Fisheries New Zealand
Tini a Tangaroa

Review of sustainability measures for blue cod (BCO 3) for 2025/26

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Contents

Guide to this discussion document and consultation

We are consulting on changes to the catch limits and allowances for blue cod in BCO 3 under the Fisheries Act 1996 (**the Act**). We welcome your feedback on the proposed options for this stock and any alternatives. Your feedback will be incorporated into our final advice to the Minister for Oceans and Fisheries and will help to inform their decisions on any changes.

Further information

If you are interested in the evidence used to develop the proposals, you can refer to the Fisheries Assessment Plenary. For more information about fisheries management in New Zealand, see our fisheries management webpage, and our webpage about the Quota Management System (QMS).

Sending us your views

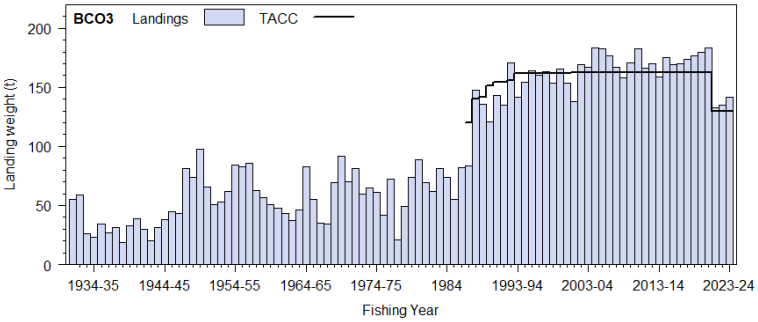
Submissions on these proposals will be received by Fisheries New Zealand through to **5pm on 23 July 2025**, by email to FMSubmissions@mpi.govt.nz. Submissions are public information and subject to the Official Information Act 1982.

More information about how to send us feedback is on page 5 of this document.

Blue Cod (BCO 3) – East coast of the South Island

Part 1: Overview

Blue cod / Rāwaru (*Parapercis colias*)



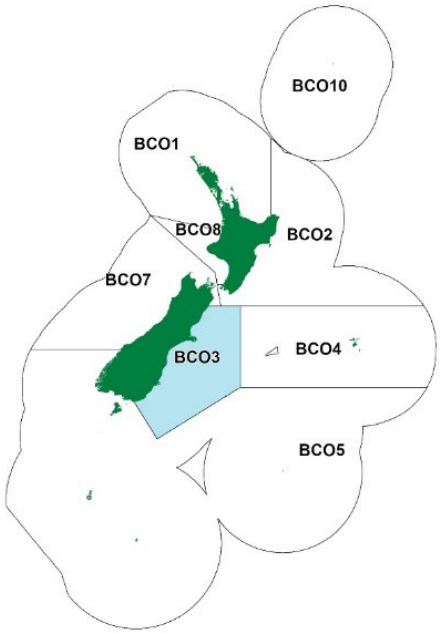


Figure 1: Quota Management Areas (QMAs) for blue cod with BCO 3 highlighted. Left figure shows trends in commercial landings for BCO 3 since 1934, with a black line indicating the level of the TACC.

Rationale for review

1. BCO 3 is a complex stock with discrete sub-populations along the length of the South Island's East Coast. The fishery is monitored by potting surveys, all of which[1] indicate overfishing is occurring and a trend of declining relative abundance.[2] The surveys are aimed at monitoring recreational blue cod fishing, however, there is good overlap with commercial fishing.
2. A new Plenary analysis focused on the most significant fishery areas of north and south Otago, which are responsible for up to 40% of recreational catch and 75% of the commercial catch (FNZ – Fisheries Assessment Plenary, May 2025). The Plenary used fishing mortality (***F***) from potting surveys to set a target overfishing threshold and concluded north and south Otago (statistical areas 024 and 026) are Very Unlikely (<10%) to be at or below the target, and overfishing is Very Likely (>90%) to be occurring. The status of BCO 3 in relation to the soft and hard limits is unknown.
3. These conclusions were supported by a declining trend in relative abundance across all survey series areas, a declining commercial catch per unit effort (**CPUE**) index (see Figure 2), and skewed male dominated sex ratios. This has implications for spawning and recruitment and is considered to be an indicator of overfishing.
4. Nevertheless, the total allowable commercial catch (**TACC**) has been fully caught or exceeded in recent years, with fishers reporting good catches across the edge of the continental shelf. Both effort and catch have moved significantly from north Otago to south Otago in recent years and it is possible that serial depletion may be occurring, maintaining catch while the population declines. The behaviour and biology of blue cod make them susceptible to serial depletion. In addition, based on observations of recent changes in the BCO 5 Foveaux Strait blue cod population, there is concern that warming sea temperatures may also be affecting the Otago fishery (Behrens et al., 2025).
5. The above information suggests a sustainability concern for the stock and has been used to develop options to reduce the Total Allowable Catch (**TAC**) for BCO 3 (Table 1). Adjustment to the TAC of BCO 3 based on the options outlined below would be made under section 13(2A) of the Fisheries Act 1996 (**the Act**), and apply from 1 October 2025 (the beginning of the next fishing year).

[1] Kaikoura, Motunau, Banks Peninsula, North Otago and South Otago.
[2] Measured as kilograms per pot lift.

Table 1: Proposed management options (in tonnes) for BCO 3 from 1 October 2025.

Option	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
Option 1 (*Current settings*)	243	130	20	83	10
Option 2	192 (↓ 51)	104 (↓ 26)	20	60 (↓ 23)	8 (↓ 2)
Option 3	178 (↓ 65)	91 (↓ 39)	20	60 (↓ 23)	7 (↓ 3)

6. Fisheries New Zealand (**FNZ**) welcomes feedback on these proposed options or any alternatives.

Recreational Change

7. The south Otago potting survey shows overfishing is occurring in the area from Taiaroa Head to Slope Point (Fisheries Statistical Area 026) and this area no longer meets the definition of a Green traffic light setting (healthiest stocks) as set out in the National Blue Cod Strategy. Given this, we are also consulting on a change to the recreational daily limit from 15 to 10 cod per person per day, consistent with an Orange traffic light setting (rebuilding or declining from healthy levels). Based on analysis of bag frequencies (see Figures 5 & 6; Supporting Figures) this would reduce BCO 3 recreational catches by around 23%.

8. FNZ welcomes submissions or any feedback on this proposed change.

Deemed Value Rates

9. FNZ is not satisfied that the current deemed value rates of BCO 3 provide sufficient incentives for fishers to balance their catch with ACE (consistent with section 75(2)(a) of the Act and the Deemed Value Guidelines). Therefore, FNZ is reviewing the deemed values rates of BCO 3 for the 2025/26 fishing year. More information on the proposed adjustment and how you can provide feedback can be found in FNZ's separate consultation paper for deemed value rate proposals (also available on our consultation webpage).

10. FNZ welcomes feedback on the deemed value rate proposal in addition to the proposed TAC settings. FNZ acknowledges that if the TACC of BCO 3 is varied, subsequent changes in fishing behaviour and the ACE market may result in the need for deemed value rates to be re-evaluated in future.

