



Fisheries New Zealand

Tini a Tangaroa

Review of Sustainability Measures for Marlborough Sea Cucumber (SCC 7A) for 2019/20

**Proposal to Alter Total Allowable Catches, Allowances, and Total
Allowable Commercial Catches**

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1 Submission Information

1. Fisheries New Zealand welcomes written submissions on any or all of the proposals contained in this Discussion Paper. All written submissions must be received by Fisheries New Zealand no later than 5pm on **Tuesday 12 February 2019**.
2. Written submissions should be emailed to FMsubmissions@mpi.govt.nz

or sent directly to:

Sustainability Review 2019
Fisheries Management
Fisheries New Zealand
P O Box 2526
Wellington 6140.

3. All submissions are subject to the Official Information Act and can be released (along with personal details of the submitter) under the Act. If you have specific reasons for wanting to have your submission or personal details withheld, please set out your reasons in the submission. Fisheries New Zealand will consider those reasons when making any assessment for the release of submissions if requested under the Official Information Act.

Sea cucumber - Marlborough (SCC 7A)

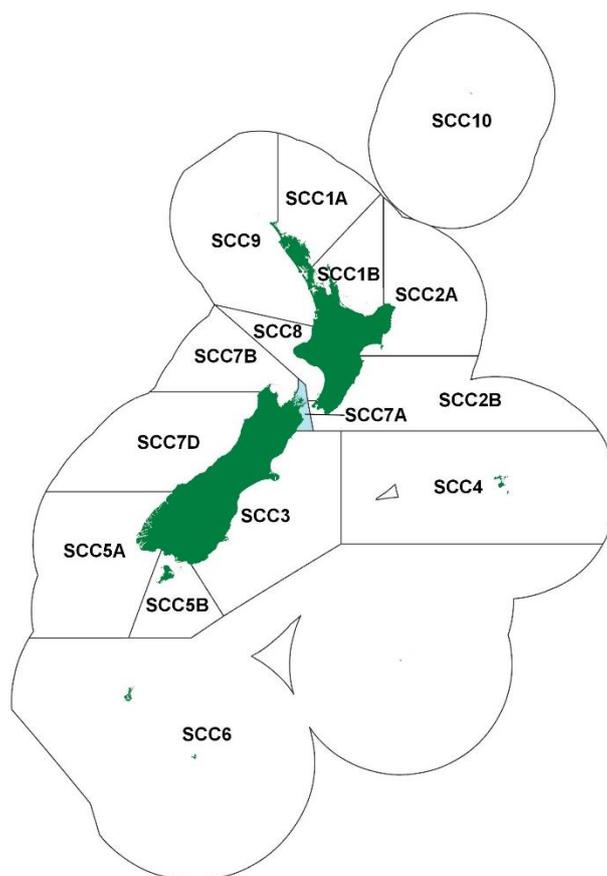


Figure 1: Map of sea cucumber Quota Management Areas, with SCC 7A highlighted in blue.

2 What is proposed?

- Fisheries New Zealand proposes that the Total Allowable Catch (TAC), Total Allowable Commercial Catch (TACC) and allowances be reviewed for sea cucumber (*kūkamo te moana*, or *Australostichopus mollis*) in the SCC 7A Quota Management Area (QMA). SCC 7A extends from the east coast of D'Urville Island, east to Cape Campbell (including the Marlborough Sounds) and then down the South East coast to the Clarence River (Figure 1). Fisheries New Zealand proposes the following options and seeks information and views from tangata whenua and stakeholders (Table 1):

Table 1: Proposed management settings (in tonnes) for SCC 7A from 1 April 2019.

Option	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality to the stock caused by fishing
Option 1 (<i>Status quo</i>)	8	5	1	2	0
Option 2	18 ↑ (225%)	15 ↑ (300%)	1	2	0

3 Why the need for change?

5. When introduced into the Quota Management System (QMS) in 2004, little was known about the sea cucumber fishery and therefore cautious TACs were set for each QMA.
6. Scientific surveys indicate there is sufficient biomass to support an increase to the current TAC and TACC for this stock, and a review of the TAC has been requested by quota holders looking to develop the fishery and export markets.
7. Because of the limited information on growth rate, reproduction, recruitment, and mortality for sea cucumber it is not possible to determine B_{MSY} ¹. Therefore, Fisheries New Zealand considers that cautious increases under section 13(2A) of the Act are an appropriate approach to develop sea cucumber fisheries, to ensure long term sustainability.

