Ministry for Primary Industries
Manatū Ahu Matua

Review of Sustainability Controls for the 2018 April Fishing Year

Proposals to Alter Total Allowable Catches, Allowances, Total Allowable Commercial Catches for Selected Fishstocks

Decision Paper

MPI Information Paper 2018/03

Prepared by the Ministry for Primary Industries

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Growing and Protecting New Zealand

Contents

PART 1: INTRODUCTION AND PURPOSE

1. This document seeks your decisions on setting the total allowable catch (TAC), allowances for Māori customary non-commercial fishing, recreational fishing, all other sources of mortality from fishing, and total allowable commercial catch (TACC) for the stocks discussed in this paper.

2. Your decisions will generally have effect from 1 April 2018.

3. The Ministry for Primary Industries (MPI) has consulted and provided for the input and participation of tangata whenua, having particular regard to kaitiakitanga, on proposals to amend the Total Allowable Catch (TAC), allowances, and Total Allowable Commercial Catch (TACC) for three stocks (SBW 6B, SCC 3, and SCC 7B).

4. This document provides you with MPI's final advice on these proposals. The paper is divided into separate parts. Your general statutory considerations are set out in Part 2. Part 3 and 4 contain the review aspects of each stock, including the initial proposals and rationale, relevant background information, specific legal considerations, a summary of submissions and MPI's responses, analysis of management options, and MPI's recommendations.

5. Part 3 contains the review of inshore fishstocks (SCC 3 & 7B), and Part 4 provides the analysis and advice on deepwater stock (SBW 6B).

6. The full submissions that MPI received on the relevant initial proposals are contained in Appendix 1.

PART 2: STATUTORY CONSIDERATIONS

1 Introduction

7. This section provides an overview of your legal obligations under the Fisheries Act 1996 (the **Act** or the **Fisheries Act**) when setting or varying TACs, TACCs and deemed values for New Zealand fish stocks.

8. Where relevant, stock-specific details relating to these obligations are set out in the section of the discussion paper relating to each stock.

SECTION 5(A) – INTERNATIONAL OBLIGATIONS

9. Section 5(a) says the Act is to be interpreted, and all persons exercising or performing functions, duties, or powers under it are required to act, in a manner consistent with New Zealand's international obligations relating to fishing. As a general principle, where there is a choice in the interpretation of the Act or the exercise of discretion, the decision maker must choose the option that is consistent with New Zealand's international obligations relating to fishing.

10. The two key pieces of international law relating to fishing, and to which New Zealand is a party, are the United Nations Convention on the Law of the Sea, 1982 (**UNCLOS**) and the United Nations Convention on Biological Diversity 1992 (the **CBD**). International obligations also derive from New Zealand being a signatory to a number of international conventions. Of particular relevance are regional fisheries management organisations, Convention on International Trade in Endangered Species of Wild Fauna and Flora (**CITES**) and the Convention on Migratory Species (**CMS**).

SECTION 5(B) – TREATY OF WAITANGI (FISHERIES CLAIMS) SETTLEMENT ACT 1992

11. Section 5(b) says the Act is to be interpreted, and all persons exercising or performing functions, duties, or powers under it are required to act, in a manner consistent with the provisions of the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 (the **Settlement Act**). This obligation furthers the agreements expressed in the Deed of Settlement referred to in the Preamble to the Settlement Act.

12. The development of customary regulations, Iwi Fisheries Forums, and providing for the input and participation of iwi in fisheries decisions, discussed elsewhere in this paper, are some of the ways in which the obligations in the Settlement Act are given effect to.

SECTION 8 – PURPOSE OF THE FISHERIES ACT 1996

13. Section 8 says the purpose of the Act is to provide for the utilisation of fisheries resources while ensuring sustainability.

14. "Ensuring sustainability" is defined as: "maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations; and avoiding, remedying, or mitigating any adverse effects of fishing on the aquatic environment". "Utilisation" of fisheries resources is defined as "conserving, using, enhancing, and developing fisheries resources to enable people to provide for their social, economic, and cultural wellbeing."

15. The Supreme Court has stated that the purpose statement incorporates "the two competing social policies reflected in the Act" and that "both policies are to be accommodated as far as is practicable in the administration of fisheries under the quota management system....[I]n the attribution of due weight to each policy that given to utilisation must not be such as to jeopardise sustainability".[1]

SECTION 9 – ENVIRONMENTAL PRINCIPLES

16. Section 9 prescribes three environmental principles that you must take into account when exercising powers in relation to the utilising of fisheries resources or ensuring sustainability.

Principle 1: Associated or dependent species should be maintained above a level that ensures their long-term viability.

17. The Act defines "associated and dependent species" as any non-harvested species taken or otherwise affected by the taking of a harvested species. "Harvested species" is defined to mean any fish, aquatic life or seaweed that may for the time being be taken with lawful authority. So this principle is focussed on species (such as protected species) for which a permission to target commercially cannot be given.

18. The term "long-term viability" (in relation to a biomass level of a stock or species) is defined in the Act as a low risk of collapse of the stock or species, and the stock or species has the potential to recover to a higher biomass level. This principle therefore requires the continuing existence of species by maintaining populations in a condition that ensures a particular level of reproductive success.

19. Where fishing is affecting the viability of associated and dependent species, appropriate measures such as method restrictions, area closures, and potentially adjustments to the TAC of the target stock should be considered.

Principle 2: Biological diversity of the aquatic environment should be maintained.

20. "Biological diversity" is defined in the Act as 'the variability among living organisms, including diversity within species, between species, and of ecosystems'. Determining the

[1] Recreational Fishing Council Inc v Sanford Limited and Ors [2009] NZSC 54 at [39].

level of fishing or the impacts of fishing that can occur requires an assessment of the risk that fishing might cause catastrophic decline in species abundance or cause biodiversity to be reduced to an unacceptable level.

Principle 3: Habitat of particular significance for fisheries management should be protected.

21. Habitat is defined in the Oxford Dictionary of English to mean the natural home or environment of an animal, plant or species. In MPI's view, in the fisheries context, this means those waters and substrates necessary for fish to spawn, breed, feed or grow to maturity. These should be protected and adverse effects on them avoided, remedied, or mitigated.

SECTION 10 – INFORMATION PRINCIPLES

22. Section 10 prescribes four information principles that you must take into account when exercising powers in relation to the utilising of fisheries resources or ensuring sustainability:

    a) Decisions should be based on the best available information;
    b) Decision makers should take into account any uncertainty in the available information;
    c) Decision makers should be cautious when information is uncertain, unreliable, or inadequate; and
    d) The absence of, or any uncertainty in, any information should not be used as a reason for postponing or failing to take any measure to achieve the purpose of the Act.

23. Less than full information suggests caution in decision-making, not deferral of a decision completely. "The fact that a dispute exists as to the basic material upon which the decision must rest, does not mean that necessarily the most conservative approach must be adopted. The obligation is to consider the material and decide upon the weight which can be given it with such care as the situation requires."[2]

24. Both scientific and anecdotal information need to be considered and weighed accordingly when making management decisions. The weighting assigned to particular information is subject to the certainty, reliability, and adequacy of that information.

25. As a general principle, information outlined in the MPI Fishery Assessment Plenary Report is considered the best available information on stock status and should be given significant weighting. The information presented in the Plenary Report is subject to a robust process of scientific peer review and is assessed against the Research and Science Information Standard for New Zealand Fisheries.[3] Corroborated anecdotal information also has a useful role to play in the stock assessment process and in the management process.

[2] *Greenpeace NZ Inc v Minister of Fisheries* (HC, Wellington CP 492/93, 27/11/95, Gallen J) p 32.
[3] A non-binding MPI Policy Document.

SECTION 11 – SUSTAINABILITY MEASURES

26. Section 11(1) allows sustainability measures (such as a TAC) to be set or varied after the following factors are taken into account:
    (a) Any effects of fishing on the stock and the aquatic environment
    (b) Any existing controls that apply to the stock or area concerned
    (c) The natural variability of the stock concerned.

27. These factors are discussed in the section of the decision document relating to each stock.

28. Section 11 (2) says that before any sustainability measure is set or varied you must have regard to any provision of:
    (a) Any regional policy statement, regional plan, or proposed regional plan under the Resource Management Act 1991.
    (b) Any management strategy or management plan under the Conservation Act 1987 that apply to the coastal marine area and which you consider to be relevant
    (c) Sections 7 and 8 of the Hauraki Gulf Marine Park Act 2000
    (ca) regulations made under the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012; and
    (d) a planning document lodged with you by a customary marine title group under section 91 of the Marine and Coastal Area (Takutai Moana) Act 2011

    that apply to the coastal marine area and are considered to be relevant.

29. Section 11 (2A) requires you to take into account:
    (a) Any conservation services or fisheries services
    (b) Any relevant fisheries plan approved under this Part-see discussion of section 11A below
    (c) Any decisions not to require conservation services or fisheries services.

30. Services of particular relevance to the decisions in this paper relate to programmed research used to monitor stock abundance. To date national fisheries plans have been approved only for deepwater and highly migratory species.

SECTION 12 – CONSULTATION AND INPUT AND PARTICIPATION OF TANGATA WHENUA

31. Section 12(1) says that before setting or varying any sustainability measure under the Act you are required to:

    - consult with those classes of persons having an interest in the stock or the effects of fishing on the aquatic environment in the area concerned, including, but not limited to, Māori, environmental, commercial and recreational interests; and

- provide for the input and participation of tangata whenua having a non-commercial interest in the stock concerned or an interest in the effects of fishing on the aquatic environment in the area concerned; and have particular regard to kaitiakitanga.

32. The Act defines Kaitiakitanga to mean "the exercise of guardianship; and, in relation to any fisheries resources, includes the ethic of stewardship based on the nature of the resources, as exercised by the appropriate tangata whenua in accordance with tikanga Māori", where tikanga Māori refers to Māori customary values and practices.

33. Iwi Fisheries Forums and Forum Fisheries Plans are the main ways in which input and participation of tangata whenua is provided for. Information provided by Forums and iwi views on the management of fisheries resources and fish stocks set out in Iwi Fisheries Plans express how tangata whenua exercise kaitiakitanga in respect of the stocks and areas in this sustainability round.

34. Section 12 (2) says that as soon as practicable after setting or varying any sustainability measure, you shall give the persons consulted under 12(1), the reasons in writing for your decisions.

SECTIONS 13 &14 - SETTING AND VARIATION OF THE TOTAL ALLOWABLE CATCH (TAC)

Section 13 – Total Allowable Catch

35. The TAC for most stocks in the Quota Management System (**QMS**) is set under section 13 of the Act.

36. Under s 13 the general premise is to set a TAC that maintains the biomass of a fishstock at or above a level that can produce the maximum sustainable yield (MSY). That biomass level is abbreviated as B_{MSY}.

37. MSY is defined, in relation to any fish stock, as being the greatest yield that can be achieved over time while maintaining the stock's productive capacity, having regard to the population dynamics of the stock and any environmental factors that influence the stock.

38. Section 13(2) of the Act requires a TAC to be set that maintains a stock at or above MSY or that moves or restores it to or above that level, having regard to the interdependence of stocks.

39. Section 13(2A) says that if you consider that the current level of a stock or the level of a stock that can produce the MSY is not able to be estimated reliably using the best available information, you must:
    - not use this lack of information as a reason for postponing, or failing to set a TAC for the stock, and
    - have regard to the interdependence of stocks, the biological characteristics of the stock and any environmental conditions affecting the stock, and

- set a TAC using the 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 which can produce the MSY.

40. You may set the TAC to achieve the objective in a way and rate which has regard to the interdependence of stocks and within a period appropriate to the stock.

41. In considering the way in which and rate at which a stock is moved towards or above a level that can produce maximum sustainable yield (s13(3)), you may have regard to such social, cultural, and economic factors as you consider relevant. This provision applies to TACs set under s13(2) or s13(2A) (if applicable).

42. The obligation to have regard to the interdependence of stocks when setting a TAC requires consideration of the effects of fishing on associated stocks harvested with the target stock. Examples include other non-target fish species (bycatch) or benthic species that are incidentally impacted by trawl gear. The role of the target stock in the food chain should also be considered. In particular, interdependence involves a direct trophic (i.e. one stock is likely to be directly affected through a predator or prey relationship by the abundance of another stock) relationship between stocks.

SECTIONS 20 & 21 - SETTING AND VARIATION OF THE TOTAL ALLOWABLE COMMERCIAL CATCH (TACC)

43. After setting or varying the TAC, a separate decision arises in respect of allocating the TAC, i.e., deciding what portion of the TAC is to be available for commercial and other purposes.

44. Section 20 requires a Total Allowable Commercial Catch (TACC) to be set for each QMS stock and allows it to be varied from time to time. A TACC can be set at zero. This would occur in situations where the TAC was set at zero for sustainability reasons (i.e. the fishery was closed).

45. Section 21 of the Act says that in setting or varying the TACC you must have regard to the TAC and allow for:
    a) Māori customary non-commercial fishing interests;
    b) Recreational interests; and
    c) All other mortality to that stock caused by fishing.

46. The Courts have in a number of cases considered what is involved in allowing for non-commercial interests. In Snapper 1[4] the Court of Appeal said that the recreational allowance is simply the best estimate of what recreational fishers will catch while being subject to the controls which you decide to impose upon them, e.g. bag limits and minimum lawful sizes. Having set the TAC you in effect apportion it between the relevant interests.[5]

[4] New Zealand Fishing Industry Association (Inc) v Minister of Fisheries CA 82/97, 22 July 1997 ("Snapper 1").
[5] Snapper 1, p 17.

47. The Supreme Court in Kahawai[6] endorsed this approach and said that the words "allow for" require you both to take into account the interests and make provision for them in the calculation of the TACC.[7] The Supreme Court went on to say that ss 20 and 21 prescribe a framework within which you must operate when setting the TACC. The framework requires apportionment of the TAC by you among the various interests and other mortality. The sequential nature of the method of allocation provided for in s 21 does not indicate that non-commercial fishing interests are to be given any substantive priority over commercial interests. In particular the allowance for recreational interests is to be made keeping commercial interests in mind.[8]

48. The Supreme Court further said that in the end, within the limits provided for by the Act, you make a policy decision as to what allocations are appropriate for non-commercial interests and other mortality and what is to be the TACC. These decisions are interdependent. The Act does not confer priority for any interests over the other. It leaves that to your judgment.[9]

49. Under the customary fishing regulations [Fisheries (South Island Customary Fishing) Regulations 1999 and the Fisheries (Kaimoana Customary Fishing) Regulations 1998], customary take is regulated through the authorisation system which requires that all customary fishing is to be undertaken in accordance with tikanga and the overall sustainability of the fishery. This framework was put in place to give effect to legal obligations in the Settlement Act. [10]

50. When allowing for Māori customary non-commercial interests, you must take into account:
    a) Any mātaitai reserve in the relevant quota management area; and
    b) Any temporary area closure or temporary fishing method restriction or prohibition imposed in the area for the purposes of improving the availability or size of a species for customary fishing purposes or recognising a customary fishing practice in the area.

51. The intent is that the purposes of measures enacted to provide for customary fishing are not adversely affected or reasons for limited customary take are ignored when setting the customary allowance.

52. An allowance is to be made for all other mortality to a stock that results from fishing. This includes illegal catch, discards, and incidental mortality from fishing gear.

HAURAKI GULF MARINE PARK ACT 2000

53. Section 11(2) of the Fisheries Act requires you to have regard to sections 7 and 8 of the Hauraki Gulf Marine Park Act 2000 (HGMPA) when setting or varying a sustainability measure (such as a TAC).

[6] New Zealand Recreational Fishing Council Inc v Sanford Limited [2009] NZSC 54 ("Kahawai")
[7] Kahawai [55]
[8] Kahawai [61]
[9] Kahawai [65]
[10] Where the customary regulations do not apply, customary fishing is regulated under regulations 50-52 of the Fisheries (Amateur Fishing) Regulations 2013 and a similar authorisation system applies.

54. Section 13 of the HGMPA says all persons exercising powers or carrying out functions for the Hauraki Gulf under various specified Acts, including the Fisheries Act, must, in addition to any other requirement specified in those Acts, have particular regard to sections 7 and 8 of the HGMPA. This would apply to the setting or varying of TACCs, and deemed values.

55. Section 7(1) of the HGMPA says the interrelationship between the Hauraki Gulf, its islands, and catchments and the ability of that interrelationship to sustain the life-supporting capacity of the environment of the Hauraki Gulf and its islands are matters of national significance.

56. Section 7(2) says the life-supporting capacity of the environment of the Gulf and its islands includes the capacity—
    (a) to provide for—
        (i) the historic, traditional, cultural, and spiritual relationship of the tangata whenua of the Gulf with the Gulf and its islands; and
        (ii) the social, economic, recreational, and cultural well-being of people and communities:
    (b) to use the resources of the Gulf by the people and communities of the Gulf and New Zealand for economic activities and recreation:
    (c) to maintain the soil, air, water, and ecosystems of the Gulf.