Analysis of options

Option 1 Current settings

11. This option maintains the current TAC, TACC and allowances for BCO 3.

Benefits

12. Option 1 would allow the current level of utilisation and benefits to be obtained from the fishery. It takes into account that commercial catch has been fully caught or overcaught, that there is uncertainty as to where the current biomass sits in relation to the target biomass, and the possibility that blue cod may still be present but might have moved to deeper, cooler habitat.

Risks

13. The indices of BCO 3 health indicate the fishery is under pressure and overfishing is occurring under the current settings. Should the fishery decline further, more significant TAC reductions may be required in the future with greater loss of utilisation and benefits.

14. Does not recognise that environmental conditions appear to be changing from warming sea temperatures with implications for the productivity of blue cod.

Option 2– 21% TAC decrease, 20% TACC decrease

15. Option 2 is a moderate decrease in the TAC, TACC and recreational allowance.

Benefits

16. This option would reduce fishing pressure and improve sustainability, increasing the likelihood of population rebuild.
17. Relative to Option 3, Option 2 will have less impact on the multi-method Otago Fleet, many of which have blue cod as an important component of their annual fishing strategy.
18. This recreational allowance proposed under this option better aligns with expected recreational catch in the southern part of BCO 3 than Option 1, particularly if the recreational daily limit is reduced to 10 in line with an Orange light setting.

Risks

19. This moderate reduction may not address the decline in the fishery or prevent overfishing from occurring. The steep decrease in relative abundance and CPUE from 2014 to 2020 is significant and may be a consequence of environmental change such as increasing sea temperature. If so, Option 2 may not be sufficient to buffer blue cod from these changes.
20. In terms of recreational benefits, the daily limit would be reduced to 10 under this option, reducing benefits to individual fishers (while providing long term collective benefits for all fishers).

Option 3– 27% TAC decrease, 30% TACC decrease

21. Option 3 takes greater account of the steep decline in the fishery indicators. As noted, the drivers behind the fishery decline are uncertain and multi-faceted. However, reducing fishing mortality on the population will benefit the rate of and potential for recovery.

Benefits

22. As the largest reduction proposed, this option has the most likelihood of ensuring sustainability, particularly given the uncertainty of the drivers behind the decline in fishery indicators.
23. Increases the likelihood that the stock rebuilds to or above the biomass target and is the most likely to prevent overfishing from occurring.
24. It reduces catch to a level that recognises potential environmental change, such as marine heatwaves, which may be influencing blue cod recruitment.
25. As for Option 2 the recreational allowance aligns with expected recreational catch in the southern part of BCO 3, particularly if the recreational daily limit is reduced to 10 in line with an Orange light setting.

Risks

26. Reduces the value obtained from the fishery in the short term.
27. Does not take into account the possibility that blue cod may be still be present in BCO 3 but have moved to deeper, cooler habitat.

Who will be affected by the proposed changes?

28. Blue cod in BCO 3 supports a shared fishery. It is a taonga for tāngata whenua and highly valued by recreational and commercial fishers.
29. In the commercial fishery, BCO 3 is caught predominantly as a target species with smaller amounts caught as bycatch. Commercial interests in this stock include quota owners, vessel owner-operators, contract fishers in the catching sector and Licensed Fish Receivers (**LFRs**). On average, over the last three fishing years there were 42 quota owners, providing ACE to 51 permit holders, landing blue cod

to 17 LFRs. Over the last fishing year, there were 67 vessels landing blue cod in BCO 3, of which 21 reported targeting blue cod.

30. Blue cod is the most popular recreational target species in the South Island and, as such, BCO 3 is a significant recreational fishery. Recreational interests are represented by a range of local fishing clubs and associations across the QMA, and by groups such as the New Zealand Sport Fishing Council and Fish Mainland.

31. The southern area of the BCO 3 fishery rating is proposed to change from "healthy" (Green) to depleted/recovering (Orange). This would result in a recreational daily limit reduction from 15 cod per person per day to 10 in that area. Traffic light settings elsewhere in BCO 3 are already Orange or Red and would remain unchanged.

32. Tāngata whenua have both commercial and customary interests in BCO 3. Te Waka a Māui me Ōna Toka Iwi Forum represents iwi (Kāi Tahu) with an interest in this blue cod stock (see input and participation below).

Input and participation of tāngata whenua

33. FNZ has circulated and discussed a summary of the stocks proposed for review in this round (including BCO 3) with Te Waka a Māui me Ōna Toka Iwi Forum on the 8th April 2025. FNZ invited feedback from the forum and offered to provide more detailed information for any stocks upon request.

34. The Forum was supportive of a review of BCO 3, noting FNZ would be seeking their input again at the next Forum during the public consultation phase.

35. FNZ also welcomes input and submissions from tāngata whenua outside of this planned engagement.

Fishery characteristics and settings

Table 2: Fishery characteristics and settings for BCO 3.

Commercial (TACC)
36. The TACC was reduced from 162.732 tonnes to 130 tonnes in 2021. 37. Commercial catch of blue cod in BCO 3 is taken mainly by potting off the Otago coast. In the last five years, around 60% of the catch has been from targeted potting, with smaller amounts taken while targeting other species such as ling (14%) and rock lobster (3%). 38. The remainder of the catch is bycatch in bottom trawl fisheries (mainly from targeting tarakihi, sea perch and barracouta) and bottom longline fisheries (mainly targeting hāpuku bass and school shark). 39. The TACC was over-caught in the 2023/24 fishing year. Fishers reported significant catches on the shelf edges in statistical area 026 early in that fishing year. There has been a significant shift in effort in the Otago target fishery from North to South (see Figure 3). 40. Access to the BCO potting fishery is an important component of the multi-method fleet in the south of the fishery (Otago/Catlins).
Customary Māori
28. Customary catch for BCO 3 is provided for by the Fisheries (South Island Customary Fishing) Regulations 1999. 41. The customary allowance for BCO 3 is currently 20 tonnes. FNZ records show that ten customary authorisations are recorded over the last five years, accounting for 710 blue cod. Customary harvest may also occur under recreational daily limits. Special events requiring hākari[3] also require appropriate access to kaimoana. We seek input from tāngata whenua on an appropriate allowance to account for current and future customary interests.

[3] Sumptuous meal, feast, banquet, celebration, special occasion.