Discussion question:

- Do you agree with the need for change?

4 Background Information

4.1 BIOLOGICAL CHARACTERISTICS OF SEA CUCUMBERS

8. Sea cucumbers are marine invertebrates with a cylindrical body. They are echinoderms, like sea stars and sea urchins. Sea cucumbers are bottom-feeders that are widely distributed. Commercially fishable concentrations of the only species of sea cucumber (SCC) of commercial value, *Australostichopus mollis*, typically occur off sheltered coastlines and at depths between 60 and 140 metres. They inhabit a wide range of substrates, including rocky reefs, biogenic reefs, gravel and sediment.
9. Sea cucumbers are known to vary in abundance in response to environmental and other conditions. They are broadcast spawners; after fertilisation, larvae have a three to four week pelagic larval phase before settling on the seabed. Sea cucumbers can reach a size of 25 cm (300 g wet weight), and live for 5 – 15 years.
10. 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 species *Apostichopus japonicus* annually; the Republic of Korea lands 6,000 tonnes of *A. japonicus* annually; and around 400 tonnes of the sea cucumber species *Parastichopus californicus* are landed per year in British Columbia.

4.2 FISHERY CHARACTERISATION

Māori customary fishing

11. Best available information indicates that there is negligible customary harvest of sea cucumbers (kūkamo te moana) in SCC 7A. The Fisheries (South Island Customary Fishing) Regulations 1999 have not been implemented in this area. Therefore, there is

¹ B_{MSY} is the biomass at which the maximum sustainable yield is obtained.

no requirement for documented information on the level of Māori customary non-commercial harvest of this species, nor is there information about its importance to customary fishers. Kūkamo te moana is not referred to in the Te Waipounamu Iwi Fish Plan.

Recreational fishing

- Best available information indicates that there is little recreational harvest of sea cucumbers in SCC 7A. 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.

Other mortality

- No change is proposed for other mortality caused by fishing. This is a hand-gathering dive fishery, and very little mortality is expected.

Commercial fishing

- The current commercial fishery is located largely in Queen Charlotte Sound and Tory Channel. Sea cucumber are gathered by hand by divers - predominantly by free diving. Fishers can use underwater breathing apparatus (UBA), but if they do, they are subject to specific position reporting requirements to show the location of diving events.
- The fishery was introduced into the QMS in 2004. Since then, landings have been around or, on occasion, have exceeded the TACC with deemed values paid (see Figure 2).

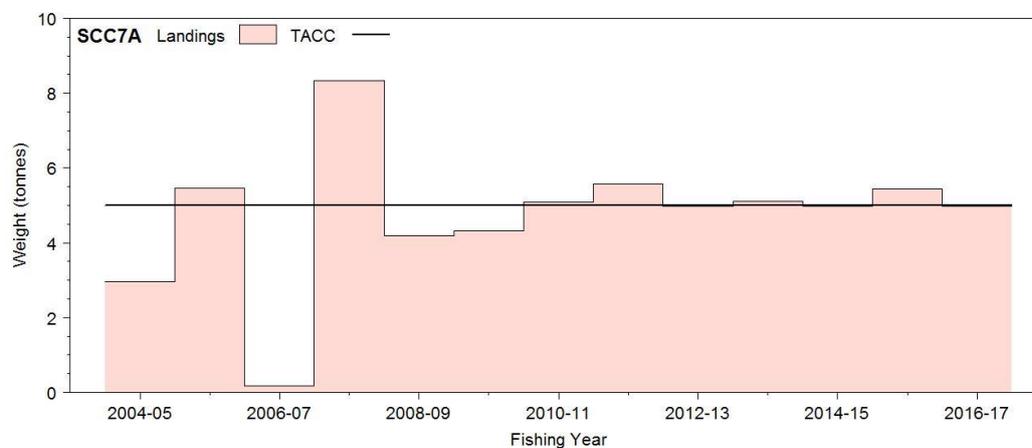


Figure 2. Landings vs TACC for SCC 7A from 2004/05 to 2017/18.

