant catch levels, with summary statistics calculated at the end of five and 10 years. The projections indicate that under the assumptions of commercial catch at current levels and recruitment at recent levels, the BCO 5 biomass is likely to decline gradually over the next 10 years (Figure 3). This “current catch” projection, is comparable to the *status quo* - Option 1 in this paper.

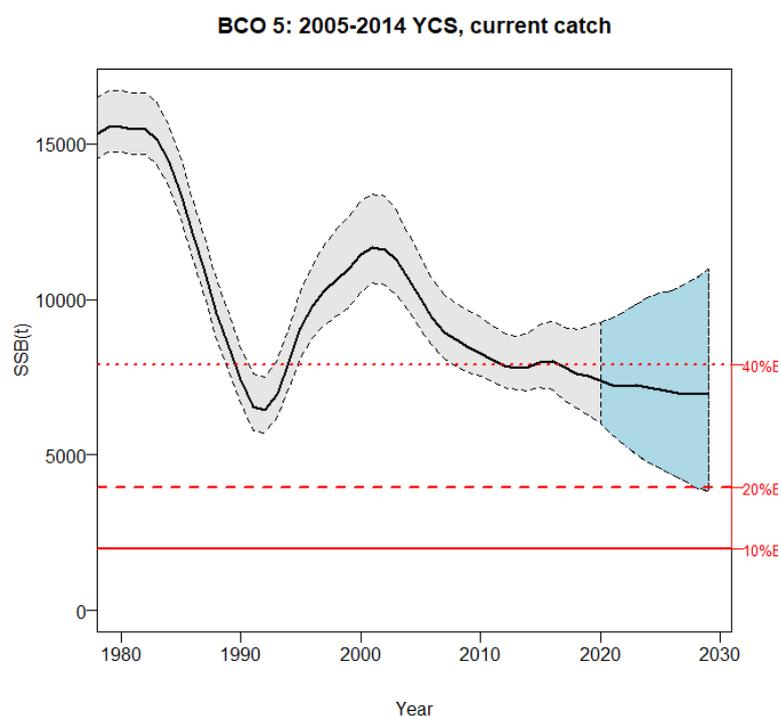


Figure 3: Projected BCO 5 spawning biomass ($%B_0$) assuming recent recruitment and catch at current levels. Median estimates are shown as solid lines and 95% confidence intervals as shaded polygons. Projections start in 2020. The red lines represent the Management Target 40% B_0 , Soft Limit 20% B_0 , and Hard Limit 10% B_0 .

36. A projection assuming catch at 80% of current levels (selected as the average of the 2015/16, 2016/17 and 2017/18 fishing years, being 1,092 tonnes) showed a 50% chance that the spawning biomass would be at or above the target (40% B_0) within five years (see Figure 4). Eighty percent of the “current catch” is comparable to Option 2 in this paper.

³ Section 111 of the Fisheries Act 1996 enables commercial fishers to take a recreational catch for their own consumption.

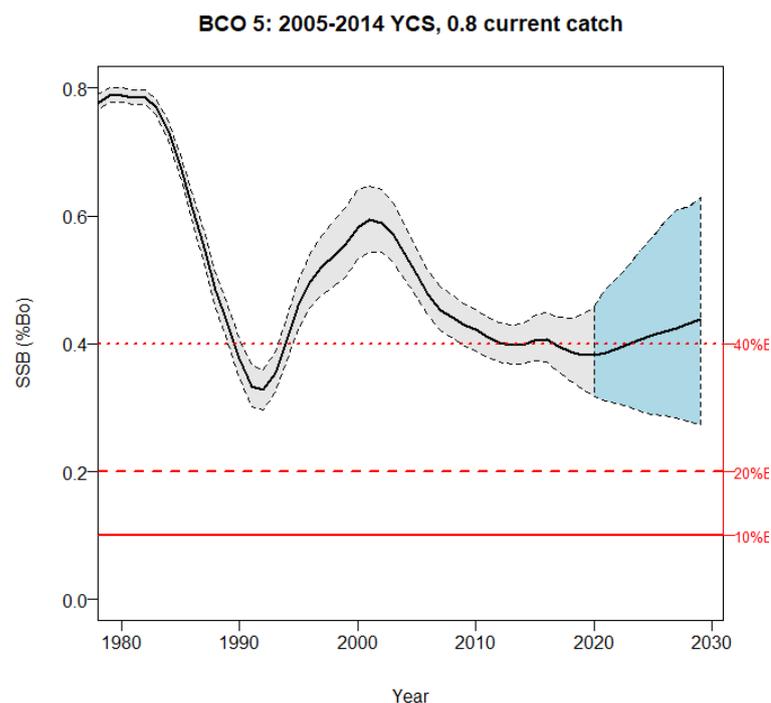


Figure 4: Projected BCO 5 spawning biomass ($%B_0$) assuming recent recruitment and at 80% of current catch level. Median estimates are shown as solid lines and 95% confidence intervals as shaded polygons. Projections start in 2020. The red lines represent the Management Target 40% B_0 , Soft Limit 20% B_0 , and Hard Limit 10% B_0 .