57. Section 8 says that to recognise the national significance of the Hauraki Gulf, its islands, and catchments, the objectives of management are:

    (a) the protection and, where appropriate, the enhancement of the life-supporting capacity of the environment of the Hauraki Gulf, its islands, and catchments:

    (b) the protection and, where appropriate, the enhancement of the natural, historic, and physical resources of the Hauraki Gulf, its islands, and catchments:

    (c) the protection and, where appropriate, the enhancement of those natural, historic, and physical resources (including kaimoana) of the Hauraki Gulf, its islands, and catchments with which tangata whenua have an historic, traditional, cultural, and spiritual relationship:

    (d) the protection of the cultural and historic associations of people and communities in and around the Hauraki Gulf with its natural, historic, and physical resources:

    (e) the maintenance and, where appropriate, the enhancement of the contribution of the natural, historic, and physical resources of the Hauraki Gulf, its islands, and catchments to the social and economic well-being of the people and communities of the Hauraki Gulf and New Zealand:

    (f) the maintenance and, where appropriate, the enhancement of the natural, historic, and physical resources of the Hauraki Gulf, its islands, and catchments, which contribute to the recreation and enjoyment of the Hauraki Gulf for the people and communities of the Hauraki Gulf and New Zealand.

58. There are no stocks in this sustainability round where the quota management area boundaries are within or partly within the boundaries of the Hauraki Gulf Marine Park.

2 Other Matters

HARVEST STRATEGY STANDARD (HSS)

59. 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 fishstocks in New Zealand's Quota Management System (QMS). It is intended to provide guidance on how fisheries law will be applied in practice, by establishing a consistent and transparent framework for decision-making to achieve the objective of providing for utilisation of New Zealand's QMS species while ensuring sustainability.

60. The HSS outlines the Ministry's approach to relevant sections of the Act and, as such, forms a core input to the Ministry's advice to you on the management of fisheries, particularly the setting of TACs under sections 13 and 14.

61. The HSS is not however legally binding and you are not obliged to choose options based upon it.

PART 3: INSHORE STOCKS

Sea Cucumber – East Coast South Island (SCC 3)

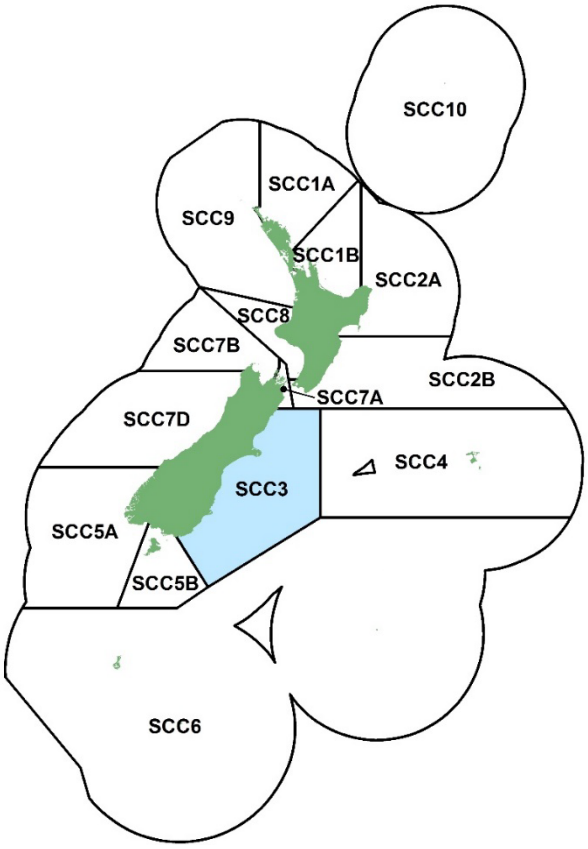

Figure 1: Quota Management Areas for sea cucumber, with SCC 3 highlighted in blue.

1 Summary

62. The Ministry for Primary Industries (MPI) consulted on two options for management settings for sea cucumber (*Australostichipus molis*; kūkamo te moana) in quota management area (QMA) SCC 3 (Figure 1). Option 1 retains the *status quo*, while Option 2 proposes an increase in the total allowable catch (TAC), the total allowable commercial catch (TACC), and all other mortality caused by fishing. These options are set out in Table 1:

Table 1: Proposed management settings (in tonnes) for SCC 3 from 1 April 2018.

Option	TAC	TACC	Allowances		
			Māori Customary	Recreational	All other mortality to the stock caused by fishing
Option 1 *(Status quo)*	5	2	1	2	0
Option 2 *(MPI Recommended)*	54 ↑	48 ↑	1	2	3 ↑

63. Eight submissions were received on the proposals for SCC 3. Two submissions support Option 1, and 6 submissions support Option 2. Three of the eight submissions noted concern about the possible benthic impacts of dredging, including the effects on other fisheries. The proposal for SCC 3 was also presented to Te Waka a Māui me Ōna Toka Iwi Forum, which represents all nine iwi of the South Island. The Forum supported the proposed option.

64. After considering these submissions and input, MPI recommends Option 2. This option increases the TAC by 49 tonnes and the TACC by 46 tonnes. The recreational allowance and the Māori customary allowance are unchanged, while the allowance for other sources of fishing-related mortality is increased by three tonnes. MPI believes this is a cautious approach that allows for utilisation while ensuring sustainability and taking into account the uncertainty associated with this relatively new fishery. In particular, the biomass estimate on which the TAC increase is based is from a survey covering only 2% of the spatial extent of the QMA, and the proposed increase is only 2% of the median biomass estimate for this surveyed area.

2 Need for review

65. When introduced into the Quota Management System (QMS) in 2004, little was known about the sea cucumber fishery. Given this lack of information, only nominal TACs were set for most QMAs. New scientific information shows the biomass of sea cucumbers in SCC 3 would support an increase to the TAC, while still ensuring the sustainability of the fishery. A survey to determine the biomass of sea cucumbers on the shelf area off Pegasus Bay north of Banks Peninsula was completed in May 2017, and the results reviewed through MPI's science working group process.

CONTEXT

Biological information

66. Sea cucumbers are echinoderms, as are sea stars and sea urchins. They are detrital feeders that can be widely distributed across a variety of habitats and depths. Commercially fishable concentrations of the only species of sea cucumber of commercial value, *A. mollis,* typically occur off sheltered coastlines at depths shallower than 140 metres. They inhabit a wide range of substrates, including rocky reefs and biogenic reefs as well as gravel to mud sediments.

67. Sea cucumbers are known to vary in abundance in response to environmental and other conditions. They are broadcast spawners that, following fertilisation, undergo a three to four week larval phase in the water column before settling. Sea cucumbers can reach a size of 25 cm (300 g wet weight), and live for 5 – 15 years.

68. There are important aspects of sea cucumber biology and life history that remain uncertain, including growth rate, age structure, recruitment and ecological role.

Fishery characterisation

69. The SCC 3 QMA extends from the Clarence River south to Slope Point (Figure 1). Sea cucumber landings in SCC 3 have been largely as bycatch of inshore bottom trawling, mostly from depths of 60 to 120 metres. Trawl survey and MPI Observer records show the presence of sea cucumbers in this depth range along the entire extent of SCC 3.

70. Landings have frequently exceeded the TACC, incurring deemed value payments for fishers (Figure 2). Note that no changes to deemed value rates are proposed for SCC 3 for 2018/19. Deemed value payments will continue to be monitored following the proposed change to the TACC, and may be reviewed in the future.

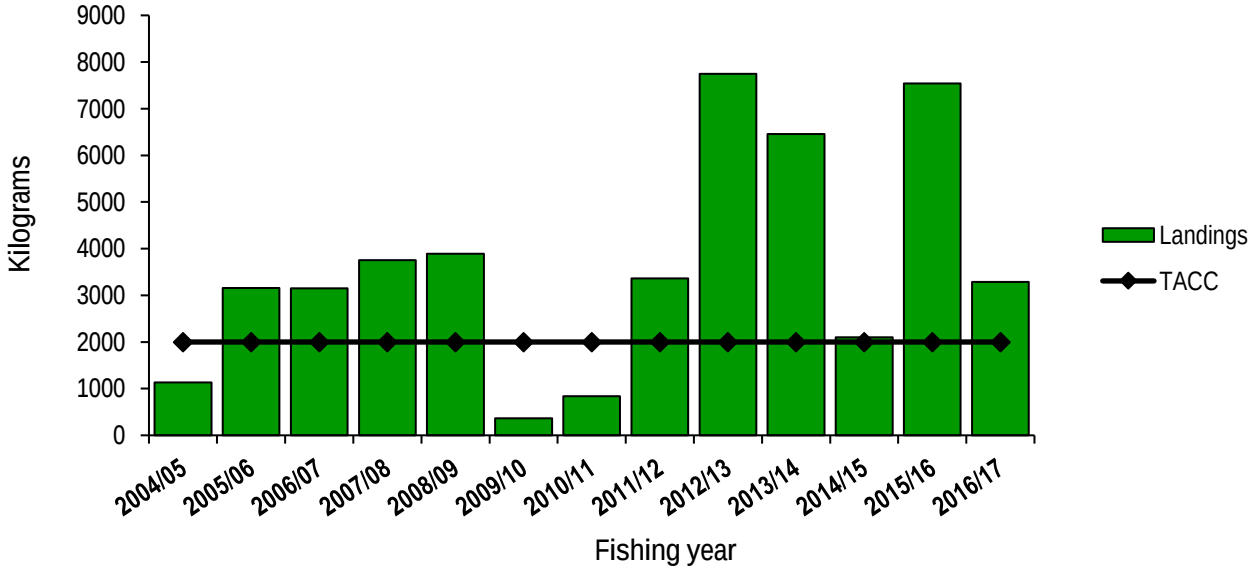

Figure 2. Landings vs TACC for SCC 3 from 2004/05 to 2016/17.

71. The New Zealand sea cucumber fishery is very small, especially when compared to overseas sea cucumber fisheries. Recent total New Zealand landings are about 25 tonnes per annum. By comparison, Japan lands 1,000 tonnes of the sea cucumber *Apostichopus japonicas* annually; the Republic of Korea lands 6,000 tonnes of *A. japonicas* annually; and around 400 tonnes of the sea cucumber *Parastichopus californicus* are landed per year in British Columbia.

Current management approach

72. Sea cucumbers are known to be susceptible to serial overfishing. The management approach detailed below provides for development opportunities while monitoring catch to ensure sustainability of the stocks. The TAC has not been reviewed since sea cucumber was put into the QMS in 2004.

Current stock status

73. There is limited information on the stock status for SCC 3. Sea cucumber fisheries around the world have been characterised by over-fishing. Given this, a cautious approach to development is required.

74. Recent biomass information for part of SCC 3 indicates there is sufficient biomass to justify an increase to the TAC for this stock. The area surveyed off Pegasus Bay in SCC 3 estimates 3,207 tonnes green weight of sea cucumber in the survey area alone, which is less than 2% of the area of SCC 3.

3 Statutory Considerations specific to SCC 3

75. The following section provides statutory considerations specific to the review of SCC 3.

SECTION 8 – PURPOSE OF THE ACT

76. MPI considers that both options presented in this paper satisfy the purpose of the Act on the basis that they provide for the utilisation of the SCC 3 while ensuring sustainability.

SECTION 9 – ENVIRONMENTAL PRINCIPLES

77. A summary of the interactions between the SCC 3 fishery and the aquatic environment, and how these are likely to be affected by the proposals, is provided below.

Maintaining viability of associated or dependent species (s 9(a))

78. There are no known biologically associated or dependant species of sea cucumbers.

Biological diversity of the aquatic environment (s 9(b))

79. SCC 3 catch is currently predominantly a bycatch of the trawl fishery. There is also interest in a target fishery, likely using a specialised dredge. Bycatch recorded from the May 2017 dredge biomass survey includes hydroids, asteroids, bivalves and decapods. Sampling stations were randomly allocated and so covered a variety of habitats beyond those that will be fished. A small number of fish species were also caught, predominantly rough skate, witch, and carpet shark. Risk to these species from the proposed increase in the TAC is considered to be low, as described below.

80. Areas in which sea cucumber are likely to be caught in SCC 3 already receive substantial bottom-contacting trawl effort, particularly for inshore finfish species such as barracouta, elephant fish, flatfish and red gurnard. For example, it is estimated that more than 50% of the soft sediments shallower than 100m depth were contacted by trawls or dredges at least once in the period 2008 to 2012, and the coastal statistical areas in SCC 3 (18, 20, 22, 24 and 26) showed between 490 and 1460 tows per statistical area over that five year period.

81. Although any additional bottom-contact effort is likely to be detrimental to seafloor communities, the proposed increase is likely to result in relatively little additional impact on biological diversity given:

- the modest increase in TAC proposed, which will limit any additional effort;
- any additional effort will be in previously trawled areas; and
- if sea cucumber dredges are used, they are smaller than trawls (but potentially have greater impacts), and use very short tows to ensure high-quality product.

Habitats of particular significance for fisheries management (s 9(c))

82. MPI is not aware of any habitats of particular significance for fisheries management within the area fished for sea cucumber in SCC 3.

SECTION 10 – INFORMATION PRINCIPLES

83. MPI considers that the advice provided is based on the best available information and that uncertainty, inadequacy, or lack of information has been taken into account in the recommended options where relevant.

SECTION 11 – SUSTAINABILITY MEASURES

84. The general considerations under s 11 are provided in the section above on Statutory Considerations (Part 2).

SECTION 12- INPUT AND PARTICIPATION OF TANGATA WHENUA

85. In addition to the consultation considerations discussed elsewhere, Section 12(1)(b) requires that you provide for the input and participation of tangata whenua and have particular regard to kaitiakitanga before setting or varying a TAC.

86. The proposal for SCC 3 was presented to Te Waka a Māui me Ōna Toka Iwi Forum, one of the two Iwi Fisheries Forums relating to South Island iwi. The Te Waka a Māui me Ōna Toka Iwi Forum represents all nine iwi of the South Island, each holding mana moana and significant interests (both commercial and non-commercial) in South Island fisheries. Their input has been incorporated into the Options.

4 Setting the TAC

87. The TAC for SCC 3 can be varied under section 13 of the Act. Section 13(2) of the Act specifies requirements for setting a TAC where a reliable estimate of the current biomass of the stock and the level of biomass that can produce the maximum sustainable yield (B_{MSY}), is known.

88. Sustainable harvest estimates require estimates of biological parameters relating to natural mortality, growth and maturity, but there is insufficient information available on these parameters for *A. mollis*. Therefore, in cases such as SCC 3, where B_{MSY} is not able to be estimated, section 13(2A) of the Act provides for you to use the best available

information to set a TAC that is not inconsistent with the objective of maintaining the stock at or above, or moving the stock towards or above, the B_{MSY} level.

89. The TAC options proposed for SCC 3 are set out in Table 2 below.

Table 2: Proposed TAC (in tonnes) for SCC 3 from 1 April 2018.

Option	TAC
Option 1 *(Status quo)*	5
Option 2 *(MPI Recommended)*	54 ↑

SUBMISSIONS RECEIVED

90. Submissions on the SCC 3 TAC proposals were received from the following eight individuals, iwi, and organisations:
    a) Ocean Fisheries Ltd
    b) Andrew Jeffs
    c) Specialty & Emerging Fisheries Group
    d) Paua Industry Council Ltd and Kina Industry Council Inc
    e) Te Ohu Kaimoana Trustee Ltd
    f) New Zealand Wild Catch Limited
    g) Southern Inshore Fisheries Management Company Ltd
    h) Environment and Conservation Organisations of NZ Inc. (ECO).

EVALUATION OF TAC OPTIONS

91. The proposal to increase the TAC for SCC 3 was presented to Te Waka a Māui me Ōna Toka Iwi Forum which represents all nine iwi of the South Island. The forum supported development of the fishery in principle (Option 2).

92. Ocean Fisheries Ltd, Specialty & Emerging Fisheries Group, Paua Industry Council Ltd and Kina Industry Council Inc., Te Ohu Kai Moana Trustee Ltd, New Zealand Wild Catch Limited, and Southern Inshore Fisheries Management Company Ltd also generally support an increase in the TAC.

93. The grounds cited include that the *status quo* does not allow for bycatch problems in the fishery or the development of the fishery. Ocean Fisheries Ltd and New Zealand Wild Fisheries Ltd submit Option 2 is too conservative and the TAC should be larger.

94. Paua Industry Council Ltd and Kina Industry Council Inc jointly submit they generally support the proposed increase in TAC, but note the potential for serial depletion.

95. Andrew Jeffs and ECO submit that there is insufficient information on growth rates, age structure, abundance, recruitment, and the ecological role of *A. mollis*. Andrew Jeffs and

Southern Inshore Fisheries also submit concern about any increase in dredging activity as a result of the TAC increase.

96. MPI comments there are areas where improved knowledge would assist decision making. Given this, a precautionary TAC is proposed. To address the risk of serial depletion, quota holders have advised they intend to implement a fishing monitoring and catch spreading programme to be developed by a recognised science provider.

97. Based on the available evidence, the fishery is centred on established trawl grounds and, as such, additional biodiversity impacts if targeted sea cucumber dredging occurs are likely relatively small in SCC 3 compared to the existing fisheries' impacts. If a dredge fishery targeting sea cucumber develops in SCC 3, then research on the impacts of dredging will be needed before any further increases in the TAC and TACC occur.