4.3 STATUS OF THE STOCK

Management target

- Catch limits for SCC 7A have not been reviewed since first introduced into the QMS in 2004.
- In the Fisheries New Zealand Draft National Shellfish Plan, SCC 7A is a Group 4 Stock. Stocks in this Group are sought after by some sectors, but fishing pressure is

relatively low. Biological vulnerability of stocks in this Group is variable. The management approach for these stocks provides for development opportunities while minimising sustainability risks, by setting fishing limits conservatively as information becomes available.

18. While some fishing has occurred in Queen Charlotte Sound and Tory Channel, the remainder of SCC 7A has largely been unfished. Given the developing stage of the fishery, there are no management targets, reference levels or hard and soft limits for this fishery. These will be determined as the fishery develops and more scientific information becomes available.

Status of the stock

19. Two biomass surveys are available that cover limited areas of SCC 7A. The results of both surveys have been reviewed through Fisheries New Zealand's science working group process. One survey is based on sea cucumber bycatch data from scallop dredge surveys, and the other is a dive survey undertaken by NIWA within Queen Charlotte Sound and Tory Channel in 2014.
20. Scallop dredge surveys have been collecting sea cucumber biomass data since 2015. The surveys were standardised to cover core commercial scallop beds in the outer Marlborough Sounds, and are optimised for scallops rather than sea cucumber. As a result, the sea cucumber biomass estimates have large confidence intervals, and are likely to be biased low. They suggest biomass estimates in the range of 135 to 237 tonnes in the relatively small area covered by the scallop surveys.
21. The Queen Charlotte Sound and Tory Channel dive survey estimated a biomass of 349.2 tonnes. Combined, these estimates give a green weight biomass estimate of between 485 and 585 tonnes for the areas surveyed.
22. Areas within SCC 7A known to have sea cucumber but not included within these estimates include:
 - East coast of D'Urville Island,
 - Admiralty Bay,
 - Pelorus Sound,
 - Kenepuru Sound,
 - Forsyth Bay,
 - Guards Bay (except the Bank),
 - Gore Bay,
 - Port Underwood,
 - Cloudy Bay, and
 - Clifford Bay.
23. There is no information about sea cucumber stocks in the East Coast South Island from Cape Campbell down to the Clarence River, however, there are also areas of potentially suitable habitat for sea cucumber along this coast.

5 Why are these options proposed?

24. The options proposed for SCC 7A are given in Table 2 and discussed below.

Table 2: Proposed management settings in tonnes for SCC 7A from 1 April 2019, with the percentage change relative to the *status quo* in brackets.

Option	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality to the stock caused by fishing
Option 1 (<i>Status quo</i>)	8	5	1	2	0
Option 2	18↑ (225%)	15 ↑ (300%)	1	2	0

Total Allowable Catch

25. In cases such as SCC 7A, where B_{MSY} is not able to be estimated, section 13(2A) of the Act provides for the Minister 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. Section 13(4) allows the Minister to vary the TAC and, in doing so, he is required to have regard to the matters specified in subsection (2A).
26. SCC 7A has been only lightly harvested to date. Internationally, sea cucumber fisheries are prone to boom and bust cycles. Fisheries New Zealand therefore considers it appropriate to take a cautious approach and to monitor how the stock responds to fishing. TACs can be adjusted again in the future if information indicates a utilisation opportunity (capacity to support greater harvest) or a sustainability risk (stock depletion) exists.
27. Fisheries New Zealand has proposed two options in this paper; Option 1 is the *status quo*. Under the *status quo* the utilisation opportunities provided by increasing the TAC/TACC will not be available, and the current settings will provide less opportunity for utilisation compared with Option 2. However, maintaining the *status quo* (TAC limit settings remain the same, deemed values as \$40/kg) will likely ensure low levels of harvest remain.
28. Fisheries New Zealand considers that, given the low level of fishing to-date, both options are likely to maintain the stock above the target B_{MSY} level. In each case, ongoing monitoring of the stock will enable responsive management and appropriate adjustments to address risks and opportunities in the future.
29. Option 2 increases the TAC by 10 tonnes (from 8 to 18 tonnes), which would provide for increased utilisation while still posing a low sustainability risk. The area surveyed to obtain biomass estimates is a small fraction of the SCC 7A QMA. Fisheries New Zealand, therefore, considers the whole fishery is likely to support this greater harvest without a sustainability risk, and proposes to apply a similar cautious approach to this fishery as that recently used for setting the TAC in other developing fisheries, such as the New Zealand surf clam fishery and the SCC 3 and SCC 7B fisheries.

