



Fisheries New Zealand

Tini a Tangaroa

Review of Sustainability Measures for Northland scallops (SCA 1) for 2020/21

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Requests for further copies should be directed to:

Publications Logistics Officer
Fisheries New Zealand
PO Box 2526
WELLINGTON 6140

Email: brand@mpi.govt.nz
Telephone: 0800 00 83 33
Facsimile: 04-894 0300

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1. Stock being reviewed

Northland scallops (SCA 1)

(*Pecten novaezelandiae*, scallop, tipa, tupa)

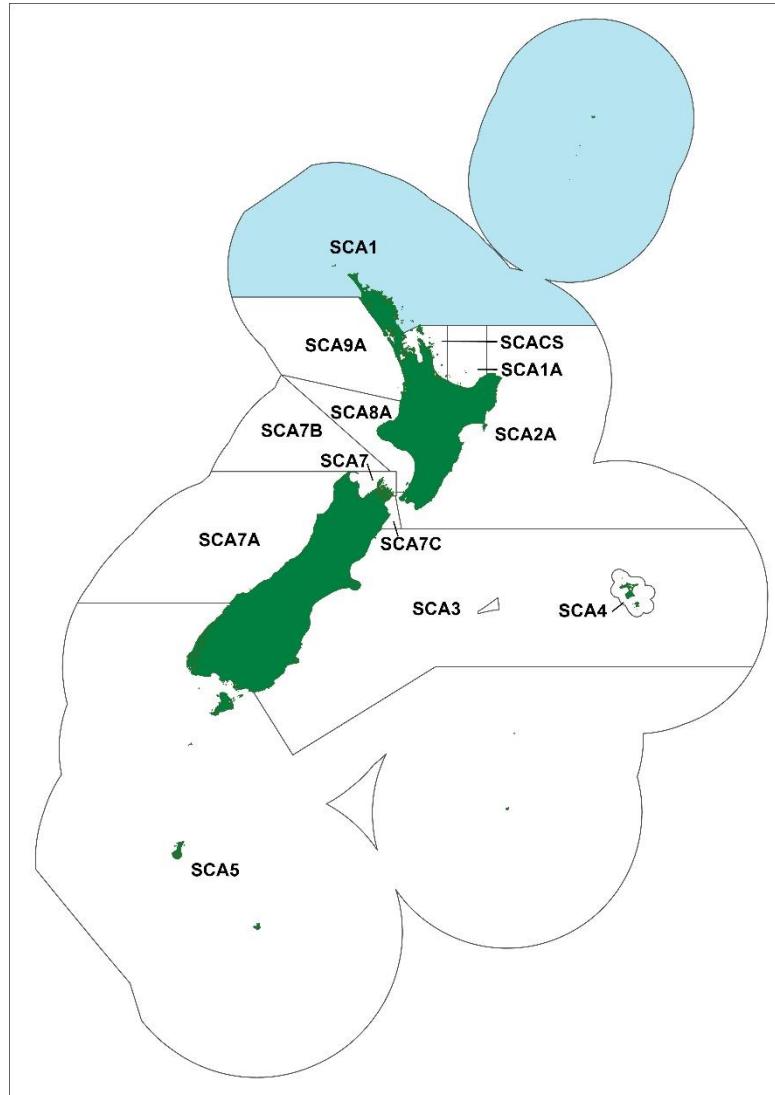


Figure 1: The Quota Management Area (QMA) for SCA 1

2. Summary

1. Fisheries New Zealand proposes that the Total Allowable Catch (TAC) and Total Allowable Commercial Catch (TACC) for Northland Scallops (SCA 1) (Figure 1) be reduced to better reflect the current state of the fishery and provide for closer management to address sustainability risks.
2. SCA 1 commercial catch limits have been under-caught since 2007, which was the last year that a comprehensive survey of the main beds was undertaken, and indicated a significant decline in abundance at that time. While the cause of the decline is unknown, customary and recreational fishers have also reported declines in a number of local areas.
3. Commercial effort has remained relatively low in the last twelve years, virtually ceasing between 2010 and 2014, and then resuming primarily in only one of the key beds (Bream Bay). A small-scale survey was initiated by the industry to help inform redevelopment of the fishery, but the

programme has not been run in 2018 or 2019 and there is limited information on the current status of the stock.

4. Fisheries New Zealand is seeking feedback on proposals to reduce the TAC, TACC and other sources of mortality from 1 April 2020, as shown in Table 1. A 60% reduction of the TAC and a 75% reduction of the TACC and other fishing related mortality allowance are proposed, which would align the management settings with the approximate average catch across the last 5 active fishing years. No changes are proposed to the allowances for customary fishing or recreational fishing.