98. While SCC 3 has been only lightly exploited to date, internationally, sea cucumber fisheries have been prone to boom and bust cycles. MPI considers, therefore, it important to take a cautious approach in setting a TAC and to monitor how the fishery responds to any increase in fishing. TACs can be adjusted again in the future if information indicates a utilisation opportunity or a sustainability risk exists.

99. The median biomass estimate for the area surveyed off Pegasus Bay is 3,207 tonnes green weight. This is a high level of biomass that could support greater harvest than the current TAC without a sustainability risk. MPI proposes a similar, cautious, approach to setting the TAC to that used in other developing fisheries with limited information, such as the New Zealand surf clam fishery and the British Columbian sea cucumber fishery.

100. This approach uses an exploitation rate (a set proportion of the available fishable biomass) to set the TAC. In the case of sea cucumber, a very conservative exploitation rate is proposed (5%) that has been used in the surf clam fishery. The assumed exploitation rate was 5%. The TAC has been calculated by applying the exploitation rate to the lower bound of the 95% confidence interval of the survey biomass estimate. The survey estimate of 3,207 tonnes has a lower 95% bound of 1,075 tonnes. Five percent of this gives a TAC of 54 tonnes. The proposed new TAC of 54 tonnes (Option 2) is considered conservative due to the survey estimate coming from less than 2% of the area of the QMA, using the lower bound of the confidence interval of the survey estimate, and using an exploitation rate that is considered low. MPI expects that the biomass throughout SCC 3 will easily support the cautious TAC increase proposed.

101. After considering the submissions received, MPI recommends you agree to Option 2 and set the SCC 3 TAC at 54 tonnes. Overall, MPI considers there is little sustainability risk in the cautious increase to the TAC proposed under Option 2. Option 2 would allow increased utilisation with relatively low risk to the fishery, while under Option 1 (the *status quo*), none of the benefits from improved utilization would be realised.

5 Setting allowances and the TACC

102. After setting the TAC, you set the non-commercial allowances and TACC under s 20 and 21.

103. The non-commercial allowances and TACCs proposed for SCC 3 are set out in Table 3.

Table 3: Proposed non-commercial allowances and TACC (in tonnes) for SCC 3 from 1 April 2018.

Option	Allowances			TACC
	Māori Customary	Recreational	All other mortality to the stock caused by fishing	
Option 1 *(Status quo)*	1	2	0	2
Option 2 *(MPI Recommended)*	1	2	3 ↑	48 ↑

MĀORI CUSTOMARY NON-COMMERCIAL ALLOWANCE

104. Best available information indicates that there is minimal, if any, customary harvest of kūkamo te moana in SCC 3. This area is subject to the reporting requirements under the Fisheries (South Island Customary Fishing) Regulations 1999, and no catch has been reported. No change is proposed to the current Māori customary non-commercial fishing allowance.

105. One submission was also received from Te Ohu Kaimoana Trustee Ltd who supported Option 2, which includes the allocation for Māori customary non-commercial fishing.

106. MPI recommends you retain the current allowance for Māori customary fishing at 1 tonne for SCC 3.

RECREATIONAL ALLOWANCE

107. Best available information indicates that there is little recreational harvest of sea cucumbers in SCC 3. Recreational fishing surveys indicate that sea cucumber are not caught by recreational fishers, however, it is possible that shore based recreational fishing activity for sea cucumber may not be well-represented in the recreational surveys. No change is proposed to the current recreational fishing allowance.

108. No submissions were received regarding the recreational fishing allowance in SCC 3.

109. MPI recommends you retain the current allowance for recreational fishing at 2 tonnes for SCC 3.

ALLOWANCE FOR ALL OTHER MORTALITY CAUSED BY FISHING

110. MPI proposes to increase the allowance for all other sources of mortality to the stock caused by fishing for SCC 3 to reflect the predominant fishing method. Sea cucumber in SCC 3 is currently a bycatch of trawling. It is proposed to increase the estimate for other sources of fishing related mortality to 3 tonnes, which is 5% of the TAC. This approach is consistent with other trawl bycatch fisheries of this type.

111. No submissions were received regarding the allowance for all other mortality to the stock caused by fishing in SCC 3.

112. MPI recommends you increase the current allowance for other sources of mortality from 0 tonnes to 3 tonnes for SCC 3 to allow for the increased TAC.

TACC

Evaluation of Options and submissions received

113. Based on the proposed TAC, and taking into account the above allowances, a TACC of 48 tonnes green weight is proposed. Given the limited extent of the area surveyed and the limited information available, a single option is proposed (as well as Option 1, the *status quo*). Given the cautious approach to setting the TAC, this TACC has a low level of sustainability risk and takes into account uncertainty in the available information, an appropriate approach under section 10 (information principles) of the Act.

114. Sea cucumber is a potentially valuable fishery. If processed correctly, sea cucumbers are worth $12.50 - $20/kg (green weight) to fishers, and 1 kg of dried sea cucumber, if processed properly, can be worth up to $1,000. The economic implications of the proposed options are outlined in Table 4.

Table 4: Predicted changes to commercial revenue of the proposed options, based on the price to the fisher of $20/kg for SCC 3 in 2016/17.

	TACC	Change from *status quo* (t)	Predicted revenue change ($ p.a.)
Option 1 *(Status quo)*	2 t		
Option 2 *(MPI Recommended)*	48 t	46↑	Up to 960,000 ↑

115. Increasing the TACC of SCC 3 will allow fishers to better utilise the sea cucumber fishery. Currently, all sea cucumber QMAs have the very small TACs that were set on their introduction into the QMS. These TACCs do not generate sufficient income to finance the research required to develop the fishery.

116. Option 2 would provide for an increase in catch, increasing utilisation opportunity, while managing the risk to sustainability. Ongoing monitoring of the stock, including repeated surveys, will enable responsive management of the fishery.

117. Submissions were received from Ocean Fisheries Ltd, New Zealand Wild Catch Ltd and Southern Inshore Fisheries Management Company Ltd.

118. These submitters submitted that the current TACC was inadequate and did not meet utilisation requirements and contributes to bycatch problems in the fishery. Ocean Fisheries Ltd and New Zealand Wild Catch Ltd also submitted that the proposed increase was a minimum and that a significantly larger TACC should be set.

119. There is interest from commercial fishers in developing alternative methods for targeting sea cucumber in SCC 3, including specialised dredges. There is the potential for additional benthic impacts if a significant dredge fishery targeting sea cucumber develops in SCC 3 (rather than hand-gathering of sea cucumber by divers, or as a bycatch of trawling). However, the impacts to the sea bed or other sea life (section 9 of the Act) are expected to be minor under the current proposal, given that a relatively low TAC and TACC is proposed. Should a dredge fishery develop, further research will be required to determine any environmental impacts, including the likelihood of spatial depletion over time, before any further increase to the TAC and TACC occurs.

120. Overall, MPI recommends you increase the SCC 3 TACC from 2 to 48 tonnes to allow for sustainable utilisation of the resource.

6 Conclusion and Recommendations

121. MPI recommends an increase in the TAC, TACC and some allowances for SCC 3 (Option 2). Fisheries Survey and Observer data indicate a significant biomass of sea cucumber within the 60 to 120m depth at least as far south as the Waitaki Canyon.

122. Sea cucumber fisheries around the world have been characterised by overfishing, however, and MPI proposes a cautious approach to this developing fishery. MPI notes the survey site covers less than 2% of the area of SCC 3 and the proposed TAC is less than 2% of the median estimated biomass in the survey area. Further, quota holders have committed to developing a monitoring programme for the fishery.

123. Based on the available evidence, the fishery is centred on established trawl grounds. Any additional biodiversity impacts from fishing for sea cucumber are likely to be relatively small compared to the existing fisheries impacts. If a dredge fishery targeting sea cucumber develops in SCC 3, however, then research on the impacts of dredging will be needed before any further increases in the TAC and TACC occur.

124. MPI notes that you have broad discretion in exercising your powers of decision making, and may make your own independent assessment of the information presented to you in making your decision. You are not bound to choose the option recommended by MPI. MPI considers all options are consistent with your statutory obligations.

SCC 3 RECOMMENDATIONS

Option 1 (Status quo)

Agree to retain the SCC 3 TAC of 5 tonnes and within the TAC:

i. Retain the allowance of 1 tonne for Māori customary non-commercial fishing interests;
ii. Retain the allowance of 2 tonnes for recreational fishing interests;
iii. Retain the allowance of 0 tonne for other sources of fishing-related mortality;
iv. Retain the SCC 3 TACC of 2 tonnes.

Agreed / Not Agreed

OR

Option 2 (MPI recommended)

Agree to increase the SCC 3 TAC from 5 to 54 tonnes and within the TAC:

i. Retain the allowance of 1 tonne for Māori customary non-commercial fishing interests;
ii. Retain the allowance of 2 tonnes for recreational fishing interests;
iii. Increase the allowance of 3 tonnes for other sources of fishing-related mortality;
iv. Increase the SCC 3 TACC from 2 to 48 tonnes.

Agreed / Not Agreed

Hon Stuart Nash
Minister of Fisheries

21 / 3 /2018

Sea Cucumber – Challenger and Nelson (SCC 7B)

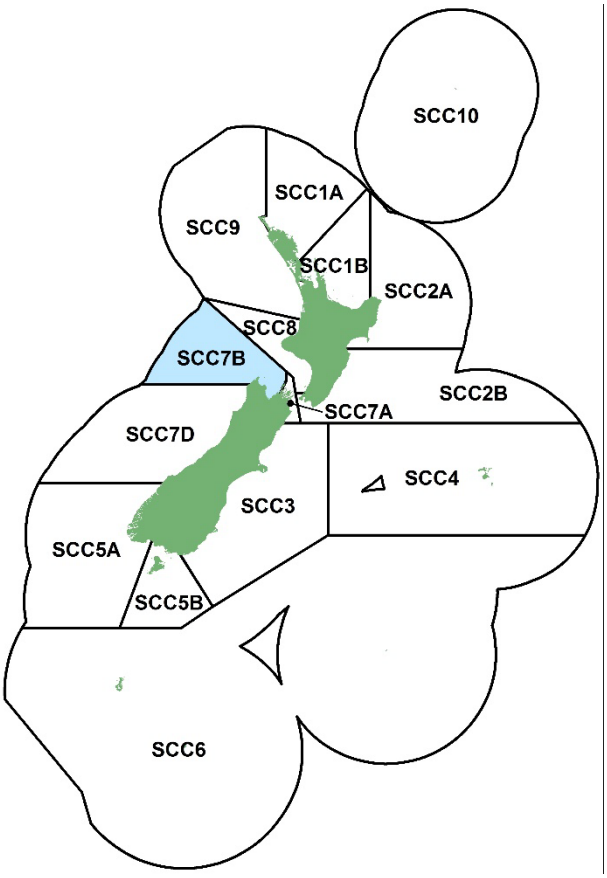

Figure 1: Quota management areas for sea cucumber, with SCC 7B highlighted in blue.

1 Summary

125. The Ministry for Primary Industries (MPI) consulted on two options for management settings for Sea cucumber (*Australostichipus molis*; kūkamo te moana) in quota management area (QMA) SCC 7B (Figure 1). Option 1 retains the *status quo* while Option Two proposes an increase in the total allowable catch (TAC), the total allowable commercial catch (TACC), and all other mortality caused by fishing. These options are set out in Table 1:

Table 1: Proposed management settings (in tonnes) for SCC 7B from 1 April 2018.

Option	TAC	TACC	Allowances		
			Customary **Māori**	Recreational	All other mortality to the stock caused by fishing
Option 1 *(Status quo)*	8	5	1	2	0
Option 2 *(MPI Recommended)*	17 ↑	14 ↑	1	2	0

126. Ten submissions were received on the proposals for SCC 7B. Six submissions support Option 2. The remainder note concern, mainly regarding the low level of knowledge about sea cucumbers. One submission also notes the potential for serial depletion. The

proposal for SCC 7B was also presented to Te Waka a Māui me Ōna Toka Iwi Forum which represents all nine iwi of the South Island. Their input has been incorporated into the options.

127. After considering these submissions and input, MPI recommends Option 2. This option increases the TAC by 9 tonnes and the TACC by 9 tonnes. The recreational allowance, the Māori customary non-commercial allowance and the allowance for other sources of fishing-related mortality remain unchanged. MPI considers this is a cautious approach that allows for utilisation while ensuring sustainability and into taking account the uncertainty associated with this relatively new fishery. It uses a similar, cautious, approach to setting the TAC used in other developing fisheries, such as the New Zealand surf clam fishery and the British Columbian sea cucumber fishery.

2 Need for review

128. The best available information suggests there is an opportunity to increase utilisation of SCC 7B. When introduced into the Quota Management System (QMS) in 2004, little was known about the sea cucumber fishery. Given this lack of information, a conservative TAC was set for SCC 7B. New information indicates there is sufficient biomass of sea cucumber in SCC 7B to support an increase to the TAC, while still ensuring the sustainability of the fishery.

CONTEXT

Biological information

129. Refer section 2.1 of SCC 3 paper.

Fishery characterisation

130. The SCC 7B QMA extends from Kahurangi Point to D'Urville Island and includes the Challenger area (Figure 1). Unlike the SCC 3 deep water fishery, the SCC 7B fishery is in shallower bays and, therefore, based on a hand gathering dive-fishery using underwater breathing apparatus (UBA). Because of the UBA, fishers are subject to specific position reporting requirements to show the location of diving events.

131. Landings were historically a bycatch of dredging for scallops in Golden Bay. However, very little scallop fishing now occurs in the area and, since the 2010/11 fishing year, a hand-gathering dive fishery has been established. Landings have been around the TACC (Figure 2). Note that no changes to deemed value rates are proposed for SCC 7B for 2018/19.

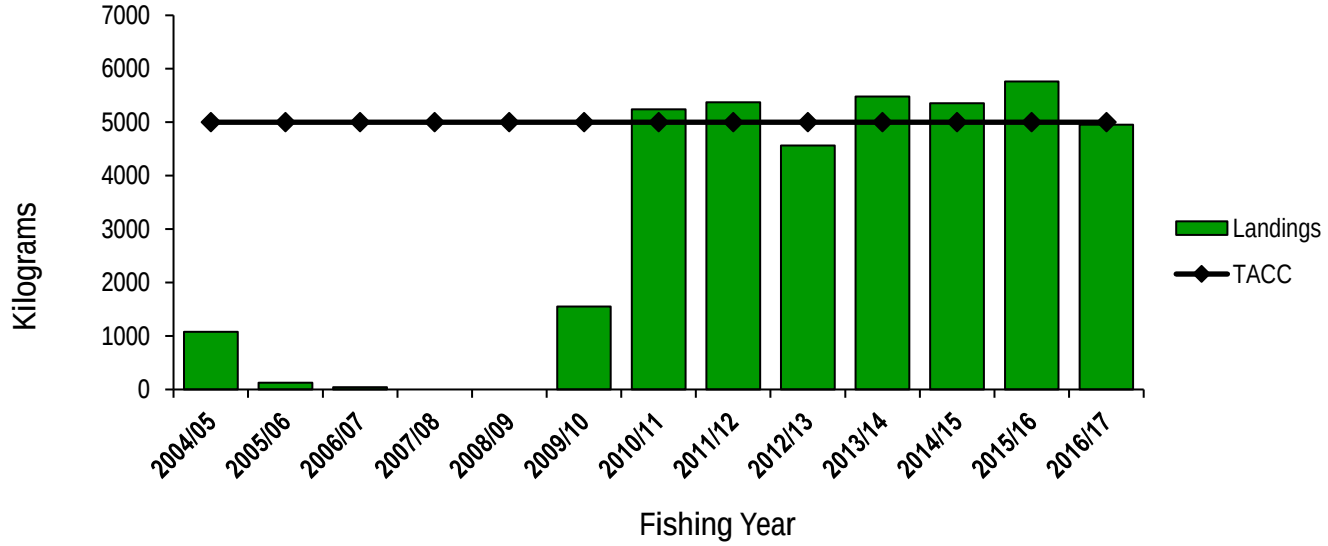

Figure 2. Landings vs TACC for SCC 7B (Tasman and Golden Bays) from 2004/05 to 2016/17.

132. The New Zealand sea cucumber fishery is very small, especially when compared to overseas sea cucumber fisheries. Recent total New Zealand landings are about 25 tonnes per annum. By comparison, Japan lands 1,000 tonnes of the sea cucumber *Apostichopus japonicas* annually; the Republic of Korea lands 6,000 tonnes of *A. japonicas* annually; and around 400 tonnes of the sea cucumber *Parastichopus californicus* are landed per year in British Columbia.

Current management approach

133. Refer section 2.1 of SCC 3 paper.

Current stock status

134. There is limited information on the stock status for SCC 7B. Sea cucumber fisheries around the world have been characterised by over fishing. Given this, a cautious approach to development is required.