Recreational
29. Blue cod is the most popular recreational target species in the South Island. 30. The 2022/23 National Panel Survey of Marine Recreational Fishers (**NPS**) (Heinemann & Gray, 2024) estimates recreational catch in the 2022/23 fishing year as 53.65 tonnes (± 12 tonnes (CV)). Additionally, 5.07 tonnes under section 111 of the Act (recreational catch by commercial fishers) is reported, giving a total of 58.7 tonnes. This is lower than the current 83-tonne recreational allowance and a 12% reduction from the 2017/18 NPS estimate of 66.86 tonnes. 31. The recreational daily limit varies for each population across the fishery and each population (Kaikoura, Motunau, Banks Peninsula, North Otago and South Otago) is monitored by recreational potting surveys on a four-year rotation for each area. This information is used to set that area's daily limit using the "Traffic Light" system set out in the National Blue Cod Strategy which assigns daily limits according to the health of that population. 42. Under Options 2 and 3, FNZ is proposing to review changes to the traffic light rating for the southern part of BCO 3 (as per the National Blue Cod Strategy) to reduce recreational fishing pressure (see paragraph 8).
Other sources of mortality caused by fishing
43. The allowance for other sources of mortality caused by fishing is intended to provide for generally unrecorded mortality of fish associated with fishing activity. This includes returned undersize cod that subsequently die from injuries or predation, accidental loss from lost or damaged fishing gear and misreporting. 44. In 2018, the mesh size of pots was increased allowing for the escape of undersize cod. This results in very low mortality from the commercial potting fishery. The current allowance (10 tonnes) is set at a level equivalent to 2.5% of the TACC. However, based on reports of predation of released fish from recreational fishers, FNZ considers it more appropriate to set the allowance at a level equivalent to 2.5 % of the combined TACC, Māori customary and recreational allowances.

Supporting information and legal context

45. In Parts 2 and 3 below there is additional information to support the above analysis and proposed options. Part 2 outlines our initial assessment of the proposed changes against provisions of the Fisheries Act 1996. Part 3 provides additional figures, and more detailed science and management information which informed our analysis in Parts 1 and 2.

46. In Part 2, the proposals have been assessed against sections 9, 10, 11, and 13 of the Act. There is also information on mātaitai reserves and other customary management tools which are relevant to the Minister's decision making under section 21(4).

47. For information on how the proposed changes meet the requirements of sections 5 (Application of international obligations and Treaty of Waitangi (Fisheries Claims) Settlement Act 1992), and 8 (Purpose) of the Act, as well as detail on the statutory considerations relevant to TAC decisions, see the Legal Appendix on our consultation webpage.

How to have your say

48. We welcome your views on these proposals. Please provide detailed information and sources to support your views where possible.

- Which option do you support for revising the TAC and allowances? Why?
- If you do not support any of the options listed, what alternative(s) should be considered? Why?
- Do you support changing the traffic light setting for the southern part of BCO 3 to Orange (a daily limit of 10 blue cod)? Why?
- Are the allowances for customary Māori, recreational and other sources of mortality appropriate? Why?

- Do you think these options adequately provide for social, economic, and cultural wellbeing?
- Do you have any concerns about potential impacts of the proposed options on the aquatic environment?

49. FNZ invites you to make a submission on the proposals set out in this discussion document. Consultation closes at **5pm on 23 July 2025.**

50. Please see the FNZ sustainability consultation webpage for related information, a helpful submissions template, and information on how to submit your feedback. If you cannot access the webpage or require hard copies of documents or any other information, please email FMSubmissions@mpi.govt.nz.

Part 2: Initial assessment against relevant legal provisions

Overview

51. The sections below outline FNZ's initial assessment of the proposed changes against sections 9, 10, 11, and 13 of the Act. Information to support this assessment can be found in Part 3 '*Supporting information'*. Information on kaitiakitanga and mātaitai reserves and other customary management tools has also been provided – this is relevant to the Minister's decision making under sections 12(1)(b) and 21(4).

52. For information on how the proposed changes meet the requirements of sections 5 (Application of international obligations and Treaty of Waitangi (Fisheries Claims) Settlement Act 1992), and 8 (Purpose of the Act), as well as detail on the statutory considerations relevant to TAC decisions, see the Legal Appendix on our consultation webpage.

Initial assessment of the proposals against section 13 of the Act

53. Table 3 below outlines FNZ's initial assessment of the proposed options for BCO 3 against section 13(2A) of the Act. This assessment has been informed by the best available information on the status of the stock (summarised in Part 1 under 'Rationale for review, with further information in Part 3) and the information discussed in Part 3 under *'Information on biology, interdependence, and environmental factors'*.

Table 3: Initial assessment under section 13(2A) of the Act for the proposed BCO 3 changes.

Section 13(2A)	54. A partial stock assessment (CPUE analysis on areas 024 & 026) was undertaken in 2025, it was accepted by the Plenary only as a supporting index. Stock status in relation to B_{MSY} is therefore unknown. Because the status of the stock cannot be reliably estimated in relation to *MSY* using the best available information, any changes to the TAC of BCO 3 would be made under section 13(2A) of the Act. 55. Under this section, the Minister must set a TAC using best available information that is not inconsistent with the objective of maintaining the stock at or above or moving the stock towards or above a level that supports *MSY*, while having regard to the interdependence of stocks, the biological characteristics of the stock, and any environmental conditions affecting the stock. 56. While status in relation to *MSY* cannot be reliably estimated, FNZ notes the potting survey series all indicate a significant decline in relative abundance and that a high level of overfishing is occurring. Also, the CPUE analysis shows a steep decrease. This all indicates a TAC decrease is necessary. Considering this, FNZ is concerned that overfishing is Very Likely (>90%) occurring and is proposing potential TAC reductions which aim to allow biomass to recover (through reduced fishing pressure) to a level that supports *MSY*. 57. FNZ's initial view is that Options 2 and 3 (which propose 20% and 30% reductions, respectively) would not be inconsistent with the objective of maintaining the stock at or above, or, moving the stock towards or above a level that supports *MSY,* as both options aim to reduce fishing pressure on the stock to allow biomass to recover. 58. The current settings, which would retain the current TAC and TACC, create a risk that the stock may not move to a level that supports *MSY* (noting the information above suggesting a decline in abundance under recent catch levels). FNZ consider that current settings may therefore be inconsistent with section 13(2A) of the Act.