10 Current TAC, TACC and allowances

Table 3: Current TAC, TACC and allowances (all in tonnes) for BCO 5

	Total Allowable Catch	Total Allowable Commercial Catch	Allowances		
			Customary Maori	Recreational	All other mortality to the stock caused by fishing
BCO 5	1,452	1,239	2	191	20

11 Current other controls

37. Within BCO 5, commercial take or possession of blue cod is specifically prohibited in Paterson Inlet, and the internal waters of the Fiordland Marine Area. Commercial fishing is also prohibited within mātaihai (see Table 1). General spatial restrictions exist where all forms of fishing are prohibited.
38. The minimum inside diameter of the square mesh covering a cod pot which must be larger than 54 mm. The minimum legal commercial size limit for BCO 5 is 33cm.
39. The daily limit for recreational fishers is 20 blue cod per person per day. The minimum recreational size limit is 33 cm. Cod pots used by recreational fishers must also have a minimum inside mesh diameter of 54 mm. In 2011, the daily limit was reduced from 30 to 20 for Southland and the external waters of the Fiordland Marine Area. Preceding these changes, the daily limit in Paterson's Inlet was reduced from 30 to 15 in 1994. In 2005, new commercial and recreational rules were introduced to the internal waters of the Fiordland Marine Area. The area was closed to

commercial fishing and a daily limit of three was set except for Milford and Doubtful Sounds which were closed to blue cod fishing for 10 years. The closure for Doubtful Sound was lifted in 2015 and the new daily limit within the Doubtful Sound complex, including Thompson’s Sound and Bradshaw Sound was set at one blue cod.

40. In 2019 consultation occurred on further reductions to the recreational daily bag limit for blue cod along with other measures. Resulting changes to the bag limit and other measures will be announced shortly.

12 Options – varying the TAC and TACCs and allowances

41. Three options are proposed for the TAC, TACC and allowances for each stock. Feedback is sought on these options, or alternatives within this range.

Table 4: Options for varying TAC, TACC and allowances (all in tonnes) for BCO 5

Stock	Option	Total Allowable Catch	Total Allowable Commercial Catch	Allowances		
				Customary Māori	Recreational	All other mortality to the stock caused by fishing
BCO 5	Option 1 (<i>Status quo</i>)	1,452	1,239	2	191	20
BCO 5	Option 2	999 ↓ (31%)	874 ↓ (29%)	20 ↑ (N/A)	85 ↓ (55%)	20
BCO 5	Option 3	825 ↓ (43%)	700 ↓ (44%)	20 ↑ (N/A)	85 ↓ (55%)	20

12.1 Total Allowable Catch

42. Option 1 is the *status quo* TAC of 1,452 tonnes. Option 1 carries the most sustainability risk. The 2019 Plenary concluded that B_{2019} was estimated to be 36% B_0 and is unlikely (< 40%) to be at or above the Management Target, and that overfishing is likely (> 60%) to be occurring. Note the current catch period does not include the very low landings in the immediate past fishing year (see Figure 3). The Plenary notes that the exploitation rate, a proxy for fishing intensity, has been above the target since 1990, and that biomass has been decreasing since about 2000.
43. Option 2 proposes to decrease the TAC from 1,452 tonnes to 999 tonnes (approximately 80% of “current catch”, and a 31% reduction to the TAC). Projections from the stock assessment concluded that, after five years, there is a 50% chance the fishery would be at, or above, target (40% B_0) under this option (see Figure 4).
44. Option 3 takes into account the uncertainty of information used to undertake the stock assessment and would reduce the TAC by 43%. This uncertainty includes the impact of the increase in pot mesh size, and changes in fisher behaviour that are not captured in the assessment. These include changes in the number of pots being fished, and changes in areas fished (local versus long-distance). Also, some fishers report they now move pots after each lift instead of re-setting them in the same area. This may have biased recent CPUE, thereby masking declines in abundance.

12.2 Allowances

45. The most reliable estimate of recreational harvest comes from the National Panel Survey of Marine Recreational Fishers 2017/18, which estimated that 67 tonnes were taken across BCO 5 in 2017/18. However, the amount of recreational fishing effort is likely to vary from year to year depending on factors such as weather. The same survey methods were also employed in 2011/12, however the result in that year (an estimate of 44 tonnes taken) was considered

uncertain. After combining the 2017/18 Panel Survey estimate of 67 tonnes and reported section111 landings (around 18 tonnes each year), the total estimated catch is 85 tonnes.