135. A new biomass estimate for part of SCC 7B, derived from bycatch data of annual scallop dredge surveys, has been determined and reviewed through MPI's science working group process. Sea cucumbers have been recorded by scallop surveys within Golden and Tasman Bays and the Marlborough Sounds since 2015. Such surveys are optimised for scallops, and are likely to underestimate the biomass, as they do not include areas of sea cucumber habitat such as:

- The coastal margin under ten metres depth;
- The Croisilles Harbour;
- Areas outside of Tasman and Golden Bays; and
- A significant area of known biomass off the end of Farewell Spit.

136. Nevertheless, with a biomass estimate for the area surveyed of 1,768 tonnes green weight, they indicate sufficient biomass to support an increase in the TAC of SCC 7B.

3 Statutory Considerations specific to SCC 7B

137. The following section provides information specific to the application of the generic considerations to SCC 7B.

SECTION 8 – PURPOSE OF THE ACT

138. MPI considers that all options presented in this paper satisfy the purpose of the Act on the basis that they provide for the utilisation of the SCC 7B while ensuring sustainability.

SECTION 9 – ENVIRONMENTAL PRINCIPLES

139. A summary of the interactions between the SCC 7B fishery and the aquatic environment, and how these are likely to be affected by the proposals, is provided below.

Maintaining viability of associated or dependent species (s 9(a))

140. There are no known biologically associated or dependant species of sea cucumbers.

Biological diversity of the aquatic environment (s 9(b))

141. Given the fishery is based on hand gathering while using UBA, there is likely minimal implications for biological diversity.

Habitats of particular significance for fisheries management (s 9(c))

142. MPI is not aware of any habitats of particular significance for fisheries management within the area fished for sea cucumber in SCC 3. Given the fishery is hand gathering while using UBA, there are likely minimal implications for any habitats of particular significance to fisheries management.

SECTION 10 – INFORMATION PRINCIPLES

143. MPI considers that the advice provided is based on the best available information and that uncertainty, inadequacy, or lack of information has been taken into account in the recommended options where relevant.

SECTION 11 – SUSTAINABILITY MEASURES

144. The general considerations under s 11 are provided in the section above on Statutory Considerations (Part 2).

SECTION 12- INPUT AND PARTICIPATION OF TANGATA WHENUA

145. In addition to the consultation considerations discussed elsewhere, Section 12(1)(b) requires that you provide for the input and participation of tangata whenua and have particular regard to kaitiakitanga before setting or varying a TAC.

146. The proposal for SCC 7B was presented to Te Waka a Māui me Ōna Toka Iwi Forum, one of the two Iwi Fisheries Forums relating to South Island iwi. The Te Waka a Māui me Ōna Toka Iwi Forum represents all nine iwi of the South Island, each holding mana moana and significant interests (both commercial and non-commercial) in South Island fisheries. Their input has been incorporated into this proposal.

4 Setting the TAC

147. The TAC for SCC 7B can be varied under section 13 of the Act. Section 13(2) of the Act specifies requirements for setting a TAC where a reliable estimate of the current biomass of the stock and the level of biomass that can produce the maximum sustainable yield (B_{MSY}), is known.

148. Sustainable harvest estimates require estimates of biological parameters relating to natural mortality, growth and maturity, but there is insufficient information available on these parameters for *A. mollis*. Therefore, in cases such as SCC 7B, where B_{MSY} is not able to be estimated, section 13(2A) of the Act provides for you to use the best available information to set a TAC that is not inconsistent with the objective of maintaining the stock at or above, or moving the stock towards or above, the B_{MSY} level.

Table 2: Proposed TAC (in tonnes) for SCC 7B from 1 April 2018.

Option	TAC
Option 1 *(Status quo)*	8
Option 2 *(MPI Recommended)*	17 ↑

SUBMISSIONS RECEIVED

149. Submissions on the SCC 7B TAC proposals were received from the following 10 individuals, iwi, and organisations:
    a) Andrew Jeffs
    b) Nade Sunshine New Zealand International Ltd
    c) S & M Diving
    d) Specialty & Emerging Fisheries Group
    e) Paua Industry Council Ltd and Kina Industry Council Inc.
    f) Te Ohu Kaimoana Trustee Ltd
    g) New Zealand Wild Catch Ltd
    h) Inns Holdings Ltd
    i) Southern Inshore Fisheries Management Company Ltd

j) Environment and Conservation Organisations of NZ Inc. (ECO)

EVALUATION OF TAC OPTIONS

150. The TAC options proposed for SCC 7B are set out in Table 2 below.

151. The proposal to increase the TAC for SCC 7B was presented to Te Waka a Māui me Ōna Toka Iwi Forum which represents all nine iwi of the South Island. The forum was supportive of the proposal to increase the TAC (Option 2), but did not want to see dredging used in this fishery.

152. Specialty & Emerging Fisheries Group, Inns Holdings Ltd, Paua Industry Council Ltd and Kina Industry Council Inc., Te Ohu Kai Moana Trustee Ltd, New Zealand Wild Catch Limited, and Southern Inshore Fisheries Management Company Ltd also generally support an increase in the TAC. The grounds cited include that the *status quo* does not allow for development of the fishery.

153. While Paua Industry Council Ltd and Kina Industry Council Inc generally support the proposed increase in TAC, they note the potential for serial depletion.

154. Andrew Jeffs and ECO submit that there is insufficient information on growth rates, age structure, abundance, recruitment, and the ecological role of *A. mollis*. Andrew Jeffs also submit concern about any increase in dredging activity as a result of the TAC increase.

155. Nade and Sunshine New Zealand International Ltd and S & M Diving submit that, in their opinion, SCC 7B is already overfished. No supporting information for their view is provided.

156. MPI comments there are areas where improved knowledge would assist decision making. Given this, a precautionary TAC is proposed. To address the risk of serial depletion, quota holders have advised they intend to implement a fishing monitoring and catch spreading programme to be developed by a recognised science provider.

157. While SCC 7B has been only lightly exploited to date, internationally, sea cucumber fisheries have been prone to boom and bust cycles. MPI considers, therefore, it important to take a cautious approach in setting a TAC and to monitor how the fishery responds to any increase in fishing. TACs can be adjusted again in the future if information indicates a utilisation opportunity or a sustainability risk exists.

158. The biomass estimate for the area surveyed is 1,768 tonnes green weight. This level of biomass is likely to support greater harvest without sustainability risk. MPI proposes a similar, cautious, approach to setting the TAC to that used in other developing fisheries with limited information, such as the New Zealand surf clam fishery and the British Columbian sea cucumber fishery.

159. This approach uses an exploitation rate (a set proportion of the available fishable biomass) to set the TAC. In the case of sea cucumber, a very conservative exploitation

rate is proposed (5%) that has been used in the surf clam fishery. The assumed exploitation rate was 5%. The TAC has been calculated by applying the exploitation rate to the lower bound of the 95% confidence interval of the survey biomass estimate. The survey estimate of 1,768 tonnes has a lower 95% bound of 347 tonnes. Five percent of this gives a TAC of 17 tonnes. The proposed new TAC of 17 tonnes (Option 2) is considered conservative due to the survey estimate coming from a small percentage of the area of the QMA, using the lower bound of the confidence interval of the survey estimate, and using an exploitation rate that is considered low. MPI expects that the biomass throughout SCC 7B will easily support the cautious TAC increase proposed.

160. After considering the submissions received, MPI recommends you agree to Option 2 and set the SCC 7B TAC at 54 tonnes.

5 Setting allowances and the TACC

161. After setting the TAC, you set the non-commercial allowances and TACC under s 20 and 21.

162. The non-commercial allowances and TACCs proposed for SCC 7B are set out in Table 3.

Table 3: Proposed non-commercial allowances and TACC (in tonnes) for SCC 7B from 1 April 2018.

Option	Allowances			TACC
	Māori Customary	Recreational	All other mortality to the stock caused by fishing	
Option 1 *(Status quo)*	1	2	0	5
Option 2 *(MPI Recommended)*	1	2	0	14 ↑

MĀORI CUSTOMARY NON-COMMERCIAL ALLOWANCE

163. Best available information indicates that there is minimal, if any, customary harvest of kūkamo te moana in SCC 7B. This area is not under the Fisheries (South Island Customary Fishing) Regulations 1999 and catch is not required to be reported. There is no documented information on the level of Māori customary non-commercial harvest of this species, nor its importance to customary fishers. No change is proposed to the current Māori customary non-commercial fishing allowance.

164. One submission was also received from Te Ohu Kaimoana Trustee Ltd who supported Option 2, which includes the allocation for Māori customary non-commercial fishing.

165. MPI recommends you retain the current allowance for Māori customary fishing at 1 tonne for SCC 7B.

RECREATIONAL ALLOWANCE

166. Best available information indicates that there is little recreational harvest of sea cucumbers in SCC 7B. Recreational fishing surveys indicate that sea cucumber are not caught by recreational fishers, however, it is possible that shore based recreational fishing activity for sea cucumber may not be well-represented in the recreational surveys. No change is proposed to the current recreational fishing allowance.

167. No submissions were received regarding the recreational fishing allowance in SCC 7B.

168. MPI recommends you retain the current allowance for recreational fishing at 2 tonnes for SCC 7B.

ALLOWANCE FOR ALL OTHER MORTALITY CAUSED BY FISHING

169. Given that the SCC 7B fishery is a hand gathering dive fishery, MPI does not propose to increase the allowance for all other sources of fishing mortality to the stock.

170. No submissions were received regarding the allowance for all other mortality to the stock caused by fishing in SCC 7B.

171. MPI recommends you retain the current allowance for other sources of mortality of 0 tonnes for SCC 7B

TACC

Evaluation of Options and Submissions Received

172. Based on the proposed TAC, and taking into account the above allowances, a TACC of 14 tonnes green weight is proposed. Given the limited extent of the area surveyed and the limited information available, a single cautious option is proposed (as well as Option 1, the *status quo*). Given that this cautious approach takes into account uncertainty in the available information, this TACC has a low level of sustainability risk and is an appropriate approach under the information principles under section 10 of the Act.

173. Option 2 would provide for an increase in catch, increasing utilisation opportunity, while managing the risk to sustainability. Ongoing monitoring of the stock, including repeated surveys, will enable responsive management of the fishery.

174. The impacts of increasing the TACC on the sea bed or other sea life (section 9) are expected to be minor. A relatively low TAC and TACC is proposed, and the target fishery for sea cucumbers in SCC 7B is expected to remain solely a dive-only fishery. Should other methods be used (such as dredging), further research will be required to determine any environmental impacts, including the likelihood of spatial depletion over time.

175. Sea cucumber is a potentially valuable fishery. If processed correctly, sea cucumbers are worth $12.50 - $20/kg (green weight) to fishers, and 1 kg of dried sea cucumber, if processed properly, can be worth up to $1,000. The economic implications of the proposed options are outlined in Table 4.

Table 4: Predicted changes to commercial revenue of the proposed options, based on the price to the fisher of $20/kg for SCC 7B in 2016/17.

	TACC	Change from *status quo* (t)	Predicted revenue change ($ p.a.)
Option 1 *(Status quo)*	5 t		
Option 2	14 t	12 t ↑	Up to 280,000 ↑

176. Overall, MPI considers there is little sustainability risk in the cautious increase to the TAC proposed under Option 2 for this fishery, as the biomass estimates on which it is based are cautious. Option 2 would allow increased utilisation with relatively low risk to the fishery, while under Option 1 (the *status quo*), none of the benefits described above would be realised.

177. Overall, MPI recommends you increase the SCC 7B TACC from 5 to 14 tonnes to allow for sustainable utilisation of the resource.

6 Conclusion and Recommendations

178. The available information on the sea cucumber biomass in SCC 7B shows that an increase in the TAC, TACC for SCC 7B would be sustainable (Option 2).

179. Sea cucumber fisheries around the world have been characterised by overfishing, however, and MPI proposes a cautious approach to this developing fishery. A similar approach to that used in other developing fisheries has been used, using an exploitation rate based on the lowest estimate of the biomass. Additional research to estimate biomass, and to understand sea cucumber biology and ecological function, will be needed to accompany any further development of the fishery.

180. MPI notes that you have broad discretion in exercising your powers of decision making, and may make your own independent assessment of the information presented to you in making your decision. You are not bound to choose the option recommended by MPI. MPI considers all options are consistent with your statutory obligations.

SSC 7B RECOMMENDATIONS

Option 1

Agree to retain the SCC 7B TAC of 8 tonnes and within the TAC:

i. retain the allowance of 1 tonne for Māori customary non-commercial fishing interests;
ii. retain the allowance of 2 tonnes for recreational fishing interests;
iii. retain the allowance of 0 tonnes for other sources of fishing-related mortality;
iv. retain the SCC 7B TACC of 5 tonnes.

Agreed / Not Agreed

OR

Option 2

Agree to increase the SCC 7B TAC from 8 to 17 tonnes and within the TAC:

i. retain the allowance of 1 tonne for Māori customary non-commercial fishing interests;
ii. retain the allowance of 2 tonnes for recreational fishing interests;
iii. retain the allowance of 0 tonnes for other sources of fishing-related mortality;
iv. increase the SCC 7B TACC from 5 to 14 tonnes.

Agreed / Not Agreed

Hon Stuart Nash
Minister of Fisheries

21 / 3 /2018

PART 4: DEEPWATER STOCKS

Southern Blue Whiting (SBW 6B)

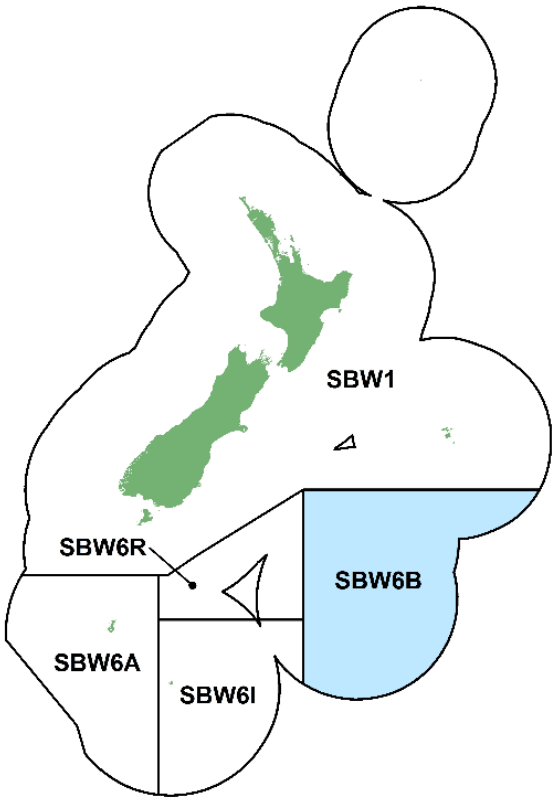

Figure 1: Quota Management Areas for southern blue whiting, with SBW 6B highlighted in blue.

1 Summary

181. The southern blue whiting fishery at the Bounty Platform (SBW 6B) is New Zealand's second largest southern blue whiting fishery. The Ministry for Primary Industries (MPI) publically consulted from 12 January to 9 February 2018 on two options for management settings for southern blue whiting (*Micromesistius australis*) in SBW 6B (see Figure 1) to apply from 1 April 2018. Option 1 retains the *status quo*. Option 2 increases the total allowable catch (TAC) and total allowable commercial catch (TACC).

182. There is no customary Māori or recreational take of southern blue whiting and it is proposed to retain zero allowances for these sectors. MPI proposes that the allocation for other sources of fishing related mortality be maintained at 2% of the TACC. These options are set out in Table 1.

Table 1. Proposed TACs, TACCs, and allowances for SBW 6B from 1 April 2018 (all values in tonnes)

Option	TAC	TACC	Allowances		
			Customary **Māori**	Recreational	Other sources of fishing-related mortality
Option 1 *(Status quo)*	2,426	2,377	0	0	49
Option 2 *(MPI Recommended)*	3,209 ↑	3,145 ↑	0	0	64 ↑

183. There are no proposals to change the deemed value rates (Table 2).

Table 2: Deemed Value Rates for SBW 6B

	Interim deemed value rate ($/kg)	Annual deemed value rate ($/kg)	Differential deemed value rate
Status quo	0.41	0.46	Not set

184. Four submissions were received on the proposals for SBW 6B. One submission from the Environment and Conservation Organisations of NZ (ECO) supports Option 1 - the *status quo*. The Deepwater Group Ltd (DWG), Sealord Group Limited and the Iwi Collective Partnership (ICP) support the increase proposed in Option 2.

185. After considering the submissions received, MPI recommends Option 2. This option proposes to increase the TAC by 783 tonnes. As part of this option the TACC for SBW 6B would be increased by 768 tonnes, the recreational allowance and customary Māori allowance remain at zero (no change) and the allowance for other sources of fishing-related mortality is increased by 15 tonnes. This option best provides for utilisation while ensuring the stock is maintained at or around the target level.

2 Need for review

186. The TAC and TACC for SBW 6B are set at a level to recover or maintain the stock at the management target of 40% B_0. A SBW 6B management strategy evaluation completed in 2016 tested a range of assumptions about the biology of the stock and recommended a harvest strategy using a fishing mortality of 0.24 to manage the SBW 6B stock. The application of this harvest strategy to the most recent acoustic survey indicates a utilisation opportunity for the SBW 6B fishery.