Section 13(2A)(b) Interdependence of stocks	59. Blue cod is an opportunistic carnivore which feeds on a wide variety of benthic invertebrates and fish. There is limited information regarding predators of blue cod. As a top predator, blue cod plays an important role in maintaining the balance of species in coastal food webs, including in the complex habitat and reef edge habitat they prefer. They are a predator of kina on southern reefs and may play an important role in preventing the development of urchin barrens (Doheny *et al*., 2023). 60. The proposed decreases to the TAC of BCO 3 may have beneficial effects for the ecosystem as blue cod are key predators that contribute to the balance of the ecosystem (Doheny *et al*., 2023 - AEBR 324). However, the specific impacts are uncertain, and their extent cannot be quantified based on the information available.
Section 13(2A)(b) Biological characteristics of the stock	61. A detailed summary of biological characteristics for blue cod is provided in Part 3 under '*supporting information on biology and environmental factors'*. 62. Blue cod are a low productivity species with a constrained home range. These characteristics make blue cod less resilient to fishing pressure and prone to localised depletion. This means a higher level of caution is warranted when setting the TAC for blue cod stocks.
Section 13(2A)(b) Environmental conditions	63. Relevant information on environmental conditions affecting BCO 3 can be found in Part 3 under '*supporting information on biology and environmental factors'*. 64. FNZ considers that environmental conditions (such as elevated ocean temperatures and marine heatwaves) may be affecting the resilience of BCO 3 to fishing pressure, however, the specific impacts are uncertain, and their extent cannot be accurately quantified based on the information available.
Section 13(3) Factors to have regard to in considering the way and rate the stock is moved towards or above B_{MSY}	65. Section 13(3) is considered relevant to the proposed TAC changes for BCO 3 because the options aim to move the stock toward a level that can produce *MSY.* Forward projections are not available to help FNZ determine what way and rate these options would move the stock in relation to *MSY.* However, logically, a larger reduction in the TAC would move the stock toward a level that supports *MSY* faster than a small reduction or no change. In considering the way and rate at which the stock is moved, the Minister must have regard to relevant social, cultural, and economic factors. Information on these factors can be found under the headings '*Who is affected by the proposed changes?*' and '*Input and participation of tāngata whenua*'. 66. In general, a TAC reduction under any of the options proposed (besides Option 1) will have a negative financial effect on those involved in the commercial fishery. Reduced allowances (and associated changes in the DL) may have a negative effect on the customary and recreational fishers who value the species as a food source or for recreation. The long term value of the stock is likely to benefit, however, from a recovered biomass as a result of a TAC reduction.

Harvest Strategy Standard (HSS)

67. The Harvest Strategy Standard (**HSS**) is a policy statement of best practice in relation to the setting of fishery and stock targets and limits for fish stocks in New Zealand's Quota Management System (**QMS**). The HSS outlines FNZ's approach to relevant sections of the Act and, as such, forms a core input to FNZ's proposals on the management of fisheries, particularly the setting of TACs under section 13.

68. The HSS assists us to decide when a review of sustainability and related settings for a stock may be warranted, by establishing reference points and guidance for the fisheries management responses when stocks are at those reference points.

69. Under the Harvest Strategy Standard, the default management target is 40% B_0 (unfished biomass), the soft limit is 20% B_0, and the hard limit is 10% B_0.

70. The default management target applies to BCO 3. There are no established reference points or available estimates of B_{MSY} (the biomass that enables a fish stock to deliver *MSY*), and as such there is uncertainty as to where the current biomass sits in relation to the default targets (including the soft or hard limits) set out by the HSS. For BCO 3 this means that although a formal rebuilding plan has not been triggered, catch reductions would be prudent to allow the biomass to recover.

Kaitiakitanga

71. Tāngata whenua can provide information on how they exercise kaitiakitanga, and on their values, goals, and objectives for fisheries, through Iwi Fisheries Forums and through Iwi Fisheries Plans, which set out iwi views on the management of fisheries resources and fish stocks.

72. The Te Waka a Māui me Ōna Toka Iwi Fisheries Forum has produced Te Waipounamu Iwi Forum Fisheries Plan, which outlines a vision, values and objectives to support and provide for the interests of South Island iwi.

73. Rawaru (blue cod) is listed as a taonga species in the Te Waipounamu Iwi Forum Fisheries Plan. Rawaru have special significance to Te Waipounamu iwi and whānau, and the following objectives from the plan are relevant to options proposed in this paper:

- To create thriving customary fisheries that support the cultural well-being of South Island iwi and whānau.
- South Island iwi are able to exercise kaitiakitanga.
- To develop environmentally responsible, productive, sustainable and culturally appropriate commercial fisheries that create long-term commercial benefits and economic development opportunities for iwi.
- To restore, maintain, and enhance the mauri and wairua of fisheries throughout the South Island.

74. FNZ considers the proposed options for BCO 3 to be consistent with these objectives, but welcomes feedback from tāngata whenua on this view.

Mātaitai reserves and other customary management tools

75. Section 21(4) of the Act requires that, when allowing for Māori customary non-commercial interests, the Minister must take into account any mātaitai reserve in that is declared by notice in the Gazette under regulations made for the purpose under section 186, and any area closure or any fishing method restriction or prohibition imposed under section 186A or 186B.

Table 4: Mātaitai reserves and other customary management tools that apply to BCO 3.

Customary area	Management type
Te Waha o te Marangai Mātaitai Reserve Mangamaunu Mātaitai Reserve Rāpaki Mātaitai Reserve Whakaraupō Mātaitai Reserve Koukourarata Mātaitai Reserve Te Kaio Mātaitai Reserve Opihi Mātaitai Reserve Waitarakao Mātaitai Reserve Te Ahi Tarakihi Mātaitai Reserve Tuhawaiki Mātaitai Reserve Waihao Mātaitai Reserve Moeraki Mātaitai Reserve Ōtākau Mātaitai Reserve Puna-wai-Tōriki Mātaitai Reserve	**Mātaitai reserve** Commercial fishing is not permitted within mātaitai reserves unless regulations state otherwise.

Tautuku Mātaitai Reserve Waikawa Harbour/Tumu Toka Mātaitai Reserve	
East Otago Taiāpure Akaroa Taiāpure Oaro-Haumuri Taiāpure Te Taumanu o Te Waka a Māui Taiāpure	**Taiāpure** All types of fishing are permitted within a taiāpure. The management committee can recommend regulations to manage commercial, recreational, and customary fishing.

Initial assessment of the proposals against section 9 of the Act

76. Table 5 below outlines FNZ's assessment of the proposed options for BCO 3 against the environmental principles in section 9 of the Act, which the Minister must take into account when considering the BCO 3 TAC. This assessment has been informed by FNZ's knowledge of the current environmental impact of this fishery, which is discussed under *'Information on environmental impacts'* within *'Part 3: Supporting information'*.

Table 5: Initial assessment of the proposed changes for BCO 3 under section 9 of the Act.

Associated or dependent species should be maintained above a level that ensures their long-term viability - Section 9(a) of the Act	77. BCO 3 is predominantly a targeted potting fishery, and the potting method is understood to have minimal interactions with associated and dependent species, such as seabirds, mammals, and fish and invertebrate bycatch species. 78. No seabird or mammal interactions have been reported in the BCO 3 potting fishery over the past five fishing years (2019/20 – 2023/24). FNZ considers potting unlikely to result in significant damage to benthic invertebrates. 79. BCO 3 is also caught in small amounts in bottom trawl and bottom longline fisheries targeting various species, and in the past five fishing years, two seabird captures (both white-chinned petrels) were recorded by a bottom longline vessel targeting blue cod. White-chinned petrels are classified as not threatened under the New Zealand Threat Classification System (**NZTCS**). It should be noted that bottom longlining for blue cod in BCO 3 is uncommon and accounts for less than 1% of the catch. 80. Bottom trawl and longline fisheries that take blue cod as bycatch can interact with protected species. However, blue cod bycatch makes up a very small part of the catch and it is highly unlikely that TAC changes for BCO 3 would impact effort or interactions with associated or dependent species in those fisheries. 81. There has been little observer and camera coverage in the BCO 3 fishery to verify reporting accuracy. Over the last five fishing years, on average observer coverage was 4% of events that caught blue cod in BCO 3, and 17% of events that caught BCO 3 were covered by on-board cameras. 82. Based on the information summarised above, the proposed options for BCO 3 are unlikely to significantly impact the long-term viability of any associated or dependent species. However, FNZ notes that a reduction in the TAC of BCO 3 is likely to reduce interactions with associated and dependent species.
Biological diversity of the aquatic environment should be maintained - Section 9(b) of the Act	83. Blue cod are opportunistic carnivores which feed on a wide variety of benthic invertebrates and fish and are likely the dominant predator in many reefs and other habitats in BCO 3. A decrease in the BCO 3 TAC is likely to improve blue cod abundance with positive implications for biological diversity and maintenance of the ecosystems balance. 84. Several non-QMS species have been recorded in pots targeting blue cod, including wrasse species, conger eels, carpet shark and octopus. While a small amount of contact with the seabed is inevitable from the deployment of cod pots.