30. Under this approach, 5% of the lower bound of the 95% confidence interval of the green weight estimated biomass is used to estimate a sustainable yield. On this basis, the scallop dredge surveys suggest a sustainable yield of 3.4 tonnes while the Queen Charlotte Sound dive survey suggest a yield of 11.1 tonnes. As they apply to different areas, these estimates can be combined, giving a total of 14.5 tonnes.
31. Fisheries New Zealand considers that this conservative approach will reduce any sustainability risks to the fishery, and takes into account the limited scientific information available on the fishery in New Zealand.
32. The fishery is expected to remain a dive-only fishery. Fisheries New Zealand is working with fishers to develop sustainable harvesting techniques such as rotational fishing, and dispersion of fishing effort to areas outside of the Marlborough Sounds. Position monitoring for commercial fishers using underwater breathing apparatus (UBA) is a legal requirement that will enable position monitoring.
33. The increases to catch limits and allowances proposed in Option 2 are considered to be sustainable, and supported by the best available information which suggests that sea cucumber abundance in SCC 7A is able to support a higher TAC than the *status quo*. Fisheries New Zealand will continue to monitor the SCC 7A fishery, and adjust the catch limits and allowances as necessary.

Allowances

34. Having set or varied the TAC, the Minister must make estimates for Māori customary non-commercial fishing interests, recreational fishing interests, all other mortality to the stock caused by fishing and establish the TACC.

Customary Māori fishing

35. Best available information indicates that there is negligible customary harvest of sea cucumbers in SCC 7A. As the area is not under the Fisheries (South Island Customary Fishing) Regulations 1999, 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 customary Māori fishing allowance of 1 tonne.

Recreational fishing

36. Best available information indicates that there is little recreational harvest of sea cucumbers in SCC 7A. 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 of 2 tonnes.

Other mortality

37. No change is proposed for other mortality caused by fishing. This is a hand-gathering dive fishery, and very little mortality is expected.

Total Allowable Commercial Catch

38. 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*) to take into account uncertainty in the available information. This is an appropriate approach under the information principles of section 10 of the Act.
39. Option 2 would provide for an increase in commercial 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.
40. While the survey area is only a small fraction of the area of known sea cucumber habitat in SCC 7A and biomass estimates are biased low by wide confidence intervals and the assumption of 100% dredge efficiency, Fisheries New Zealand proposes to use the current biomass estimate figure, rounded up to 15 tonnes, as the basis for the commercial fishery. This would be an increase from 5 to 15 tonnes.
41. The impacts to the sea bed or other sea life (section 9 of the Act) are expected to be minor. A relatively low TAC and TACC is proposed, and the target fishery for sea cucumbers in SCC 7A is expected to remain solely a dive-only fishery.
42. Sea cucumber is a potentially valuable fishery. If processed correctly, sea cucumbers are worth up to \$40/kg (green weight) to fishers, and 1 kg of dried sea cucumber can be worth up to \$1,000. The economic implications of the proposed options are outlined in Table 3.

Table 3: Predicted changes to commercial revenue of the proposed options, based on \$40/kg.

	TACC	Change from status quo (t)	Predicted revenue change (\$ p.a.)
Option 1 (<i>Status quo</i>)	5 t		
Option 2	15 t	10 t ↑	Up to 400,000 ↑

Discussion questions:

- Do you agree that these are the correct options to consider? If not, why not?
- What is your view on the proposed TACC?

5.1 DEEMED VALUE RATES

43. The fishery is a target fishery, with little over-catch in recent years. Fisheries New Zealand considers the deemed value rates for SCC 7A are set appropriately and there are no proposed changes to them for the 2019/20 fishing year (see Table 4 below).

Table 4: Standard deemed value rates (\$/kg) for SCC 7A.