CONTEXT

Biological information

187. Southern blue whiting (*Micromesistius australis*) is a benthopelagic[11] species, generally confined to sub-Antarctic waters to the south of New Zealand. During the juvenile life stage, southern blue whiting exhibits fast growth, slowing down thereafter. The maximum age of southern blue whiting is thought to be 25 years, and the maximum length 55-58 centimetres.

188. During August and September, adult southern blue whiting form dense spawning aggregations at depths of 250-600 metres at four known locations in sub-Antarctic waters (Auckland Islands, Campbell Island, Pukaki Rise, and Bounty Platform). The available scientific information shows that these four spawning locations represent four distinct biological stocks.

[11] Living and feeding near the seafloor, as well as in midwaters or near the surface.

189. These four southern blue whiting stocks are characterised by highly variable recruitment. Very strong year classes are observed infrequently and are separated by longer periods of average or below average recruitment. The variables that drive these fluctuations are poorly understood, but it is recognised that the strong year classes can produce large spikes in available biomass, which provide short term utilisation opportunities.

Fishery characterisation

190. Each of the four southern blue whiting stocks is managed separately. From 1992 to 1998, harvests were managed via sub-area catch limits. Southern blue whiting was introduced to the quota management system (QMS) in 1999. The southern blue whiting fishery at the Bounty Platform (SBW 6B) is focused on spawning aggregations which form during late August and September each year.

191. The SBW 6B fishery has been variable over time. Occasional large recruitment events and subsequent decreases in biomass have occurred, leading to fluctuating catches over time. Catches varied around 2,000-5,000 tonnes until a very large year class recruited to the fishery in 2008/09. The total catch subsequently increased to 15,468 tonnes in 2009/10 (Figure 2). Since that peak, the biomass has declined, and subsequently the TACC and catches have also declined to levels similar to those prior to 2008/09. From 2015/16 to 2016/17, only one or two vessels have participated in the fishery because of the low TACC.

192. Based on the proportion of total southern blue whiting landings taken in SBW 6B in 2016, and a total estimated Free on Board (FOB) export value of NZ $16.1 million for all southern blue whiting in the 2016 calendar year, SBW 6B had an estimated export value of NZ $1.44 million in 2016.

193. The southern blue whiting fishery, including fish harvested from SBW 6B, has been certified as sustainable by the Marine Stewardship Council[12] since April 2012.

[12] For more information about the Marine Stewardship Council and its certification processes, refer to https://www.msc.org/

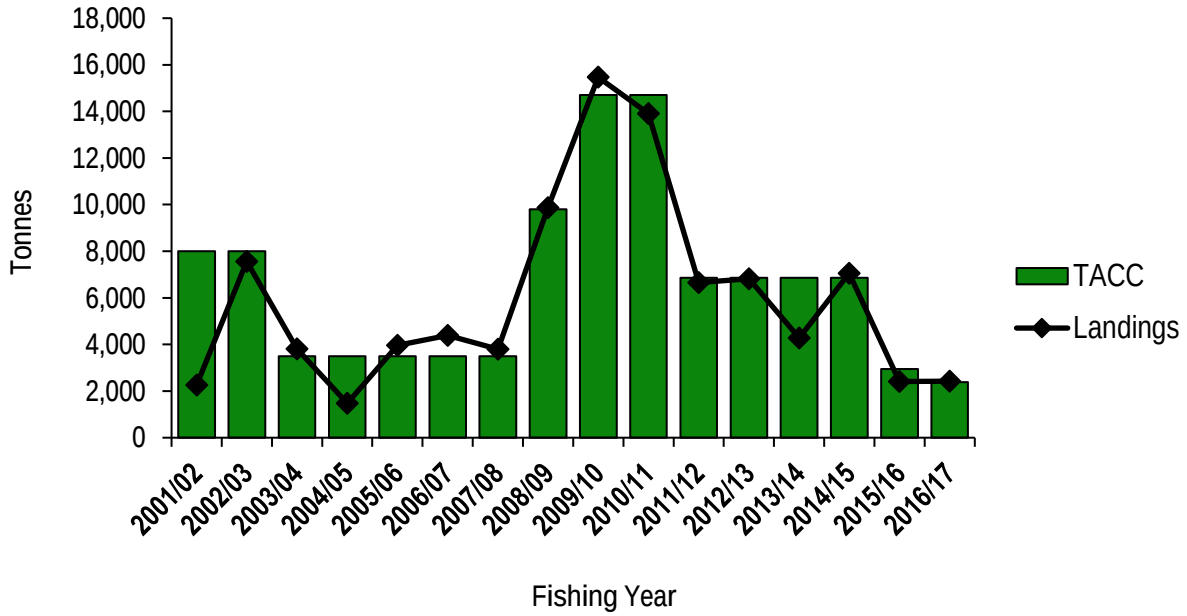

Figure 2: Landings and the TACC for SBW 6B from 1999/00 to 2016/17.

Recreational

194. Best available information indicates that there is no recreational harvest of southern blue whiting in SBW 6B. This is likely because of the distance of the fishing grounds from the New Zealand mainland. No change is proposed to the current recreational fishing allowance.

Māori customary interests

195. Best available information indicates that there is no customary harvest of southern blue whiting in SBW 6B. There is no documented information on the level of customary non-commercial harvest of this species, nor its importance to customary fishers. No change is proposed to the current Māori customary fishing allowance.

Other sources of fishing-related mortality

196. The allowance for other sources of fishing-related mortality is currently set at 2% of the TACC. MPI has no information to suggest this proportion should be changed.

Management approach

197. Southern blue whiting is formally managed under s 11A of the Fisheries Act 1996 within the National Fisheries Plan for Deepwater and Middle-depth Fisheries – Part 1A[13] (National Deepwater Plan) as a Tier 1 stock with management objectives set out in the 'Southern Blue Whiting Fisheries Plan Chapter 2011[14]. The chapter sets the operational

[13] Accessible at: https://fs.fish.govt.nz/Page.aspx?pk=79&tk=493
[14] Accessible at: https://www.google.co.nz/search?source=hp&ei=JVw4WvXBO4K30ASv6b-4BA&q=National+Deepwater+Plan%3A+Southern+blue+whiting+fishery+chapter+nz&oq=National+Deepwater+Plan%3A+Southern+blue+whiting+fishery+chapter+nz&gs_l=psy-ab.3...2276.5092.0.5492.5.4.0.0.0.0.260.740.2-3.4.0....0...1c.1j2.64.psy-ab..1.1.244.6..35i39k1.244.XKqPaLQoHSg

objectives, performance criteria, and fishery reference points for all southern blue whiting fisheries. It also addresses the management of environmental effects caused by fishing for southern blue whiting.

198. The current reference points for SBW 6B are the default targets and limits set out in the Harvest Strategy Standard for New Zealand Fisheries and described in Table 3.[15] The management target of 40% B_0 is understood to be a conservative proxy for B_{MSY} for a species with the life history characteristics of southern blue whiting.

Table 3: Southern blue whiting default reference points and the associated management response.

Reference point	Management response
Management target of 40% B_0	Stock permitted to fluctuate around this management target. TAC changes will be employed to move stock toward or above target.
Soft limit of 20% B_0	A formal time constrained rebuilding plan will be implemented if this limit is reached.
Hard limit of 10% B_0	The limit below which fisheries will be considered for closure.
Harvest control rule	Management actions determined by the results of a series of forward projections under a range of catch assumptions, guided by the biological reference points

199. An MPI contracted Management Strategy Evaluation was completed for SBW 6B in December 2016 which used simulation modelling to test the fishing mortality level that would be most appropriate to maintain (or recover) the stock to the management target of 40% B_0 and to maintain the stock above 20% B_0 for 90% of the time. The simulations tested a range of assumptions about the biology of the stock, including natural mortality rate and recruitment fluctuations. The management strategy evaluation suggested that a fishing mortality of 0.24 is appropriate to manage the SBW 6B stock.

200. Annual acoustic surveys provide minimum estimates of stock biomass. From 2004 to 2017, a series of local area aggregation surveys have been carried out by industry vessels fishing at the Bounty Platform. The fishing mortality of 0.24 is applied to the minimum biomass estimate from the annual surveys to provide a recommended sustainable TAC for the stock.

201. The TAC and TACC were last reviewed in 2017 when the TAC was reduced from 3,000 to 2,426 tonnes and the TACC was reduced from 2,940 to 2,377 tonnes. Māori customary fishing and recreational allowances were both unchanged. The allowance for other sources of fishing-related mortality was reduced from 60 to 49 tonnes.

Current stock status

202. Acoustic surveys to monitor spawning stock abundance are conducted between August and September each year in SBW 6B. The most recent survey (September 2017) indicates that biomass has increased since 2016. The 2017 mid-season spawning stock biomass was estimated to be 7,719 tonnes. Biological sampling carried out during the fishery and the survey indicated that a relatively strong year class (2012) may be recruiting to the fishery.

[15] Harvest Strategy Standard for New Zealand Fisheries, October 2008. Accessible at: http://fs.fish.govt.nz/Page.aspx?pk=113&dk=16543

203. The fishing mortality level that will maintain (or recover) the stock to B_{MSY} and to maintain the stock above 20% B_0 for 90% of the time is 0.24. The application of the harvest strategy to the biomass estimate from the acoustic survey demonstrates that the current catch limit can sustainably be increased.

3 Statutory Considerations specific to SBW 6B

204. The following section provides information specific to the application of the generic considerations (see Part 2) to SBW 6B.

SECTION 8 – PURPOSE OF THE ACT

205. MPI considers that all options presented in this paper satisfy the purpose of the Act on the basis that they provide for the utilisation of SBW 6B while ensuring sustainability.

SECTION 9 – ENVIRONMENTAL PRINCIPLES

206. A summary of the interactions between the SBW 6B fishery and the aquatic environment, and how these are likely to be affected by the proposals, is provided below.

Maintaining viability of associated or dependent species (s 9(a))

207. Option 1 is the *status quo*. Option 2 increases the TACC which could result in an increase in interactions with protected species in this fishery, although MPI does not expect this to be significant for the reasons detailed below.

Fish bycatch

208. Total fish bycatch in the southern blue whiting fisheries is estimated to be <1% of the total catch from the fishery[16]. The target fishery focuses on schools of southern blue whiting and as a result takes minimal bycatch. MPI considers that the options proposed will not result in adverse effects on fish bycatch.

Biological diversity of the aquatic environment (s 9(b))

Marine mammals

209. The SBW 6B fishery overlaps with the foraging range of New Zealand fur seals which live on the Bounty Islands. The Department of Conservation classified the New Zealand fur seal population in 2010 as 'Not Threatened – least concern' and note that the

[16] Anderson, O.F. (2008). Fish and invertebrate bycatch and discards in southern blue whiting fisheries, 2002–07. New Zealand Aquatic Environment and Biodiversity Report No. 43. 42 p.

population has been increasing in recent years and was estimated at being over 200,000 fur seals in 2001[17]. The Bounty Islands are one of the main colonies for the New Zealand fur seal in the Sub-Antarctic. In 1992 the population was growing and was estimated at approximately 21,500 fur seals.[18] There are no recent specific New Zealand fur seal population estimates for the Bounty Islands.

210. Interactions between the SBW 6B fishery and fur seals are known to occur, with the fishery being responsible for one of the highest rates of fur seal captures in New Zealand. The current estimated capture levels in SBW 6B have ranged from 12 to 91 captures/year over the last five fishing seasons. Under Option 2, there would likely be an increase in fishing effort which may lead to an increase in captures of fur seals. Historical data on fur seal captures in the fishery indicate that fur seal captures may occur at a lower rate when there is more effort in the fishery. Reasons for this are unclear, but anecdotal reports suggest that fur seals are more aggressive when there are fewer vessels operating in the fishery. MPI will continue to monitor the fishery closely to ensure that fur seal captures do not increase significantly and that this does not impact the long term viability of the New Zealand fur seal population.

211. MPI works closely with the fishing industry to increase awareness amongst the fishing fleet of how to minimise interactions, and emphasises the importance of adherence to the current marine mammal operational procedures (MMOP). These procedures aim to reduce the risk of interactions with marine mammals by requiring that vessels:
    - Minimise the length of time the fishing gear is on the surface;
    - Remove all pieces of dead fish from the net before shooting the gear;
    - Steam away from any congregations of marine mammals before shooting the gear; and
    - Appoint a crew member to watch for marine mammal interactions every time the gear is shot or hauled

212. Performance in relation to these procedures is audited by MPI and reported in the Annual Review Report for Deepwater Fisheries. Vessels fishing in SBW 6B have had 100% observer coverage since 2013. MPI closely monitors fur seal captures in SBW 6B, and takes action in association with DWG when trigger points are reported of 2 fur seals captured in 24 hours or 5 fur seals captured over 7 days. All vessels expected to operate in this fishery are trawl vessels larger than 28 meters in length and will therefore be reporting electronically. This means data on fur seal captures will be available daily allowing MPI to respond immediately to capture events.

Seabirds

213. Management of seabird interactions with New Zealand's commercial fisheries is managed under the framework of the '2013 National Plan of Action to Reduce the Incidental Captures of Seabirds in New Zealand Fisheries' (NPOA-Seabirds). The NPOA-Seabirds established a risk-based approach to managing fishing interactions with seabirds. As a priority, management actions are targeted at the seabird species most at risk, but also aim to minimise captures of all seabird species to the extent practicable.

[17] Accessible at: http://www.doc.govt.nz/nature/native-animals/marine-mammals/seals/nz-fur-seal/
[18] Taylor, R.H. (1996). Distribution, abundance and pup production of the New Zealand fur seal (*Arctocephalus forsteri* Lesson) at the Bounty Islands. Science for Conservation No. 32. 14 p.

214. The level of risk from commercial fishing to individual seabird species has been identified through a comprehensive hierarchical risk assessment[19] that underpins the NPOA-Seabirds. Seabird interactions with vessels in the SBW 6B fishery generally occur at very low rates, although interactions with a small number of seabird species are known to occur. Regulatory and non-regulatory management measures are in place to mitigate and manage interactions with seabirds. All trawl vessels that currently fish in SBW 6B are over 28m in length and are required to deploy specified bird mitigation devices such as bird bafflers or tori lines during fishing.

215. Non-regulatory management measures include specific vessel management plans (VMPs). The VMPs describe on-board practices that vessels will follow to reduce the risk of a seabird capture, including offal management and good factory cleanliness. MPI Observers monitor vessel performance against VMPs and MPI works with the industry via the Deepwater Group Limited (DWG) to rectify any issues that arise during the fishing season.

216. MPI considers that the regulatory and non-regulatory measures in place in SBW 6B are sufficient to minimise the impact on seabirds under either option.

Habitats of particular significance for fisheries management (s 9(c))

217. No habitat of particular significance for fisheries management has been determined for SBW 6B. Southern blue whiting are generally fished using mid-water trawl gear near or on the seabed, as this is where the fish aggregate. The gear is generally not fished hard down on the seabed and does not use heavy rollers or bobbins on the nets, which reduces the severity of any benthic impact. SBW 6B also operates over a relatively restricted area which changes little from year to year.

218. Management measures to address the effects of deepwater trawl activity have focused on 'avoiding' these benthic effects. This has been achieved through closing areas to bottom trawling; first with seamount closures in 2001 and then with Benthic Protection Areas (BPAs) in 2007[20]. The implementation of BPAs effectively closed approximately 30% of the New Zealand Exclusive Economic Zone to bottom trawling. A monitoring regime to ensure these closures are adhered to was also implemented.

219. Option 2 for SBW 6B will result in increased fishing effort, so will result in increased benthic impact. However it is highly likely based on past fishing effort that any future fishing effort will occur over ground that has been trawled previously. MPI will continue to monitor the trawl footprint of deepwater fisheries annually.

SECTION 10 – INFORMATION PRINCIPLES

220. MPI considers that the advice provided is based on the best available information and that uncertainty, inadequacy, or lack of information has been taken into account where relevant.

[19] Accessible at: http://www.mpi.govt.nz/Default.aspx?TabId=126&id=1758

[20] Benthic Protection Areas are regulated by the Fisheries (Benthic Protection Areas) Regulations 2007.

SECTION 11 – SUSTAINABILITY MEASURES

221. The general considerations under s 11 are provided in the section above on Statutory Considerations (Part 2).

SECTION 12 – INPUT AND PARTICIPATION OF TANGATA WHENUA

222. In addition to the consultation considerations discussed elsewhere, Section 12(1)(b) requires that you provide for the input and participation of tangata whenua and have particular regard to kaitiakitanga before setting or varying a TAC.

223. SBW 6B is in the Chatham Islands rohe moana and comes under the Kaimoana Regulations. Currently the Pa Tangaroa Forum is in recess however MPI discussed Option 1 and Option 2 with Moriori and Ngati Mutanga each holding mana moana and significant interests (both commercial and non-commercial) in South Island fisheries, in December 2017. Moriori and Ngati Mutanga did not express a preference for one option over the other at this meeting.