	85. There is less certainty that diversity will be maintained under the current settings because under the current TAC abundance is likely to continue declining.
Habitat of particular significance for fisheries management should be protected - Section 9(c) of the Act	86. Some potential HoPS in BCO 3 have been suggested, including a nursery area for blue cod (Otago shelf bryozoan-dominated seafloor). 87. Most catch in BCO 3 (75%) is taken by potting, for which the risk of adverse effects on the potential HoPS is generally low. Therefore, there will be a low risk of adverse effects on the potential habitat of particular significance for fisheries management from this fishing method in BCO 3. Reducing the TAC under the options presented here will further reduce this likelihood. 88. For other methods by which BCO 3 is caught, there is a potential risk of adverse effects on HoPS from bottom trawl with a BCO bycatch. An average of about 13% of BCO 3 catch has been taken as trawl bycatch over the last three years (Figure 4). There is potential for an existing risk of adverse effects on some potential HoPS from this trawl fishing. Changes under the options presented here are not expected to change this risk. 89. Potential HoPS that may be at risk of adverse effects of trawling by the inshore east coast South Island fishery include the 'Hay Paddock', which is a potential nursery habitat for juvenile tarakihi, and may be diminishing in areal extent as a consequence of disturbance from bottom trawling (FNZ - Plenary, 2025). A similar habitat in Pegasus Bay may also be trawled but we do not have evidence to understand whether it has changed in extent or not. The bryozoan-dominated parts of Otago shelf form a potential HoPS for juvenile blue cod, but this area is generally avoided by trawlers. Further details are provided in the section **Supporting Information** below. Work is ongoing to identify potential adverse effects of fishing activity to potential HoPS.

Initial assessment of the proposals against section 11 of the Act

90. Section 11 of the Act sets out various matters that the Minister must take into account (sections 11(1) and 11(2A)) or have regard to (section 11(2)) when setting or varying sustainability measures such as the proposed TAC changes. The matters relevant to this review under section 11 are set out below.

Table 6: Initial assessment of the proposed changes under section 11 of the Act.

The Minister must take into account:	
Effects of fishing on any stock and the aquatic environment – section 11(1)(a)	91. The effects of fishing for BCO 3, associated species, and the environment, could be influenced by changes in the TAC, and the Minister should take this into account in their TAC decision. 92. Cod potting has minimal effects on other stocks or the aquatic environment. A small amount of contact with the seabed is from the deployment of cod pots, however, there is unlikely to be any significant damage to benthic invertebrates.
Existing controls that apply to the stock or area – section 11(1)(b)	93. The recreational daily limit is 15 fish between Slope point and Taiaroa Head and 10 from Taiaroa Head to the Rakaia River; Two from the Rakaia River to the Hurunui River and 10 From the Hurunui River to the Clarence River. The daily limit in the Kaikoura Marine Area is 6, Te Taumanuo Te Waka A Maui Taiāpure, Oaro-Haumuri Taiāpure and East Otago Taiāpure is 2 cod. 94. Both commercial and recreational cod pots have a minimum mesh size of 54 mm.

	95. The minimum legal size (**MLS**) for both recreational and commercial fishing is 33 cm. 96. There is an accumulation limit of two times the daily limit for that area.
The natural variability of the stock – section 11(1)(c)	97. There is little information available about natural variability of blue cod stocks. Based on the maximum age of blue cod and their observed site fidelity, FNZ considers it likely there is low natural variability in unfished populations of blue cod.
Fisheries plans, and conservation and fisheries services – section 11(2A)	National Inshore Finfish Fisheries Plan: 98. BCO 3 is managed as a Group 2 stock under this Plan. Group 2 stocks provide higher levels of benefit and are highly desirable to all sectors. Group 2 stock status is determined by a partial stock assessment. The Plan also sets out that where it is likely the stock will remain below the target reference point and/or the fishing mortality threshold is being exceeded, a review of management settings is appropriate. FNZ considers that the options proposed are consistent with this. National Blue Cod Strategy 99. This sets out the strategic direction for blue cod stocks including BCO 3, including that the stock is closely monitored and regularly reviewed. **Fisheries and conservation services** 100. Fisheries and conservation services of significance have been described throughout this paper where relevant. 101. Services of relevance to the review of BCO 3 include research and surveys used to monitor status (summarised under '*rationale for review*', with more details below in Part 3), aquatic environment and biodiversity research, observer and camera coverage (see Table 5), and the tools used to enforce compliance with management settings.
The Minister must have regard to:	
Relevant statements, plans, strategies, provisions, and documents - section 11(2)	**Regional plans:** 102. There are two regional councils that have a coastline within the boundaries of BCO 3: Environment Canterbury and Otago Regional Council. These regions have policy statements and plans to manage the coastal and freshwater environments, including terrestrial and coastal linkages, ecosystems, and habitats. The provisions of these various documents are, for the most part, of a general nature and focus mostly on land-based stressors on the marine environment. There are no provisions specific to BCO 3. 103. FNZ has reviewed the documents and the provisions that might be considered relevant and a summary of these can be found on our website here. FNZ considers the options in this paper are all consistent with the objectives of these relevant plans.
Non-mandatory relevant considerations	
Other plans and strategies	Te Mana o te Taiao (Aotearoa New Zealand Biodiversity Strategy) 104. FNZ considers that the sustainability measures proposed for BCO 3 are generally consistent with relevant objectives of Te Mana o te Taiao – the Aotearoa New Zealand Biodiversity Strategy. This includes Objective 10, which is to ensure that ecosystems are protected, restored, resilient and connected from mountain tops to ocean depths; and Objective 12, which is to manage natural resources sustainably.

Information principles: section 10 of the Act

105. The best available information relevant to this review of BCO 3 is presented throughout this paper, and uncertainties in the information have been highlighted where relevant. The table below provides an additional summary of the best available information and key areas of uncertainty, unreliability, or inadequacy in information. As per section 10(c) of the Act, caution is required in decision making where information is uncertain, unreliable, or inadequate. However, as per section 10(d) of the Act, the absence of, or any uncertainty in, any information must also not be used as a reason for postponing or failing to make a decision.