46. This estimate is significantly lower than the recreational allowance set in 2012 of 191 tonnes. Panel Survey estimates were not available at that time for the Minister to take into account. Thus the 2012 allowance was based on a 2001/02 telephone diary estimate of 229 tonnes, scaled down to allow for a reduction in the daily bag limit that was implemented at that time. This survey estimate is now thought to be implausibly high and the methodology is no longer considered reliable for a number of reasons.
47. Based on this information it is proposed to decrease the recreational allowance from 191 tonnes to 85 tonnes under Options 2 and 3. This aligns the allowance with the 2017/18 Panel Survey estimate of 67 tonnes plus recent s111 reported catch.
48. Only two tonnes is currently allowed for customary Māori catch. Data indicates that catch varies significantly, but occasional catch for hākari, associated with manaakitanga for significant events, has considerably exceeded the two tonne allowance. Fisheries New Zealand is proposing the allowance for customary catch be increased to 20 tonnes.
49. Twenty tonnes is also proposed for other sources of fishing related mortality. The Plenary document assumes “discard mortality” for all fish caught but not landed. This is based on fishing practices that do not quickly return undersize fish to the water but wait until the end of the catching process and, predation of returned fish, especially by mollymawks. This suggests a higher estimate may be appropriate, however, the recent increase in mesh size (48mm to 54mm) is expected to have a reduced catches of undersized blue cod. Feedback during consultation is sought to confirm the appropriateness of this allowance.

12.3 Total Allowable Commercial Catch

50. Under Option 1 there would be no change to the TACC.
51. Under Option 2, the TACC would decrease from 1,239 tonnes to 874 tonnes. Based on the reported port price (\$5.05/kg), this represents a decrease in revenue of \$1.77 million per year. However, Option 2 is about 50 tonne higher than the total landings for last season’s catch. A more useful comparison would be against the average landings of the last 5 years. This indicates a reduction in landed value of \$0.89 million per year.
52. Under Option 3, the Total Allowable Commercial Catch would decrease from 1,239 tonnes to 700 tonnes. Based on the reported port price, this represents a decrease in revenue of \$2.6 million per year (Table 5). However, again, a potentially more appropriate measure would be against the average of the last 5 years landings. This gives a reduction of revenue from landings of \$1.77 million per year.

Table 5: Predicted changes to commercial revenue for the proposed options, based on recommended port price of \$5.05/kg for BCO 5 in the 2019/20 fishing year.

Option	Change from current TACC (tonnes)	Predicted revenue changes (\$p.a.)
Option 1 (<i>status quo</i>)	NA	NA
Option 2	365 t↓	\$1,770,000↓
Option 3	539 t↓	\$2,600,000↓

Table 6: Predicted changes to commercial revenue against the last five years landings, based on recommended port price of \$5.05/kg for BCO 5 in the 2019/20 fishing year.

Option	Change from last five years landings (1,050t)	Predicted revenue changes (\$p.a.)
Option 1 (<i>status quo</i>)	NA	NA
Option 2	176 t↓	\$887,780↓
Option 3	350 t↓	\$1,767,500↓

13 Uncertainties and risks

53. **Change of pot mesh dimensions:** From 1 October 2017 the minimum inner mesh size for blue cod pots in BCO 5 was increased from 48mm to 54mm (some of the fleet had begun transitioning their pots from 1 October 2016). This change was shown to reduce the capture portion of undersize blue cod (< 33mm) from 11% to 2% while causing minimal change to the legal catch proportions. The change is expected to promote both productivity and recruitment of the fishery, plus an anticipated recruitment pulse after two years⁴. The implications of the changes associated with the increase in mesh diameter have not been considered in the stock assessment.
54. **Changes in fishing behaviour:** There have been changes in fisher behaviour that are not captured in the assessment; for example, changes in the number of pots being fished, and changes in areas fished (local versus long-distance). It is not known to what degree this behaviour has been adopted, but this practice is not able to be standardised and any change may have biased high recent CPUE, thereby masking declines in abundance.
55. **CPUE:** While long term trends of CPUE in statistical areas fluctuate around the mean, since the 2003/04 fishing year, there is a consistent downward trend. The 2003/04 fishing year was the last year the TACC was taken. The TACC at that time was 1,550 tonnes; last year's catch was 827 tonnes. In the most recent fishing year the CPUE for statistical area 025 has sharply declined.

14 Environmental interactions

56. The use of cod pots means the target fishery has little bycatch and few environmental impacts. The method is highly selective and there is very limited contact with any associated or dependant species. Any decrease in the TAC for BCO 5 would result in a reduction to those few impacts that might occur.