	Interim Rate (\$/kg)	Annual Differential Rates (\$/kg) for excess catch (% of ACE)					
		100-120%	120-140%	140-160%	160-180%	180-200%	200%+
Status quo	40.00	40.00	48.00	56.00	64.00	72.00	80.00

6 Further Information

44. Should you require further information, please see:

Fisheries Act (1996):

<http://www.legislation.govt.nz/act/public/1996/0088/latest/DLM394192.html>

Fisheries New Zealand Plenary document:

Fisheries New Zealand (2018). Fisheries Assessment Plenary, May 2018: stock assessments and stock status. Compiled by the Fisheries Science Group, Fisheries New Zealand, Wellington, New Zealand.

<https://fs.fish.govt.nz/Doc/24614/May%20Plenary%202018%20-%20Volume%203.pdf.ashx>
(pages 223-228).

Appendix 1: Statutory Considerations

45. This section provides an overview of the Minister of Fisheries (the Minister's) legal obligations under the Fisheries Act 1996 (the **Act** or the **Fisheries Act**) when setting or varying Total Allowable Catches (TACs), and Total Allowable Commercial Catches (TACCs) for New Zealand fish stocks.
46. 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

47. 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.
48. 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 and the United Nations Convention on Biological Diversity 1992. 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 and the Convention on Migratory Species.

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

49. 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.
50. 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

51. Section 8 says the purpose of the Act is to provide for the utilisation of fisheries resources while ensuring sustainability.
52. "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."

53. 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”.²

SECTION 9 – ENVIRONMENTAL PRINCIPLES

54. Section 9 prescribes three environmental principles that the Minister 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.

55. 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.
56. 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.
57. 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.

58. “Biological diversity” is defined in the Act as ‘the variability among living organisms, including diversity within species, between species, and of ecosystems’. Determining the 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.

59. Habitat is defined in the Oxford Dictionary of English to mean the natural home or environment of an animal, plant or species. Fisheries New Zealand considers habitat to mean 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.
60. The proposals are not expected to significantly change the environmental impacts of the SCC 7A fishery, which is considered to be low (s 9 of the Act). SCC 7A is a hand gathering dive fishery, therefore, there is no bycatch and impacts from fishing on protected species and the benthic environment are unlikely. The proposals are also considered to adequately address the requirements of s 11 of the Act (sustainability measures, discussed below).

² Recreational Fishing Council Inc v Sanford Limited and Ors [2009] NZSC 54 at [39].

61. Sea cucumbers are a sedentary species and as a result are vulnerable to localised overfishing and risks to recruitment. Fisheries New Zealand proposes to mitigate these risks by working with fishers to develop a rotational fishery, encourage fishers to spread their catch effort over a larger area (i.e. so they are not depleting small areas, particularly more accessible areas such as the Marlborough Sounds) and to put in place fine scale monitoring and reporting. These measures would reduce the risk of overfishing, and its potential impacts on the biological diversity of the marine environment, and on associated or dependent species. Fisheries New Zealand will also work with the recently formed Sea Cucumber Quota Owners Group to establish these and other measures to form an industry harvest methods standard that applies nationally.
62. In proposing Option 2, Fisheries New Zealand has taken into account any uncertainty associated with the life cycle and recruitment of sea cucumber and the role that sea cucumber plays in the wider environment. The current fishery is based on hand gathering by diving. Fisheries New Zealand understands from key stakeholders that this will continue into the future.

SECTION 10 – INFORMATION PRINCIPLES

63. Section 10 prescribes four information principles that the Minister 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.
64. 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.”³
65. 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.
66. As a general principle, information outlined in the Fisheries New Zealand 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.⁴ Corroborated anecdotal information also has a useful role to play in the stock assessment process and in the management process.

³ *Greenpeace NZ Inc v Minister of Fisheries* (HC, Wellington CP 492/93, 27/11/95, Gallen J) p 32.

⁴ A non-binding Fisheries New Zealand Policy Document.

SECTION 11 – SUSTAINABILITY MEASURES

67. 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; and
 - c) The natural variability of the stock concerned.
68. These factors are discussed in the section of the decision paper relating to each stock.
69. Section 11 (2) says that before any sustainability measure is set or varied the Minister 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 the Minister considers 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 the Minister of Fisheries 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.
70. Section 11 (2A) requires the Minister 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; and
 - c) Any decisions not to require conservation services or fisheries services.
71. 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

72. Section 12(1) says that before setting or varying any sustainability measure under the Act the Minister is 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.
73. 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.