SECTION 13 – SETTING THE TAC

224. TACs for southern blue whiting are set under section 13 of the Fisheries Act 1996 (the Act). Section 13(4) allows you to vary TACs for any stock, and requires you to have regard to the matters in section 13(2A). Where reliable estimates of B_{MSY} are not available, section 13(2A) of the Act requires you to use the best available information to set a TAC that is not inconsistent with the objective of maintaining the stock at or above, or moving the stock towards or above, a level that can produce the maximum sustainable yield.

225. MPI considers that the current level of the SBW 6B stock and the level of the stock that can produce the maximum sustainable yield (MSY) cannot currently be estimated reliably. Section 13(2A) therefore applies when setting a TAC for this stock. This paper provides you with options that MPI considers satisfy your obligations under section 13(2A). MPI considers that the proposed options are based on best available information and are not inconsistent with the objective of maintaining the SBW 6B stock at or above, or moving the stocks towards or above, a level that can produce MSY.

226. Under section 13(2A)(b), you are also required to have regard to the interdependence of stocks, the biological characteristics of the stock, and any environmental conditions affecting the stock. Information on the interdependence of stocks is included in the discussion on environmental principles earlier in the paper. The best available information used to develop the options takes into account biological characteristics of southern blue whiting and any known environmental conditions affecting the stock.

227. Under section 13(3) of the Act, relevant social, cultural and economic considerations must be considered by the Minister in determining an appropriate way and rate to move

the stock towards or above a level that can produce the MSY where applicable to limits set under section 13(2A). There are economic considerations in relation to the options proposed.

228. Given the lack of recreational and customary catch from SBW 6B and the retention of the current nil allowances, MPI considers amending the TAC under Option 2 in this paper will not have an adverse impact on non-commercial fishers. The impact on commercial fishers is discussed under each of the options.

229. The TAC for SBW 6B is regularly reviewed based on annual acoustic surveys. TACs for southern blue whiting can fluctuate significantly to take advantage of periods of high recruitment, or respond when aggregations of the fish have disappeared, the reasons for which are unclear. The harvest strategy for the SBW 6B stock is based on the management strategy evaluation completed in 2016 which indicates that a fishing mortality of 0.24 will maintain the stock above the soft limit (20% B_0) 90% of the time, and allow the stock to return to the biomass which can produce the maximum sustainable yield. The application of this harvest strategy to the biomass estimate from the 2017 acoustic survey indicates that the current TAC can be increased by 783 tonnes.

SECTIONS 20 AND 21 – ALLOWANCES AND THE TACC

Customary Māori and recreational allowances

230. The best available information indicates that there is no recreational or customary harvest of southern blue whiting in SBW 6B. No change is proposed to the current recreational or Māori customary fishing allowances.

Allowance for all other mortality caused by fishing

231. The allowance for other sources of fishing related mortality is currently set at 2% of the TACC. MPI has no information to suggest this proportion should be changed.

TACC

232. The latest information to monitor southern blue whiting spawning stock abundance is from the 2017 acoustic survey on the Bounty Platform. It indicates that biomass has increased since 2016. SBW 6B is managed based on a harvest control rule, which estimates the annual sustainable yield based on the biomass estimate from this survey. The application of this harvest strategy demonstrates that the current catch limit can be increased by 768 tonnes. It is considered reasonable to increase the TACC to provide for greater utilisation as proposed under Option 2.

SECTION 75 – DEEMED VALUE RATES

233. MPI is not proposing any changes to SBW 6B deemed values.

4 Submissions received

234. Four submissions on the SBW 6B proposals were received from the following four organisations and groups:
    a) The Deepwater Group Ltd (DWG)
    b) Sealord Group Limited
    c) The Iwi Collective Partnership (ICP)
    d) Environment and Conservation Organisations of NZ (ECO)

5 Evaluation of Options

OPTION 1 (*Status quo*)

235. Under Option 1, the existing TAC, TACC and allowances would be retained. This option reflects a cautious approach to change given the likely natural biomass fluctuations in this fishery.

236. The Environment and Conservation Organisations of NZ (ECO) support Option 1 (*status quo*). ECO is the national alliance of 50 groups with a concern for the environment.

237. Option 1 (the *status quo*) is the most conservative option, and is based on the application of the harvest strategy to the biomass estimate from the previous (2016) acoustic survey. This option may allow the stock to grow quicker than Option 2. However it could impede the completion of the planned acoustic survey in 2018 without additional investment from stakeholders.

OPTION 2 (*MPI Preferred)*

238. The majority of the four submissions supported Option 2 which proposes to increase the TAC by 783 tonnes. As part of this option the TACC for SBW 6B is increased by 768 tonnes, the recreational allowance and customary Māori allowance remain at zero (no change) and the allowance for other sources of fishing-related mortality is increased by 15 tonnes.

239. Deepwater Group Ltd (DWG) support Option 2. DWG represent participants in New Zealand's major deepwater commercial fisheries to ensure deep water fishing is sustainable and that New Zealand gains the maximum long-term benefits from these fisheries resources. DWG made their submission on behalf of DWG shareholders who own 86.6% of the SBW 6B quota.

240. Sealord Group note that as a long term quota holder in SBW 6B they understand the variable nature of the fishery where fluctuations in biomass occur. They support Option 2 to take advantage of a period of higher recruitment noting that this increase will still allow the stock to sit around the management target level.

241. The Iwi Collective Partnership (ICP) is a coalition of 15 North Island based tribes who own settlement quota allocated under the fisheries Treaty settlement between Māori and the Crown. ICP collectively manages 6% of SBW 6B ACE with ownership spread across all 15 of their Iwi members in proportion to relative tribal population size. They also support Option 2 and note that the 2017 acoustic survey indicated an increase in SBW 6B biomass.

242. ECO do not support an increase in the TACC based on current management. ECO would support an increase based on the stock assessment (Option 2) but only after:
    - Habitats of significance to fisheries management were identified
    - Measures are in place to reduce fur seal captures in the fishery
    - Measures are in place to eliminate seabird bycatch
    - Fishing occurs without touching the bottom

243. MPI notes that no habitats of significance to fisheries management have been identified in SBW 6B and that measures are in place to reduce fur seal and seabird bycatch in the fishery. These include the current marine mammal operational procedures which aim to reduce the risk of interactions with marine mammals by requiring that vessels:
    - Minimise the length of time the fishing gear is on the surface;
    - Remove all pieces of dead fish from the net before shooting the gear;
    - Steam away from any congregations of marine mammals before shooting the gear; and appoint a crew member to watch for marine mammal interactions every time the gear is shot or hauled

244. Seabird interactions with vessels in the SBW 6B fishery generally occur at very low rates. Regulatory and non-regulatory management measures are in place to mitigate and manage interactions with seabirds. Mandatory measures include the requirement that all trawl vessels over 28m in length deploy specified bird mitigation devices such as bird bafflers or tori lines during fishing.

245. Non-regulatory management measures include specific vessel management plans (VMPs). The VMPs describe on-board practices that vessels must follow to reduce the risk of a seabird capture, including offal management and good factory cleanliness. MPI Observers monitor vessel performance against VMPs and MPI works with the industry via the Deepwater Group Limited (DWG) to rectify any issues that arise during the fishing season. MPI considers that the regulatory and non-regulatory measures in place are sufficient to minimise the impact on seabirds under either option.

246. Currently fishing cannot occur without touching the sea bed because southern blue whiting are generally fished using mid-water trawl gear near or on the seabed, as this is where the fish aggregate.

247. MPI believes that Option 2 best utilises the increase in biomass whilst ensuring sustainability. Option 2 applies the harvest strategy of a fishing mortality of 0.24 to the biomass estimate from the 2017 acoustic survey. A TAC set at this level would allow the stock to fluctuate around the management target level. The economic implication of the predicted change to commercial export revenue as a result of the increase in TACC

provided by Option 2, (based on the Free On Board export figures of $1.54/kg[21] in 2016) is $1.183M.

6 Conclusion and Recommendations

248. The best available information suggests that there is a utilisation opportunity for SBW 6B. The 2017 acoustic survey to monitor spawning stock abundance on the Bounty Platform indicated that southern blue whiting biomass has increased since 2016. SBW 6B is managed based on a harvest control rule, which estimates the annual sustainable yield based on the biomass estimate from the survey. The application of this harvest strategy demonstrates that the current catch limit can be increased by 32%. Increasing the TAC and TACC during periods of increased abundance of southern blue whiting creates opportunities for the fishing industry to increase the economic benefits that can be obtained from the fishery.

249. MPI recommends that you implement Option 2. MPI considers that this option best responds to the new information from the 2017 acoustic survey.

250. MPI notes that you have broad discretion in exercising your powers of decision making, and may make your own independent assessment of the information presented to you in making your decision. You are not bound to choose the option recommended by MPI. MPI considers both options are consistent with your statutory obligations.

[21] This is an estimated green weight price per kg across all the product forms exported during January to December 2016 of NZ $1.54/kg for SBW surimi and SBW frozen. Precise revenue gain is difficult to estimate and will be influenced by factors such as commodity prices, exchange rate, catching costs and export state as well as export volume as a proportion of total catch.

SBW 6B RECOMMENDATIONS

Option 1 – Status quo

Agree to retain the SBW 6B TAC at 2,426 tonnes and within the TAC:

i. Retain the allowance of 0 tonnes for Māori customary non-commercial fishing interests;
ii. Retain the allowance of 0 tonnes for recreational fishing interests;
iii. Retain the allowance of 49 tonnes for other sources of fishing-related mortality;
iv. Retain the SBW 6B TACC at 2,377 tonnes.

Agreed / Not Agreed

OR

Option 2 (MPI Recommended)

Agree to increase the SBW 6B TAC from 2,426 to 3,209 tonnes and within the TAC:

i. Retain the allowance of 0 tonnes for Māori customary non-commercial fishing interests;
ii. Retain the allowance of 0 tonnes for recreational fishing interests;
iii. Increase the allowance for other sources of fishing-related mortality from 49 to 64 tonnes;
iv. Increase the SBW 6B TACC from 2,377 to 3,145 tonnes.

Agreed / Not Agreed

Hon Stuart Nash
Minister of Fisheries

21 / 3 /2018

APPENDIX 1: SUBMISSIONS RECEIVED ON THE MPI DISCUSSION DOCUMENT

Contents

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Submission Form

Review of sustainability measures for 1 April 2018

Once you have completed this form

Email to: FMsubmissions@mpi.govt.nz

While we prefer email, you can also post your submission to: 2018 Sustainability Review, Fisheries Management, Ministry for Primary Industries, PO Box 2526, Wellington 6140, New Zealand.

Submissions must be received no later than 5pm on Friday 9 February 2018.

Anyone may make a submission, either as an individual or on behalf of an organisation. Please ensure all sections of this form are completed. You may either use this form or prepare your own but if preparing your own please use the same headings as used in this form.

Submitter details:

Name of submitter or contact person: Andrew Jeffs	
Organisation (if applicable):	Institute of Marine Science, University of Auckland
Email:	[redacted]
Fishstock this submission refers to: *Rock lobster – CRA 2, CRA 4, CRA 7, CRA 8* *Sea cucumber – SCC 3, SCC 7B* *Southern blue whiting – SBW 6B.*	All above SCC stocks
Your preferred option as detailed in the discussion paper (write "other" if you do not agree with any of the options presented):	Maintain status quo

Official Information Act 1982

Note, that your submission is public information. Submissions may be the subject of requests for information under the Official Information Act 1982 (OIA). The OIA specifies that information is to be made available to requesters unless there are sufficient grounds for withholding it, as set out in the OIA. Submitters may wish to indicate grounds for withholding specific information contained in their submission, such as the information is commercially sensitive or they wish personal information to be withheld. Any decision to withhold information requested under the OIA is reviewable by the Ombudsman.

Submission:[1]

Details supporting your views:

I have undertaken scientific research on *Australostichopus mollis* for around 20 years, mostly in relation to the basic biology of the species and its potential for aquaculture development. I am familiar with the biology of the species and I am very concerned by the expansion of exploitation of this species without any hard scientific evidence to support the sustainability claims made to justify the increase in commercial harvesting activity. I areas I work near Auckland I has seen this species go from being highly abundant to locally extinct from the activities of a small number of Asian recreational fishers in the space of only a few years.

Sea cucumber fisheries around the world have been characterised by overfishing. This is due in a large part to their low rates of recruitment and longevity, which is a feature of most commercially fished sea cucumber species. Overfished sea cucumber populations are typically extremely slow to recover because of their biological characteristics. Sea cucumbers perform a key ecological role in removing and recycling organic detritus from the surface of marine sediments. They are one of the few species of large macrobenthic detrital feeders found in the New Zealand coastal environment and have been observed to play a key role in remediating the accumulation of organic detritus under mussel aquaculture operations.

In New Zealand there is virtually no information on growth rates, age structure, abundance, recruitment, and ecological role of *Australostichopus mollis* in the areas that they are currently commercially fished. The harvesting of this species is currently occurring in the almost complete absence of any scientific information about the sustainability of harvest, in terms of both the sea cucumber populations and coastal ecology. The proposed further increases in commercial harvest of this species are simply unjustified by the flimsy biological data presented in the “Review of Sustainability Measures for Sea Cucumber”.

Furthermore, the continuing and potentially expanded use of dredges for harvesting sea cucumbers is non-selective and no information is provided on bycatch and benthic impacts associated with the use of dredges in the existing fishery. The dismissive phrasing of the Review’s content on the potential for environmental impact from dredging activity is inconsistent with the well documented scientific evidence for the harmful effects of seafloor dredging activities on the marine environment from a great many dredge fisheries, including a number from New Zealand.

The Review presents no hard scientific information, which demonstrates that the removal of sea cucumbers will not have “any adverse effects of fishing on the aquatic environment” which is a requirement of the Act.

In conclusion, in my opinion the proposal for increases in commercial harvesting of sea cucumbers is inadequately justified, and the extent to which the existing commercial fisheries for this species are sustainable is unknown.

[1] Further information can be appended to your submission. If you are sending this submission electronically we accept the following formats – Microsoft Word, Text, PDF and JPG.

30 January 2018

Sustainability Review 2018
Fisheries Management
Ministry for Primary Industries

By email to: FMsubmissions@mpi.govt.nz

Submission on the Review of Sustainability Measures for Bounty Platform Southern Blue Whiting (SBW6B) for 2018/19

The Deepwater Group Ltd (DWG) appreciates this opportunity to provide this submission to the Ministry for Primary Industries (MPI) on behalf of the quota owners of SBW6B, 86.6% of which is owned by shareholders of DWG.

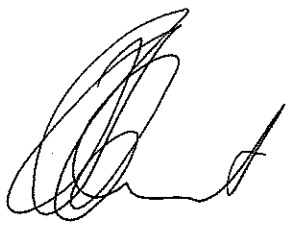
DWG is a non-profit organisation that works in partnership with MPI and others to ensure deep water fishing is sustainable and that New Zealand gains the maximum long-term benefits from these fisheries resources.

Our vision is to be trusted as the best managed deep water fisheries in the world.

SBW6B Quota Owners' support MPI's proposed Option 2

DWG Shareholders who own quota for SBW6B support MPI's Option 2, which provides for the TACC to be increased from 2,377 tonnes to 3,145 tonnes.

Regards,



George Clement
Chief Executive
Deepwater Group Ltd

INNS HOLDINGS LTD (NZ)

[redacted]

Sustainability Review 2018
Fisheries Management
Ministry for Primary Industries

[redacted]

Emailed to: FMsubmissions@mpi.govt.nz

Submission from Inns Holdings Ltd and Kukamo Moana Ltd on the proposed Review of Sustainability Measures for Sea Cucumber 7B (SCC 7B) for 2018/19: MPI Discussion Paper No: 2018/03

Introduction

Inn Holdings Ltd and Kukamo Moana Ltd are major quota owners in SCC 7B.

Inns Holdings Ltd and more latterly Kukamo Moana Ltd have been trying to develop this fishery over the last eight years. Brian Inns, the principal of Inns Holdings Ltd has extensive experience in the SCC fishery in Australia prior to returning to New Zealand to invest in developing the SCC fishery here.

Sustainable development of this fishery is now hampered by the very low TAC that was originally allocated to this area on a nominal basis.

Both companies have invested into a factory facility in Blenheim to try to further develop the fishery on a sustainable basis into the future.

Proposal SCC7B: Inns Holdings Ltd & Kukamo Moana Ltd support OPTION 2

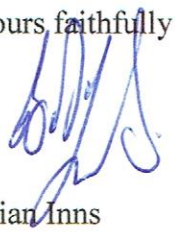
Both company's support Option 2

Even though we believe this increase could be substantially more, we support the very conservative approach taken by the Ministry at this time in the development of the fishery.

This proposed increase will ensure that the fishery continues to develop on a conservative approach. Both companies are committed to using part of the proposed increase to undertake further survey work in the SCC 7B area. The companies are currently discussing survey options for this area and other SCC areas with NIMA to try to better develop this fishery on a conservative and sustainable basis.

In our view Option 1 cannot be supported as it would hamper any sustainable development of this emerging fishery.