15 Other Matters

15.1 Proposal for a Management Procedure

57. Beyond this year's TAC review, BCO 5 quota holders have requested approval of a harvest control rule or 'Rebuild Rule'. Under this rule, future TACs would change according to agreed steps as BCO 5 biomass increases (or decreases) to ensure it reaches the target biomass.
58. The rule is intended to provide more certainty and a more responsive path to recovery. With the introduction of electronic reporting and position reporting fine scale information is now becoming available, which can be updated automatically every month. The rule would involve an industry sponsored CPUE analysis (as a proxy for biomass) with built in increases (or decreases) according to the results of the analysis.

⁴ Review of Blue Cod (BCO 5) pot mesh size. June 2017. MPI Decision Paper 2017/19.

59. The work to date, contracted by industry, was reviewed by the Southern inshore Working Group in May 2020, which concluded that the decision rule, plus modifications, should be tested against agreed performance criteria using the latest stock assessment prior to its adoption.
60. Implementation of such a rule will require the agreement of the Minister of Fisheries. In the interim, Fisheries New Zealand is asking for initial views on this proposal.

16 Deemed values

61. There is no proposal to change any of the BCO 5 deemed value rates.

17 Questions for submitters on options for varying the TAC, TACCs and allowances

- Which option(s) do you support for revising the TAC and allowances? Why?
- Has the way you fish changed because it is harder to catch blue cod? How?
- Are you travelling further to catch blue cod?
- If you do not support any of the options listed, what alternative(s) should be considered? Why?
- Are the allowances for customary fishing appropriate? Why?
- We ask tangata whenua to provide any additional information you may have on customary catch.
- Are the allowances for recreational fishing appropriate? Why?
- Are the allowances for other sources of mortality appropriate? Why?
- What other management controls should be considered for both recreational and commercial fishers? Why?
- Do you support development of a BCO 5 management procedure, as proposed by quota holders? (list benefits and risks)

62. Please provide detailed, verifiable information and rationale to support your views.

18 Referenced reports

Doonan et al. (2020) Stock assessment of blue cod (*Parapercis colias*) in Southland (BCO 5) using data to the 2018-19 fishing year. *New Zealand Fisheries Assessment Report 2020/xx.xx6 p.* (In Press)

Draft National Inshore Finfish Fisheries Plan (November 2019) is accessible at

<https://www.fisheries.govt.nz/dmsdocument/38045-national-inshore-finfish-fisheries-plan-draft>

Fisheries (Amateur Fishing) Regulations 2013 is accessible at

<http://www.legislation.govt.nz/regulation/public/2013/0482/latest/DLM3629901.html?src=qs>

Fisheries (Southland and Sub-Antarctic Areas Commercial Fishing) Regulations 1986 is accessible at

<http://www.legislation.govt.nz/regulation/public/1986/0220/latest/DLM111064.html?src=qs>

Fisheries (Commercial Fishing) Regulations 2001 is accessible at

<http://www.legislation.govt.nz/regulation/public/2001/0253/latest/DLM76407.html?src=qs>

Fisheries Assessment Plenary May 2020: <https://www.fisheries.govt.nz/news-and-resources/science-and-research/fisheries-research/>

Harvest Strategy Standard for New Zealand Fisheries, (2008) is accessible at <https://fs.fish.govt.nz/Doc/16543/harveststrategyfinal.pdf.ashx>

National Panel Survey of Marine Recreational Fishers 2011/12, (2014) is accessible at <https://www.mpi.govt.nz/dmsdocument/4719-far-201467-national-panel-survey-of-marine-recreational-fishers-201112-harvest-estimates>

Wynne-Jones, J.; Gray, A.; Heinemann, A.; Hill, L.; Walton, L. (2019). *National Panel Survey of Marine Recreational Fishers 2017-2018. New Zealand Fisheries Assessment Report 2019/24*. 104p. <https://www.mpi.govt.nz/dmsdocument/36792-far-201924-national-panel-survey-of-marine-recreational-fishers-201718>

Quota Management System information is accessible at <https://www.fisheries.govt.nz/law-and-policy/legal-overviews/fisheries/quota-management-system/>

19 How to get more information and have your say

63. Fisheries New Zealand invites you to make a submission on the proposals set out in this discussion document. Consultation closes at 5pm on 1 July 2020.
64. Please see the Fisheries New Zealand sustainability consultation webpage (<https://www.fisheries.govt.nz/news-and-resources/consultations/review-of-sustainability-measures-for-1-october-2020/>) for related information, a helpful submissions template, and information on how to submit your feedback. If you cannot access to the webpage or require hard copies of documents or any other information, please email FMSubmissions@mpi.govt.nz.