Table 7: Best available information and key areas of uncertainty for BCO 3.

Best available information	Key areas of uncertainty, unreliability, or inadequacy
NIWA Area Potting Survey Series May 2025 Fisheries Assessment Plenary Beentjes & Bian 2025. (*In prep*)	• The CPUE assessment undertaken in 2025 may contain entry and translation errors. • Fishing behaviour has changed recently with implications for the consistency of CPUE data. • While there is growing evidence the effect of warming sea temperatures on blue cod is negative, the future impact of climate change and marine heatwaves is uncertain. This knowledge gap precludes determining what an appropriate precautionary target should be. • There is uncertainty in how changes in abundance of blue cod may affect the wider ecosystem. It is known blue cod are an important predator, but not known at what threshold changes in abundance would have big negative impacts (such as trophic cascades leading to urchin barrens). • There are uncertainties regarding protected species and environmental interactions occurring in the BCO 3 fishery due to low levels of independent verification (over the last five fishing years, the average observer coverage was only 4% of events that caught blue cod in BCO 3.[4]

[4] This coverage is calculated based on fishing events (individual tows, sets or shots) in which the fish stock was recorded as caught and an observer was on board. This metric does not reflect the overall level of monitoring in the fishery.

Additional figures

106. The southern fishery (stat areas 024 and 026) has been largely stable until a steep decline in both relative abundance and CPUE from 2018 (Figure 2) where it appears to stabilise but at a lower level. Relative abundance follows a very similar trend. Differences in relative abundance between 2014 and 2018/2022 are statistically important.

107. After 2018, catch from area 024 significantly declined by over 50 tonnes with a similar increase in catch for area 026. However, area 026 does not appear to have sustained this increase in catch. FNZ notes a similar steep decline in abundance has occurred in Foveaux Strait (Beentjes & Miller, 2024). in which case raising sea temperatures and marine heatwaves are thought to be contributing factors.

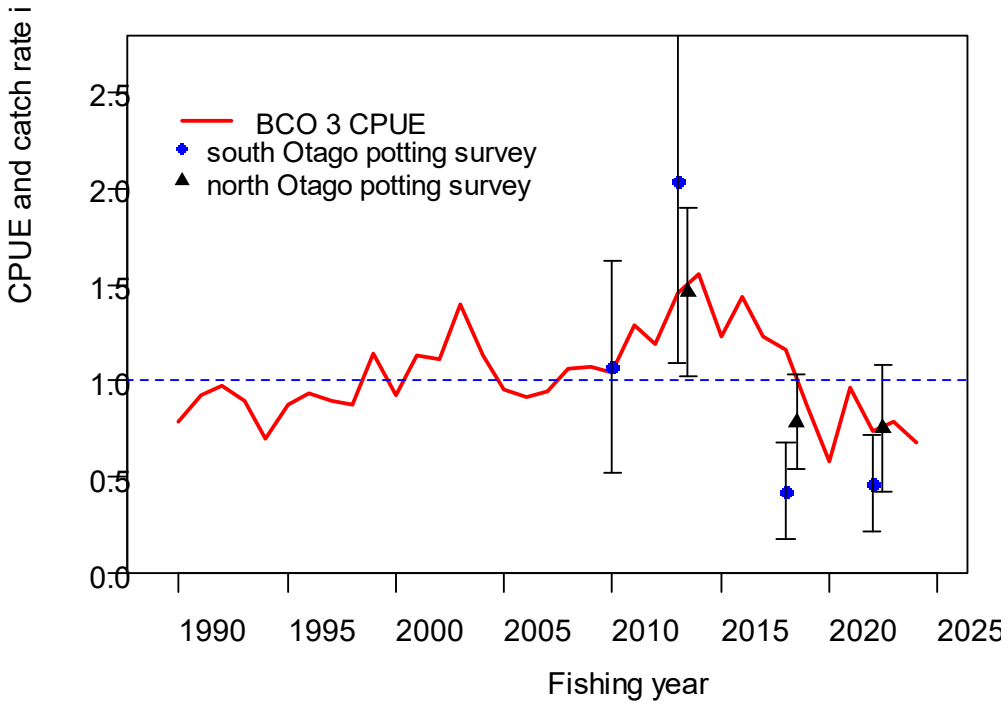
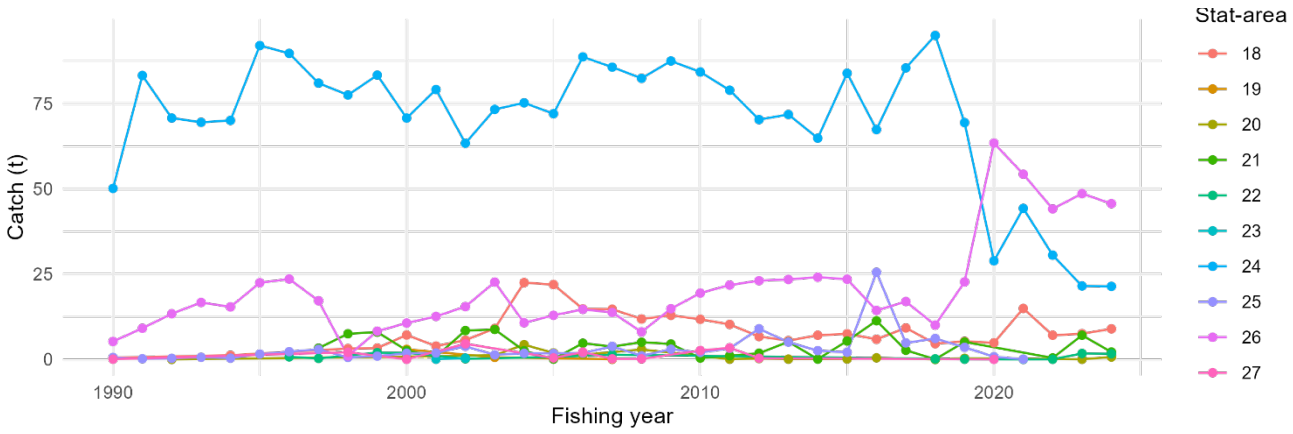


Figure 2: Comparison of BCO 3 standardised CPUE indices (1989–90 to 2023–24) and catch rate indices of recruited blue cod (33 cm and over) from random-site stratified potting surveys in south Otago (2010, 2013, 2018, 2022) and north Otago (2013, 2018, 2022) (Beentjes & Bian in prep). Each relative series is scaled so that the geometric mean equals 1.0.