Yours faithfully



Brian Inns

Director

INNS HOLDINGS LTD

9 February 2018

IWI COLLECTIVE PARTNERSHIP

Sustainability Review 2018
Fisheries Management
Ministry for Primary Industries
[redacted]

By email only: FMsubmissions@mpi.govt.nz

Tēnā koe,

REVIEW OF FISHERIES SUSTAINABILITY MEASURES FOR 1 APRIL 2018

The Ministry for Primary Industries (MPI) is seeking feedback on proposed changes to sustainability measures and management controls for selected fishstocks for the fishing year commencing 1 April 2018. In terms of the options proposed by the Ministry, we support the following:

- CRA 2 (Hauraki Gulf/Bay of Plenty) – Option 2 reduction of TACC to 120 mt with a rebuild timeframe of 7 years.
- CRA 4 (Wellington/Hawke's Bay) – Option 2 increase of TACC to 318.8 mt.
- Southern blue whiting – SBW 6B (Bounty Platform) – Option 2 increase of TACC to 3,145 mt.

The Iwi Collective Partnership (ICP) is a coalition of 15 North Island based tribes who own settlement quota allocated under the fisheries Treaty settlement between Māori and the Crown. Collectively the ICP manages circa 16,000 mt of ACE annually. A list of the 15 Iwi Members and QRN numbers are attached as **Schedule 1**.

1. CRA2:

The 2017 CRA2 stock assessment suggests female spawning stock biomass during 2016 was 18% of the unfished level. This would suggest CRA2 is below the 20% soft limit of unfished spawning stock biomass), however, it is unlikely that it is below the 10% hard limit. Furthermore, since 1998, CRA2 CPUE has shown an overall declining trend to 0.25 kg/potlift in 2017.

As a result of the above, all options proposed by the Ministry involve reductions to the TAC (416.5) & Total Allowable Commercial Catch (TACC of 200). The options and rebuild timeframes are summarised below:

Option 1 - TAC 251.5 TACC 140 – rebuild of 9 years
Option 2 - TAC 231.5 TACC 120 – rebuild of 7 years
Option 3 - TAC 211.5 TACC 100 – rebuild of 5 years
Option 4 - TAC 191.5 TACC 80 – rebuild of 4 to 5 years

All options are geared to restoring the fishery to an agreed 'reference level' within an acceptable timeframe. An intermediate reference point of doubling current rock lobster abundance will equate to 40% of the unfished spawning stock biomass level thereby removing the need for intervention. The difference in the proposed TACC options comes down to how quickly or slowly the fishery can rebuild to the reference point as noted above.

The ICP currently manages 4.585 mt of CRA2 ACE for the April 2017 season with quota ownership spread across 8 of our 15 Iwi Members. We do not support options 3 or 4. The socio economic impact of these two options upon the fishing industry is too severe for the benefit of a 2 to 4 year faster rebuild time compared to options 1 and 2.

Management supports Option 2, which is a reduction of the TAC to 231.5 mt and TACC to 120 mt. The 7 year rebuild timeframe is considered reasonable compared to the alternatives. Our support for Option 2 is conditional upon the recreational sector being constrained to their current actual harvest level. This particular argument is outlined in detail in the submission of New Zealand Rock Lobster Industry Council. We support that aspect of the NZRLIC submission.

We understand that some quota owners support option 1 because of the lower socio economic impact. For clarity sake, we do not oppose option 1. The difference in our submission simply comes down to a matter of personal preference regarding rebuild timeframes. Our preference is for a faster rebuild timeframe of 7 as opposed to 9 years, however, the 2 year difference is relatively minor.

We would expect that any improvements to the fishery would be restored to the commercial sector in similar proportions to the current legal position. Any attempt by the Ministry to use this process to reallocate ICP fishing right to recreational fishers will be vigorously opposed.

2. CRA4:

Following a significant TAC reduction from 592 to 484 mt in April 2017 (current season), the CRA4 CPUE has increased from 0.69 to 0.76 kg/potlift, suggesting abundance has increased in the last year. The result is the potential to increase the TAC of 484 mt & TACC 289 mt by 6.2% to 513.8 and by 10% to 318.8, respectively.

Option 2 is based on the current Management Rule which proposes increases until circa 0.90 kg/potlift at which point it plateaus with no further increases until circa 1.30 kg/potlift.

ICP manages 3.417 mt of CRA4 ACE in the current April 2017 fishing year, with ownership spread across 11 of our 15 Iwi Members. We support application of the current Management Rule which in turn supports an increased proposed under option 2.

ICP does not support retention of status quo under option 1.

3. SBW6B - Bounty Platform

ICP collectively manages 148 mt SBW6B with ownership spread across all 15 of our Iwi Members in proportion to relative tribal population size.

The options proposed by the Ministry are Option 1: Status Quo (TAC 2,426; TACC 2,377) and Option 2: an increase TAC to 3,209 and TACC to 3,145 (mt). The reason for option 2 is a 2017 acoustic survey indicated an increase in biomass. Application of the Harvest Strategy demonstrates that the catch limit can sustainably be increased by 17%.

ICP supports the option 2 increase to the TACC. We do support option 1 retention of status quo.

Ngā mihi,

Maru Samuels
General Manager

SCHEDULE 1 – ICP IWI MEMBERS

QRN	Iwi Entity	Iwi
9791656	Ngati Porou Seafoods Limited	Ngati Porou
9791784	Te Arawa Fisheries Holding Company Limited	Te Arawa
9791938	Ngati Tuwharetoa Fisheries Holdings Ltd	Ngati Tuwharetoa
9791654	Ngati Awa Asset Holdings Limited	Ngati Awa
9791775	Te Waka Pupuri Putea Limited	Te Rarawa
9792062	Ngai Te Rangi Fisheries AHC Limited	Ngai Te Rangi
9792654	Whakatohea Fisheries Asset Holding Company Limited	Whakatohea
9791783	Taranaki Iwi Fisheries Limited	Taranaki Iwi
9791658	Ngati Ruanui Fishing Limited	Ngati Ruanui
9791512	Te Aitanga A Mahaki Trust Asset Holding Company Limited	Te Aitanga a Mahaki
9791717	Rongowhakaata Iwi Asset Holding Company Limited	Rongowhakaata
9792029	Te Pataka O Tangaroa Limited	Nga Rauru Kiitahi
9791789	Te Kumukumu Limited	Ngaitai
9792455	Ngati Manawa Tokowaru Asset Holding Company Limited	Ngati Manawa
9792311	Ngati Whare Holdings Limited	Ngati Whare

Ministry for Primary Industries
Manatū Ahu Matua

Submission Form

Review of sustainability measures for 1 April 2018

Once you have completed this form

Email to: FMsubmissions@mpi.govt.nz

While we prefer email, you can also post your submission to: 2018 Sustainability Review, Fisheries Management, Ministry for Primary Industries, PO Box 2526, Wellington 6140, New Zealand.

Submissions must be received no later than 5pm on Friday 9 February 2018.

Anyone may make a submission, either as an individual or on behalf of an organisation. Please ensure all sections of this form are completed. You may either use this form or prepare your own but if preparing your own please use the same headings as used in this form.

Submitter details:

Name of submitter or contact person:	Mingyan (Aileen) Zhou
Organisation (if applicable):	Nade Sunshine New Zealand International Ltd
Email:	
Fishstock this submission refers to: *Rock lobster – CRA 2, CRA 4, CRA 7, CRA 8* *Sea cucumber – SCC 3, SCC 7B* *Southern blue whiting – SBW 6B.*	Choose an item:
Your preferred option as detailed in the discussion paper (write "other" if you do not agree with any of the options presented):	Other

Official Information Act 1982

Note, that your submission is public information. Submissions may be the subject of requests for information under the Official Information Act 1982 (OIA). The OIA specifies that information is to be made available to requesters unless there are sufficient grounds for withholding it, as set out in the OIA. Submitters may wish to indicate grounds for withholding specific information contained in their submission, such as the information is commercially sensitive or they wish personal information to be withheld. Any decision to withhold information requested under the OIA is reviewable by the Ombudsman.

Submission:[1]

Details supporting your views:

I am the director of Nade & Sunshine New Zealand International Ltd, my Company owns SCC quota 3.83T in 7A, 1.6T in1B, 1.6T in 1A, 1.6t in 9. We also entrust our diver Scott Rossiter (contact email [redacted] lease 500kg SCC ACE from Iwi in 7B for a few years. We have been doing sea cucumber business since 2004. From my understanding, there are no any question of SCC TACC could be double in 7A and 1B those 2 areas. This scientific research which we had been involved had been done by NIWA in 2014. The contact person is Dr. Ian Tuck , his email is [redacted] On the contrary, the sea cucumber resource in 7B is getting worse due to the big volume commercial catching in the past many years. We still have 86kg SCC ACE left in 7B of this fishing year due to lack of sea cucumbers. Scott Rossiter told me it seems getting harder and harder to catch sea cucumber in 7B. But in 7A he hasn't gone through over all the area for the past 14 years, and done the catching very quickly due to the rich SCC resources. From my professional point of view, I would like to suggest you to reduce the SCC TACC in 7B to protect SCC resources from long term environmental benefits. It will be harmful and make sea cucumber being endangered if you increase SCC TACC in 7B. I also would like to ask you to review SCC in 7A and 1B to increase these 2 areas TACC.

Please continue on a separate sheet if required.

[1] Further information can be appended to your submission. If you are sending this submission electronically we accept the following formats – Microsoft Word, Text, PDF and JPG.

NEW ZEALAND
WILD CATCH®
PREMIUM SEAFOOD

Submission on the review of sustainability measures for Sea Cucumber SCC 3 and 7B for 2018/19 *(MPI Discussion paper 2018/03)*

New Zealand Wild Catch Limited ("NZWC") is an industry stakeholder that has established catch history in the SCC fishery since the 2013/14 fishing year. NZWC is also a significant holder of Individual Transferrable Quota (ITQ) in the SCC fishery, holding 80% of the ITQ shares in SCC3, almost 70% of the shares in SCC5A and is in the process of acquiring further shares in SCC5B to increase the company's holding to 80% of the ITQ shares in that Quota Management Area (QMA). NZWC has been solely focused on the SCC fishery since incorporation in 2014.

NZWC wishes to file this submission in support of the Ministry for Primary Industries (the Ministry) paper reviewing the Total Allowable Catch (TAC) and Total Allowable Commercial Catch (TACC) for SCC3 and 7B, and for the reasons set out below, supports the following recommendations:

(a) **SCC3 –** increase TACC to 48t (a total increase to the TAC to 54t)

(b) **SCC7B –** increase TACC to 14t (a total increase to the TAC to 17t)

Sustainability measures

New Zealand has obligations under international law, particularly under UNCLOS which provides (at Art.62) that, while having appropriate regard to sustainability, member states will provide for the 'optimum utilization' of living resources. As the Ministry paper has outlined, those obligations are embodied in ss 8 and 9 of the Fisheries Act 1996 (the Act) and require decision makers to consider both sustainability and utilization in the management of the resource.

The study 'Dredge survey of sea cucumbers in SCC 3, 2017' forms the basis of the Ministry's proposal to increase the TAC/TACC in SCC3 and 7B, and bears out the anecdotal evidence of commercial fishers operating in QMA 3 that NZWC was previously aware of, and of reports filed by Ministry observers.

That study, which centered on sampling SCC populations in SCC3 in the defined area in Pegasus Bay, sampled less than 2% of the total area (approximately 205,000 km^2 in the SCC3 QMA). The authors of the study noted that their findings were based on conservative assumptions (for example, that the dredge is 100% efficient and that all reported catches came from within the sample area), and estimated a survey biomass of 3207t in the sampling area alone. The study concedes that even that estimate is likely to be conservative.

Such a level of biomass in the sampled area indicate that the current TACC of 2t fails to give effect to the principle of optimum utilisation of the resource.

NZWC's view is that the proposed TAC/TACC is the absolute minimum increase that should be considered, given that the proposed increase to 54t TAC in SCC3 represents less than 2% of the estimated survey biomass alone.

The absence of further scientific study on the MSY of the stocks should not prevent the Minister from making a decision to increase the TAC/TACC in relation to these stocks, as set out in s10(d) of the Act. Guidance is available from

sustainable international practices, which suggest that a conservative annual harvest rate of at least 6% (in Canada) is suitable. Using the data of the surveyed biomass of 3207t, that would equate to a TAC of approximately 195t.

NZWC History - Market development

The SCC fishery is currently a largely untapped fishery which has been subject to only minimal commercial activity, constrained by the current TAC/TACC. As the major export processor of SCC, NZWC has been involved in building the profile of this fishery for the last several years. The touchstone of NZWC's strategy is providing fish of the highest possible quality. This approach permeates through every aspect of the business – from the fishing operation right through to the end consumer.

NZWC has identified the need to build the profile of New Zealand SCC product in overseas marketplaces, and considerable resources have been applied into developing commercial markets, particularly those in Asia. In addition, significant investment has been made into developing proprietary techniques in all stages of the catching, processing and export to maximise the quality of the product. That development has now reached a critical point, in that the amount of SCC consistently available to fish, process and export limits the development of the market. NZWC believes that the proposed TAC/TACC increase represents the minimum needed for the development of this fishery on an international platform.

Internationally, wild caught New Zealand seafood is sought after, and SCC is no exception. Being both an extremely valuable and highly prized delicacy and a respected part of traditional Chinese medicine, the demand for quality SCC in Asian markets continues to grow.

This developing boutique fishery now requires the ability to utilise the resource to a higher level.

NZWC History - Catch techniques and sustainability

NZWC has developed extensive guidelines to ensure that all steps of the catching and processing of the fish adhere to 'best practice'. Because the fishery was historically unexploited, this has required development and implementation of such guidelines in their entirety. Those efforts have been focused on ensuring that fishers' activities do not undermine the sustainability of the fishery in the long term.

NZWC fish is sourced from both dredging and diving methods. The dredge operation involves very slow tows of short duration. Such a fishing method minimizes the impact on the seabed and significantly reduces by-catch, while ensuring the fish is of high quality. The NIWA study employed NZWC's targeted fishing method, and evidences that there was minimal by-catch of species in the QMS.

Fish caught by the diving method retain very high levels of quality. Such harvesting techniques result in a very low impact on the marine habitat and elimination of by-catch.

The methods of catch utilised in SCC 3 and 7B are such that the proposed TACC increases will have a less than significant impact on the marine environment generally, and the SCC population specifically.

NZWC History – Investment

NZWC has been processing SCC for both domestic and export markets for more than four years in MPI export-accredited premises in Christchurch. NZWC is in the process of investing heavily in the shore-based infrastructure of the operation, particularly a new, dedicated SCC processing plant in the Canterbury region. SCC processing is a labour intensive process and the new processing facility will result in the creation of a number of employment opportunities.

If the proposed TACC increase is adopted by the Minister, then this is likely to further increase the number of roles that are created at NZWC's factory premises.

In addition, there will be an increased number of sea-going positions required to harvest the SCC derived from the increased TACC.

Conclusion

NZWC supports the Ministry paper, but believes that the proposed TACC increases are the minimum needed to give effect to ss 8 and 9 of the Act and New Zealand's international obligations.

Given the biomass indicated by the 2017 NIWA study, it is appropriate to consider further the TAC/TACC increases in the near future.

OCEAN FISHERIES LTD

[redacted]

17/01/2018

Sustainability Review 2018
Fisheries Management
Ministry for Primary Industries
[redacted]

Email : FMsubmissions@mpi.govt.nz

Dear Sir / Madam,

Re: Review of Sustainability.

This submission is made on behalf of :

Ocean Fisheries Ltd (QRN # : 8471824)
[redacted]

AND

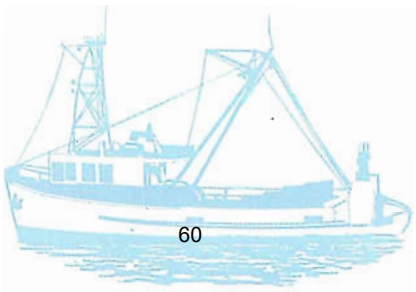
Ocean Fisheries Quota Holding Company Ltd (QRN # : 9160046)
[redacted]

Back Ground :

Ocean Fisheries Quota Holding Company Ltd is as the name suggests our quota holding company.

Ocean Fisheries Ltd operate 4 Inshore Trawlers, the FT Frontier, the FT Endeavour, the FT Legacy and the FV Nessie J, all of which are based from the Port of Lyttelton.

Ocean Fisheries Ltd has been fishing inshore waters from the Port of Lyttelton since 1967.



Our submission is as follows :

We have received and considered the document for the review of sustainability controls for selected inshore fish stocks.

Our submission concentrates on SCC3, as unfortunately this is the only species you have seen fit to review that fits within our scope of interest.

For the record, we strongly believe that BCO3 and ELE3 and GUR3 also urgently require TACC increases, we trust that they can be included for review at the next earliest opportunity.

We do not own Quota Shares for SCC3, but it is caught in abundance by our trawlers as unavoidable by-catch over a wide area in Area 3.

The punitive Deem Value imposed to date has meant that the fishery has not been able to be utilised to any extent as buyers are unable to develop any markets based on 2 tonne TACC

The proposed TACC increase to 48 tonnes, is we suspect but a drop in the bucket in terms of the widespread population of this fish species, and therefore is extremely unfortunate in its conservative approach.