74. 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.
75. Relevant Iwi or Forum Fish Plans provide a view of the objectives and outcomes iwi seek from the management of the fishery and can provide an indication of how iwi exercise kaitiakitanga over fisheries resources. Iwi views from Forum meetings and submissions received from iwi can also provide an indication.
76. Te Waka a Maui me Ona Toka Iwi Forum Fisheries Plan contains objectives to support and provide for the interests of South Island iwi. That Forum Fisheries Plan contains three objectives which are relevant to the management options proposed for SCC 7A:
 - a) Management objective 1: to create thriving customary non-commercial fisheries that support the cultural wellbeing of South Island iwi and our whānau;
 - b) Management objective 3: to develop environmentally responsible, productive, sustainable and culturally appropriate commercial fisheries that create long-term commercial benefits and economic development opportunities for South Island iwi; and
 - c) Management objective 5: to restore, maintain and enhance the mauri and wairua of fisheries throughout the South Island.
77. Fisheries New Zealand considers that the management options presented in this advice paper will contribute towards the achievement of these three management objectives in ensuring that appropriate allowances are made for customary non-commercial fishing, the fishery remains sustainable, and that environmental impacts are minimised.
78. The proposal to consult on SCC 7A were 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. The Forum did not express an opinion about a review of the SCC 7A fishery at this stage.
79. Section 12 (2) says that as soon as practicable after setting or varying any sustainability measure, the Minister shall give the persons consulted under 12(1), the reasons in writing for his or her decisions.

SECTION 13 - SETTING AND VARIATION OF THE TOTAL ALLOWABLE CATCH

80. The TAC for most stocks in the Quota Management System (QMS) is set under section 13 of the Act.
81. Under section 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} .
82. 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.

83. 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.
84. Section 13(2A) says that if the Minister considers 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, he or she must:
- Not use this lack of information as a reason for postponing, or failing to set a TAC for the stock;
 - 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.
85. The Minister 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.
86. 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 (section 13(3)) the Minister may have regard to such social, cultural, and economic factors as he or she considers relevant. This provision applies to TACs set under section 13(2) or section 13(2A) (if applicable).
87. Section 13(4) says the Minister may from time to time vary any TAC by increasing or reducing it and in doing that must have regard to the matters specified in subsections (2), (2A) if applicable and (3).
88. 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 bottom-impacting 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

89. 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.
90. Section 20 requires a 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).
91. Section 21 of the Act says that, in setting or varying the TACC, the Minister 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.

92. The Courts have in a number of cases considered what is involved in allowing for non-commercial interests. In *Snapper 1*⁵, 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 the Minister decides to impose upon them, e.g. bag limits and minimum lawful sizes. Having set the TAC, the Minister in effect apportions it between the relevant interests.⁶
93. The Supreme Court in *Kahawai*⁷ endorsed this approach and said that the words “allow for” require the Minister both to take into account the interests and make provision for them in the calculation of the TACC.⁸ The Supreme Court went on to say that sections 20 and 21 prescribe a framework within which the Minister must operate when setting the TACC. The framework requires apportionment of the TAC by the Minister 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.⁹
94. The Supreme Court further said that in the end, within the limits provided for by the Act, the Minister makes 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 the judgment of the Minister.¹⁰
95. 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.¹¹
96. When allowing for Māori customary non-commercial interests, the Minister must take into account:
- a) Any mātaihai 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.
97. 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.
98. 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.

⁵ *New Zealand Fishing Industry Association (Inc) v Minister of Fisheries* CA 82/97, 22 July 1997 (“*Snapper 1*”).

⁶ *Snapper 1*, p 17.

⁷ *New Zealand Recreational Fishing Council Inc v Sanford Limited* [2009] NZSC 54 (“*Kahawai*”).

⁸ *Kahawai* [55]

⁹ *Kahawai* [61]

¹⁰ *Kahawai* [65]

¹¹ Where the customary regulations don't apply, customary fishing is regulated under regulations 50-52 of the Fisheries (Amateur Fishing) Regulations 2013 and a similar authorisation system applies.