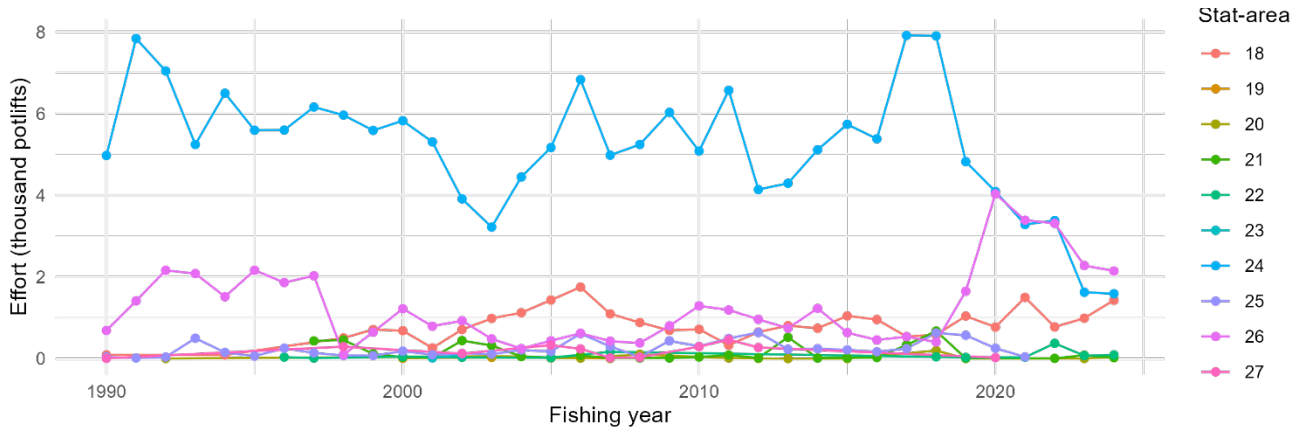


Figure 3: BCO 3 cod pot catch and effort by statistical area.

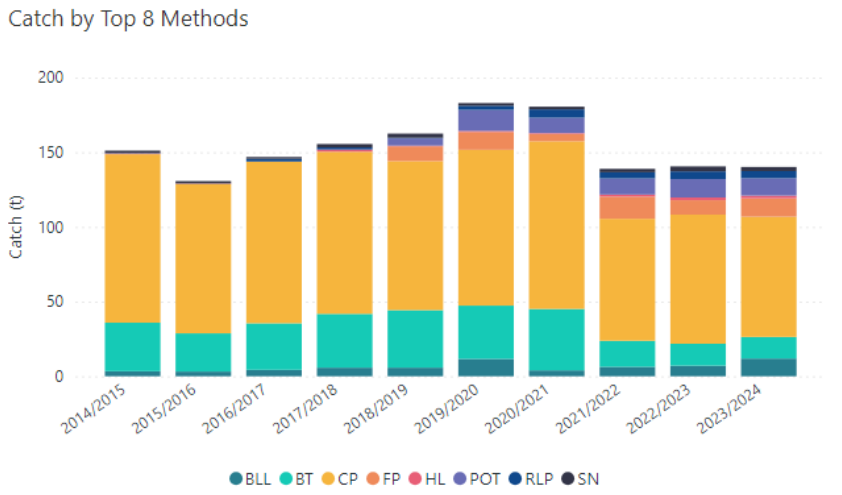


Figure 4: BCO 3 catch by the top eight methods over the previous ten years. Bottom long Line; Bottom Trawl; Cod Pot; Fish Pot; Handline; Pot; Rock lobster Pot; Set Net.

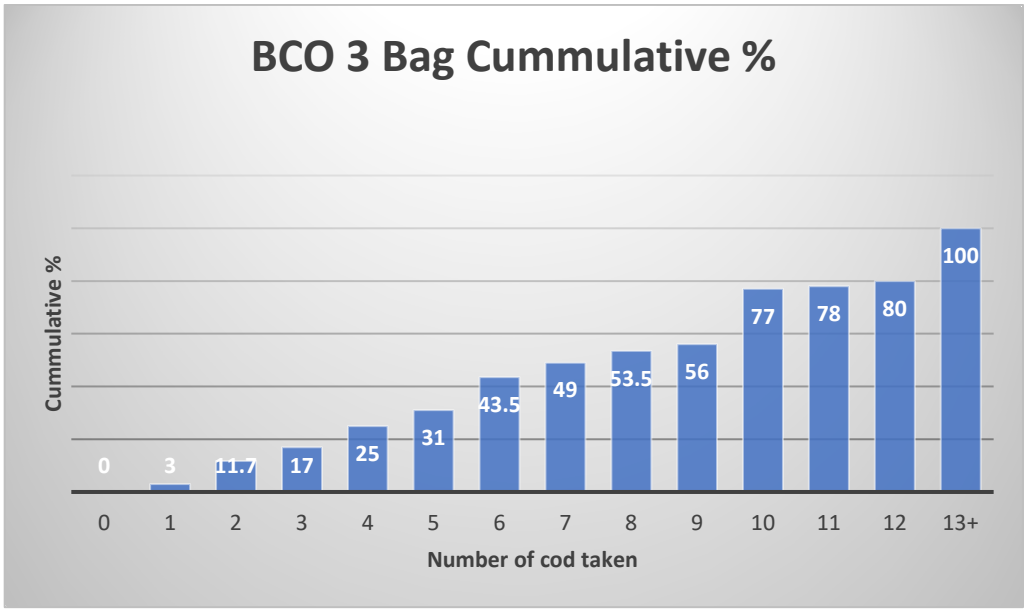


Figure 5: Cumulative percentage increase in recreational catch by number of fishers and trip take.

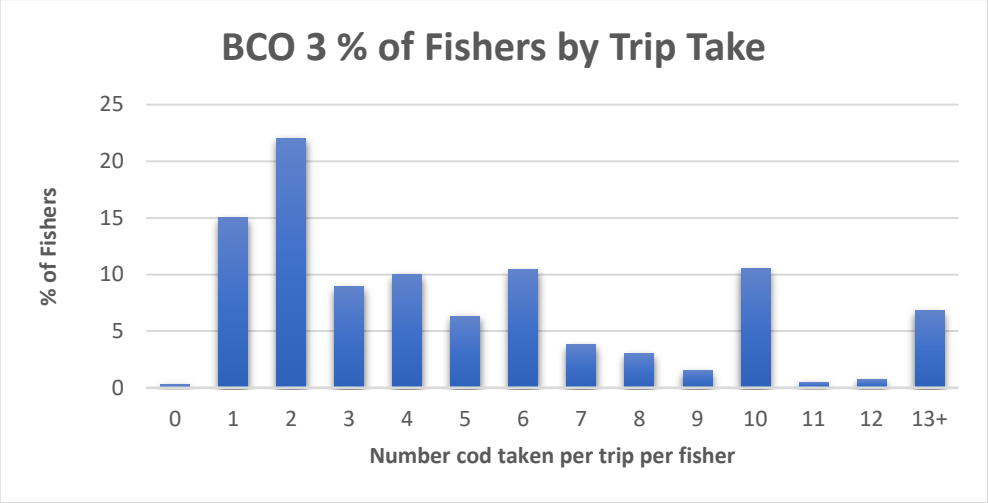


Figure 6: Percentage of BCO 3 recreational fishers take by trip.