As long as the stock can continue to be returned to the sea under Schedule 6 the new TACC will perhaps be enough to enable markets to be developed – the concern remains will it ever be increased to allow its true potential ?

We note even your document suggests the TAC setting is overly conservative – why then cannot the TAC be set at a more realistic starting point, of say 200 tonnes ?
The ongoing issues with fish stocks are very seldom related to declining stocks – the biggest problems are with growing stocks – and the fact that the QMS is so slow to react to increase the TAC and TACC – case in point – BCO3, ELE3 and GUR3 !!!!!!

We wish to support the proposal put forward by MPI regards the increased proposed under Option 2.

- **We strongly request that Option 2. is adopted – increase TACC from 2 tonnes to 48 tonnes.**

  BUT we also strongly suggest it should be moved higher – as history shows it will be locked in at the new level almost forever - which is already considered very conservative.

Should you wish to discuss any of our comments in more detail please do not hesitate to contact the undersigned.

Yours faithfully

Andrew Stark.
Chief Executive.

Ref: maf0053

PAUA INDUSTRY COUNCIL Ltd.
C/o Seafood NZ Ltd
[redacted]

Kina Industry Council Inc.
[redacted]

Submission on MPI sustainability measure proposals

Review of Sustainability Measures for Sea Cucumber (SCC 3 & SCC 7B) for 2018/19: MPI Discussion Paper No: 2018/03

The Pāua Industry Council (PIC) is the peak national organisation representing the interests of the commercial pāua industry in New Zealand. It is managed by a board of directors which includes the chairs or representatives of regional organisations, PauaMACs, which in turn are managed by executive boards which are elected by majority vote of industry participants. Funding for all pāua organisations is by way of a Commodity Levy. PIC has a broad mandate to undertake work on behalf of our industry including work of generic interest to the New Zealand fishing industry.

The Kina Industry Council has a different organisational structure, due largely to the smaller number of active participants and Quota Share Owners (QSOs) and is funded by way of voluntary levy on fishery participants. Due to the smaller participant numbers and their close association with the organisation, KIC also has a strong mandate to act and speak on behalf of its industry participants.

PIC and KIC submit the following on the Sustainability Review Measures for Sea Cucumber in SCC3 and SCC 7B as we see policy and process issues of relevance to our fisheries.

The decisions we recommend the Minister make are:

- SCC3 – support MPI Option 2, a TAC increase to 54t with a TACC component of 48t; and
- SCC7B – support MPI Option 2, a TAC increase to 17t, with a TACC component of 14t.

While we support those Options, KIC and PIC also recommend that the decision letter should include a requirement for follow-up work by the SCC industry participants supported by MPI to ensure the long term health of the fisheries.

In general

While there is not a great deal of biological information available around growth rates, age at sexual maturity or overall adult biomass available for *Austrostichipus mollis*, we consider that there is sufficient overseas research available to support MPI's recommended approach of an initial annual harvest of 5% of the estimated adult biomass available in both SCC3 and SCC7B. In particular:

- Sea Cucumbers generally appear to be relatively fast growing, and are likely to reach sexual maturity at around 3 years;[1]
- Estimated biomass for both QMAs is conservative as only a part of each QMA has been surveyed. For example the Pegasus area surveyed is a small part of the SCC3 QMA, which stretches from the Conway River south to Slope Point;
- Catch rates for the British Columbia sea cucumber dive fishery of 4% of the identified biomass since 1997 have resulted in no observable impact on numbers. However, rates of 10% or more are thought to be unsustainable;[2] and
- The environmental principles of the Fisheries Act 1996 are the distillation of what is now called Ecosystem Based Management. Included are requirements around dependent species and biodiversity. Sea Cucumbers are an important part of the marine ecosystem, they are recognised as a food species when juveniles, and as key processors of sea floor waste and microalgae as adults. An actual annual take of less than 5% in the QMA will not upset that balance.

This fishery holds a great deal of potential, being relatively underdeveloped with good export opportunities in a world market which has a high demand for wild caught Sea Cucumber. The New Zealand brand will stand it in good stead given how highly regarded as a source of food this country is by Asian markets. It is likely to provide good opportunities for employment in the areas it operates as catching and processing tends to be quite labour intensive.

For the SCC3 fishery we note that such a TACC increase will address a long standing bycatch issue for the trawlers involved, while at the same time providing the chance to develop a valuable "boutique" fishery which will have a less than significant effect on the natural Sea Cucumber population. This aligns with the Fisheries Act aim of "providing for sustainable utilisation".

For SCC7B, a dive fishery, the already high environmental credentials including no protected species interactions, no benthic impacts and no bycatch or disposals at sea, mean that it makes sense to prove up the fishery in a conservative way. The existing operators have invested time and resources in developing a viable business, with little in the way of identified environmental or fishstock impacts. Once again this is an opportunity for regional economic development with minimal environmental impact.

Recommendations

PIC and KIC support the TACC increases proposed for both SCC3 and SCC7B. However we see some issues which we consider will need to be addressed in the management of both.

The first is that of serial depletion. It is theoretically possible to shift and concentrate effort into small areas of either QMA. So while 5% of the biomass can theoretically be harvested sustainably, the spread of effort over a QMA is the key to sustainability with relatively sedentary fish like Sea Cucumber. Concentration of effort into smaller areas can lead to overfishing.

Secondly, for the SCC3 fishery, we note that consideration is given to possibly developing specialised smaller dredges for targeting sea cucumber. If this was to happen, and such dredging was taken closer inshore we believe that would be a retrograde step. It would bring the fishers into conflict with other

1 Emerging Species Profile Sheets-Dept Fisheries and Aquaculture-Govt. Newfoundland
2 Canadian Science Secretariat-Science Advisory Report 2009/044

stakeholders, and could be seen to adversely affect the inshore environment if the activity had been absent before.

For the first point we would advocate that the QSOs involved in both fisheries develop a formal management plan for each which included catch and effort spread components and other management measures which reflected the biological and population characteristics of the species. We believe MPI should have a role in facilitating the evolution of such an industry plan through to a formal fisheries plan approved by the Minister.

For the second we would advocate that the quota owners involved look to developing a two pronged fishery – i.e., trawl based for their offshore work, and dive fishery based for any move to nearshore waters.

Yours Sincerely

S. Stanley
Chair, Paua Industry Council

P. Herbert
Chair, Kina Industry Council

Ministry for Primary Industries
Manatū Ahu Matua

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Review of sustainability measures for 1 April 2018

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Submitter details:

Name of submitter or contact person:	Scott Rossiter
Organisation (if applicable):	T/A S & M Diving
Email:	[redacted]
Fishstock this submission refers to: *Rock lobster – CRA 2, CRA 4, CRA 7, CRA 8* *Sea cucumber – SCC 3, SCC 7B* *Southern blue whiting – SBW 6B.*	Choose an item:
Your preferred option as detailed in the discussion paper (write "other" if you do not agree with any of the options presented):	Other

Official Information Act 1982

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Ministry for Primary Industries
Manatū Ahu Matua

Submission:[1]

Details supporting your views:

I am writing in regards to the review of SCC 7b and SCC 3. I find it hard to believe that somebody has put a biomass of 1700kg's on SCC 7b based on a survey of scallops and oysters. At this stage SCC7b is a dive industry and unless other catch methods are developed, it is going to be under huge pressure and may not be viably worth diving.
I would purpose adding SCC 1b and SCC 7a to this review as I have been diving SCC 7a for around 14 plus years, and so far, I have not seen any decline in catches. So based on this I would like to suggest that SCC 7a could easily be doubled.
I was part of a Niwa study in SCC 7a, but due to poor planning and wrong choice of Charter operator, we were unable to survey the other 3/4 of this area which does hold very good SCC numbers in deeper waters. Also to date neither the main share holder or myself have had any information back on the survey for 7a and 1b which was completed over 4 years ago.
As for SCC 3, I have had no experience diving in this area, therefore I don't think it is my place to give my opinion.
To sum up this letter, I feel there needs to be a specific survey for SCC 7b to give a more precise biomass before it's increased.
So come on MPI, how about finishing the job you started in SCC 7a and give us your thoughts on how SCC 1b and 7a are looking.

Regards

Scott Rossiter

Please continue on a separate sheet if required.

[1] Further information can be appended to your submission. If you are sending this submission electronically we accept the following formats – Microsoft Word, Text, PDF and JPG.

9 February 2018

Sustainability Review 2018
Fisheries Management
Ministry for Primary Industries

[redacted]

Email: FMsubmissions@mpi.govt.nz

Tena Koe,

Written Submission on MPI Review of Sustainability Measures for SBW6B 2018/19

Sealord has considered the options in the Review of Sustainability Measures for SBW6B. As a long term quota holder Sealord understands the variable nature of the fishery where fluctuations in biomass occur.

For this reason Sealord supports option 2 to move the TACC from 2,377t to 3,145t to take advantage of a period of higher recruitment noting this increase will still allow the stock to sit around the management target level.

Nga mihi

Doug Paulin
General Manager
Sealord Fishing

SOUTHERN INSHORE FISHERIES
MANAGEMENT COMPANY LIMITED

p [redacted]
f [redacted]
e [redacted]
a [redacted]

Sustainability Review 2018
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Ministry for Primary Industries
[redacted]
Email: FMsubmissions@mpi.govt.nz

Review of Sustainability Measures for Sea Cucumber (SCC 3 & 7B) for 2018/19

MPI Discussion Paper No: 2018/03

1. Thank you for this opportunity to provide our input into the review of sustainability measures for both SCC 3 and SCC 7B.

2. Southern Inshore Fisheries Management Co. (SIF) represents 104 inshore fishstocks throughout the Fisheries Management Areas 3,5,7 & 8. In addition to representation and advocacy for shareholders the Company also invests in annual research projects, for additional monitoring of key stocks, over and above the cost recovery process.

3. SIF is a member of Fisheries Inshore New Zealand (FINZ) which is our sector representative entity (SRE) to Seafood New Zealand (SNZ).

4. Whilst SIF is responsible for the representation of mainly finfish and some shark/elasmobranch species, we are making this submission in respect of SCC because:

    - SCC is a bycatch to various important fisheries that our shareholders hold quota in;
    - The limited area surveyed and lack of time-series of survey data for SCC3: and
    - The environmental impact of dredging on localised finfish spawning grounds reliant on these habitats.

5. In 2014, when MPI consulted on the deemed value rate for SCC 3, SIF submitted on the basis that the TACC should be increased rather the industry being penalised for a stock that could effectively be landed but couldn't due to the lack of quota availability. Whilst the opportunity remains to release SCC to the sea under Schedule 6, the low TACC does not allow for utilisation opportunities.

6. We note that the Pegasus survey area, whilst it has a reasonable abundance of SCC within that small area, we do not see how such a small area can be representative of the biomass in the wider quota management area when no survey was conducted there. It would be reasonable to request that any further survey work is done on a wider area so that localised depletion does not occur in the Pegasus area only. The stock needs to be managed and monitored within an ongoing research

plan so that not only the abundance of SCC3 can be monitored but that there are no issues arising with the bycatch of FLA 3 in the dredge fishery. Time-series of survey data is essential to monitoring the relative abundance in a number of our fisheries.

7. Similarly, the bycatch of sea cucumber in the finfish trawl and scallop and oyster dredge fisheries within SCC 7B is also problematic and an increase in the TACC should provide further utilisation opportunities.

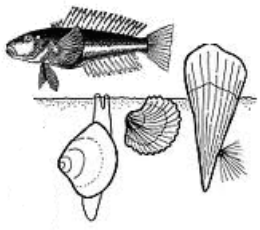
8. SIF request that more consideration and resources are directed at mapping the location of juvenile fish nursery areas and the habitats dependent on their survival. We do not want to see increased dredging for SCC3 in areas that are voluntary no-trawl areas specific to preserving juvenile fish and their habitats. Whether hand-gathered or dredged in SCC7B the same concerns about the preservation for juvenile fish and habitats remain.

9. It is unclear from the evaluation of options what the potential value of the two fisheries will be. There has been no indication whether the value of $12.50 - $20/kg greenweight is for hand-gathered or dredge caught. Assumedly the hand-gathered SCC would fetch a better price than those caught in a dredge or trawl, due to the additional damage that may occur.

10. Finally, we understand that the SCC3 dredge survey was initiated by quota holders in that stock and respect their investment in that research outside the MPI management framework and that an increase to the TACC is needed to develop that fishery further. The information for the review of SCC7B came from existing annual dredge surveys within Tasman and Golden Bays and the Marlborough Sounds to determine scallop and oyster abundance. This has shown the utility of the surveys for SCC 7B and that potential cost-recovery could be attributed to that stock if future abundance indices are taken from those surveys.

11. We agree in principle that the TACC for SCC3 needs to be increased from 2 tonnes to 48 tonnes, and from 5 tonnes to 14 tonnes for SCC7B, for the development of these fisheries and to provide relief to finfish trawl and scallop/oyster dredge fishing bycatch.

Contact: Carol Scott



SPECIALTY & EMERGING FISHERIES

[redacted]

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Emailed to: FMsubmissions@mpi.govt.nz

Submission from the Specialty & Emerging Fisheries Group (S&EF) on the proposed Review of Sustainability Measures for Sea Cucumber (SCC 3 & 7B) for 2018/19: MPI Discussion Paper No: 2018/03

Introduction

This submission is made on behalf of the Specialty and Emerging Fisheries Group (S&EF). S&EF Group is a representative collective of commercial fishing associations operating mainly niche fisheries and markets, and represents approximately $140 million in annual economic return. The contact person is Mr Bill Chisholm, [redacted] Should a hearing be held on this issue, then the submitter would like to be heard.

S&EF Group supports the submissions from the Sea Cucumber Commercial Fisheries representatives and the Paua Industry Council, and agrees with all points made in their submissions. This submission should be read in conjunction with these other submissions, as we agree with all points made in those submissions but do not in general repeat all points raised in their submissions.

Proposal for SCC3: S&EF Group supports OPTION 2

Proposal for SCC7B: S&EF Group supports OPTION 2

The reasons why we support Option 2 for SCC3 and SCC7B is because S&EF Group supports sustainable fisheries management based on robust and transparent science. In the case of these two areas, the science has shown that the proposed TAC and TACC increases are justified, and it is likely that these increases will be sustainable. S&EF Group does not support Option 1 for SCC3 and SCC7B, as it perpetuates the ongoing bycatch problems and does not allow for the sustainable development of this emerging fishery.

Yours faithfully

[redacted]

TE OHU KAIMOANA

MĀORI FISHERIES TRUST

9 February 2018

Sustainability Review 2018
Fisheries Management
Ministry for Primary Industries
[redacted]

Tēnā koe,

Review of Sea Cucumber Sustainability Measures for 2018/19 - *2018/03*

1. This submission is from Te Ohu Kaimoana Trustee Ltd (Te Ohu Kaimoana) in its role as corporate trustee of Te Ohu Kaimoana Trust. The purpose of the trust is to advance the interests of iwi individually and collectively, primarily in the development of fisheries, fishing, and fisheries-related activities.

2. This submission responds to the public consultation paper - *Review of Sustainability Measures for Sea Cucumber (SCC 3 & 7B) for 2018/19* - issued by the Ministry for Primary Industries. In developing this submission, we have made our draft submission available to South Island Mandated Iwi Organisations (MIO) and Asset Holding Companies (AHCs) for input, and we have reflected their feedback in this submission.

3. We note that the Initial Position Paper (IPP) was presented to Te Waka a Maui me Ona Toka Iwi Forum, a Iwi Fisheries Forums that represents the nine iwi of the South Island. We understand their input has been incorporated into the IPP.

4. We do not intend for this submission to derogate from or override any submissions iwi through their MIOs and / or AHCs may decide to make.

Background

5. The Ministry of Primary Industries (MPI) proposes to review the Total Allowable Catch (TAC) and Total Allowable Commercial Catch (TACC) for sea cucumber *(Austrostichipus mollis)* in the SSC 3 and SSC 7 quota management areas (QMA). The proposed options are set out in table 1 below.

   Table 1: Proposed management settings (in tonnes) for SCC 3 and SCC7B from 1 April 2018.

Stock	Option	TAC	TACC	Allowances		
				Customary Māori	Recreational	Other mortality
SCC3	**SCC3_01***Status quo*	5	2	1	2	0
	SCC3_02	54 ↑	48 ↑			3 ↑
SCC7B	**SCC7B_01:** *Status quo*	8	5	1	2	0
	SCC7B_02:	17 ↑	14↑			

Our Position

In relation to SCC3

6. Te Ohu Kaimoana supports option 2, to increase the TAC from 5 t to 54 t, the TACC from 2 t to 48 t, other mortality from 0 to 3 t, and to retain the allowances for customary and recreational at their current settings.

In relation to SCC7B

7. Te Ohu Kaimoana supports option 2, to increase the TAC from 8 t to 17 t, the TACC from 5 t to 14 t, and to maintain the allowances for customary, recreational and other mortality.

Noho ora mai rā,

Dion Tuuta
Chief Executive Officer
Te Ohu Kaimoana