Stock status

Table 8: Random Site Potting Surveys in BCO 3.

Survey Location	Year of Survey	Target Reference Point: $F = 0.87M = 0.87*0.17 = 0.15$
Kaikoura	2023	*Overfishing occurring*
Motunau	2024	*Overfishing occurring*
Banks Peninsula	2021	*Overfishing occurring*
North Otago	2022	*F* estimated at 0.55. *Overfishing occurring* Very Unlikely (< 10%) to be at or below the target
South Otago	2022	*F* estimated at 0.28. *Overfishing occurring* Very Unlikely (< 10%) to be at or below the target

Supporting information on biology and environmental factors

108. This information below supports FNZ's initial assessment of the proposals against section 13 of the Act in *'Part 2: Assessment against relevant legal provisions'*. Information in this section was derived from the BCO 3 chapter of the May 2025 Fisheries Assessment Plenary and the Aquatic Environment and Biodiversity Annual Review (**AEBAR**), except where cited otherwise.

Biological characteristics

109. Blue cod is a bottom-dwelling species endemic to New Zealand. It can be caught from a few metres depth to about 150 m across a range of habitats including reef edges, shingle/gravel, biogenic reefs, or sandy bottoms close to rocky outcrops. It is most common in the cooler waters south of Cook Strait. It is categorised as a low productivity species. Generally, blue cod exhibit a constrained home range and are therefore susceptible to localised depletion. Blue cod is relatively long lived with a maximum age of 32 years and is a diandrous protogynous hermaphrodite, individuals can change sex from female to male. Unmediated sex transition is thought to occur when large males are repeatedly removed by fishing), thus, an unbalanced sex ratio in a population is considered an indicator of overfishing. A preponderance of males in a population will have implications for spawning and recruitment.

110. For more information on the biological characteristics of blue cod, see the general blue cod chapter of the Fisheries Assessment Plenary.

Environmental conditions affecting the stock

111. There have been significant positive trends in the number of marine heatwave days, events, and intensity across New Zealand since 1981 with marine heat waves affecting the south-east coast,

especially Otago (Montie *et al*., 2023, Salinger *et al*., 2023, FNZ – AEBAR, 2024). Elevated temperatures may have had effects on blue cod distribution, spawning, and recruitment. Studies on blue cod from the south-east coast suggest there may be a strong negative association between blue cod abundance and sex ratio with the impacts of detritus and increasing sea surface temperature (Brough *et al*., 2024). Elevated temperatures may also have an indirect impact via kelp die-off as cod depend on kelp for shelter and food (Wade, 2020).

Potential habitat of particular significance for fisheries management

112. Using the best available information, FNZ has provisionally identified 11 potential habitats of particular significance for fisheries management in FMA 3. A description of those areas and their sensitivities, why they are considered particularly significant, and the current measures in place that restrict fishing in those areas can be found in Table 10.

113. Potential habitats of particular significance for fisheries management in BCO 3 that do not overlap with areas fished for blue cod are Oaro, Omihi, Rakautara and Waipapa.

Table 9: Potential habitat of particular significance for fisheries management relevant to BCO 3.

The Hay Paddock, Canterbury Bight, and Pegasus Bay (tarakihi nursery)
Attributes of habitat • The 'Hay Paddock', an area off Oamaru named for the tube worms and sponges which characterise the area, and similar areas in Canterbury Bight and Pegasus Bay (Vooren 1975). Sponge and shell hash, abundant ascidians, hydroids, and bryozoans (Jones et al., 2016, 2018). **Reasons for particular significance** • Nursery for juvenile fish, including tarakihi (Vooren, 1975; Anderson, 2019, Beentjes et al., 2023). Increased availability of habitat and food to many fisheries resources. Tarakihi is a species undergoing stock rebuilding. Ensuring the areal extent and ecological function of this site is likely to support productivity of national tarakihi fisheries given the mobility of tarakihi. Tarakihi are known to move from southern to central New Zealand as they mature (McKenzie et al., 2021). **Risks/Threats** • The Hay Paddock appears to be diminishing in areal extent as a consequence of disturbance from bottom trawling (FNZ Plenary, 2025). Disturbance of the seabed can damage or remove habitat structures such as those created by worm tubes and sponges. **Existing protection measures** • Trawl restrictions: Trawling by vessels over 46 m long is prohibited - Fisheries (South-East Area Commercial Fishing) Regulations 1986: 4A. **Evidence** Anderson (2019), Beentjes et al., 2023, FNZ Plenary (2025), Jones et al., (2016), Jones et al., (2018), McKenzie et al., (2021), Vooren (1975).

Blueskin Bay (possibly historical - 1956) and the Canterbury Bight (elephantfish egg laying)
Attributes of habitat • Elephantfish repeatedly choose particular locations characterised by sand or mud bottoms in very shallow waters for egg laying (FNZ Plenary, 2025). **Reasons for particular significance** • Areas with a high level of egg laying with predictable use by elephantfish during summer (October – February) and egg presence for a further 5 – 8 months (Hurst et al., 2000, FNZ Plenary, 2025). Ensuring the areal extent and ecological function of this site is likely to support productivity of elephantfish. **Risks/Threats** • Disturbance and resuspended sediment from disturbance of the seafloor, sedimentation, and introduction of invasive species that change the nature of the substrate. **Existing protection measures** • Trawl restrictions: Trawling by vessels over 46 m long is prohibited – Fisheries (South-East Area Commercial Fishing) Regulations 1986: 4A. Voluntary closures are agreed in the Canterbury Bight, but fishing data shows not all fishers adhere to the agreement. **Evidence** Fisheries New Zealand (2024), Hurst et al., (2000), and Morrison et al., (2014)

Biogenic reef on Otago shelf in 60 – 120 m water depth (blue cod nursery)
Attributes of habitat • Bryozoan thickets with associated emergent epifauna (e.g., sponges, hydroids) on Otago shelf (Probert et al., 1979, Batson and Probert, 2000, Jones et al., 2018) **Reasons for particular significance** • Small blue cod use Otago shelf habitat for food and shelter; however, it is uncertain whether these sites meet a nursery definition. A study from a similar system in Foveaux Strait showed that juvenile blue cod grow faster and in higher abundance on areas of biogenic reef than on other habitats nearby (Carbines et al., 2004) and have a more diverse diet than those on less complex habitat (Jiang and Carbines, 2002). **Risks/Threats** • Disturbance of habitat structure from abrasion, and sedimentation. The effects of changing climate on these habitats is not fully understood, but increased rainfall on land leading to increased sedimentation at sea, as well as warming oceans, has potential to be detrimental to some bryozoans. **Existing protection measures** • Trawl restrictions: Trawling by vessels over 46 m long is prohibited - Fisheries (South-East Area Commercial Fishing) Regulations 1986: 4A. **Evidence** • Batson and Probert (2000), Carbines and Cole (2009), Jiang and Carbines (2002), Jones et al., (2018), Morrison et al., (2014), Probert et al., 1979

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