Table 1: Proposed management settings (in tonnes) for SCA 1 from 1 April 2020

Stock	Option	Total Allowable Catch (tonnes)	Total Allowable Commercial Catch (tonnes)	Allowances		
				Customary Māori (tonnes)	Recreational (tonnes)	All other mortality to the stock caused by fishing (tonnes)
SCA 1	Option 1 (<i>Status quo</i>)	75	40	7.5	7.5	20
	Option 2	30 ↓ (60%)	10 ↓ (75%)	7.5	7.5	5 ↓ (75%)

5. Fisheries New Zealand will continue to monitor the fishery and consider further reviews in the short to medium term with the input of tangata whenua and stakeholders. This could include further reductions to catch limits and allowances.
6. Fisheries New Zealand may also consider alternative approaches to management in the future, such as fine scale spatial controls or fishing method restrictions.

3. Quota Management System

7. SCA 1 was introduced into the Quota Management System (QMS) in 1997 with a TACC of 188 tonnes.
8. Settings, allowances and reported catches are described using meatweight, which is the calculated weight of the scallop after the shell, gut and gill is removed. The gazetted conversion factor to calculate meatweight from greenweight is 8.00.
9. Since the time of introduction, the fishery has been reviewed four times. The TACC was reviewed in 1998, 2000, and 2001 with the TACC being set at 106, 60, 40 tonnes respectively. The fishery was last reviewed in 2002 where allowances for customary, recreational and other sources of fishing mortality were set. In 2001 the fishery was added to Schedule 2 of the Fisheries Act and managed with a 'base TACC' of 40 tonnes, with the possibility of in-season increases to the TACC based on results of pre-season biomass surveys. An in-season increase was only provided for in two years (2005 and 2006).

4. Legal basis for managing fisheries in New Zealand

10. The Fisheries Act 1996 provides the legal basis for managing fisheries in New Zealand, including the Minister's responsibilities for setting and varying sustainability measures. See the separate document *Overview of legislative requirements and other considerations* on the Fisheries New Zealand sustainability consultation webpage (<https://www.fisheries.govt.nz/news-and-resources/consultations/review-of-sustainability-measures-for-1-april-2020>) for more information.

5. Treaty of Waitangi obligations

5.1 Input and participation of tangata whenua

11. Input and participation into the sustainability decision-making process is provided through Iwi Fisheries Forums, which have been established for that purpose. Each Iwi Fisheries Forum has developed an Iwi Fisheries Forum Plan that describes how the iwi in the Forum exercise kaitiakitanga over the fisheries of importance to them, and their objectives for the management of their interests in fisheries. Particular regard will be given to kaitiakitanga when making sustainability decisions.
12. Iwi Fisheries Forums may also be used as entities to consult iwi with an interest in fisheries.

5.2 Kaitiakitanga

13. The proposal to review SCA 1 has been discussed with Te Hiku o Te Ika Fisheries Forum in the far North and the Mid-North Island Fisheries Forum.
14. Further input from these forums and tangata whenua across the region is being sought during consultation and before final advice and recommendations are made.

Te Hiku o Te Ika Iwi Fisheries Forum

15. Scallop is identified in the Te Hiku O Te Ika Iwi Fisheries Forum Fisheries Plan as a taonga species. Concerns have been raised by the forum for a number of years regarding low numbers of scallops at important local areas including Rangaunu Bay and Whangaroa.
16. In November 2019, the forum reiterated its concern for Scallop numbers at Rangaunu Bay and Whangaroa. The forum was generally supportive of reduction of the TACC. Concern was expressed regarding time since the last review.
17. Concern was expressed regarding the volume of recreational take over the summer period in the Far North and the associated impact of recreational dredges on the scallop beds.
18. The forum recommended that any further assessment of SCA 1 include discussion with forum members to ascertain known current and historical locations of scallop beds and abundance.
19. Fisheries New Zealand considers that the management options presented in this consultation paper are in keeping with the objectives of the Te Hiku o Te Ika Fisheries Forum Fisheries Plan, which generally relate to the maintenance of healthy and sustainable fisheries, but seek further input from tangata whenua to help inform final advice on this review.

Mid-North Fisheries Forum

20. In November 2019 the Mid-North Fisheries Forum members expressed concerns regarding the volume of recreational take in the Bay of Islands and concerns associated with the impact of recreational dredges on the scallop beds.
21. Forum members indicated that they consider the Bay of Islands scallop beds to be generally in bad shape.
22. The Forum indicated general support for a reduction of the TACC.
23. Table 2 lists the customary fisheries areas that fall within the quota management area SCA 1.

Table 2: SCA 1 customary fisheries areas

	Management type
Te Puna mātaītai	Mātaītai Reserve
Waikare Inlet taiāpure	Taiāpure
Maunganui Bay	186A temporary closure
Marsden Bank and Mair Bank	186A temporary closure

24. Commercial fishing is not permitted within mātaītai reserves, but recreational and customary fishing is allowed. None of these customary management areas are known to contain scallops in abundance high enough to be targeted by fishers.

6. Current state of the stocks

25. The current stock status of SCA 1 is unknown and there is no current biomass estimate. The last comprehensive biomass survey for the fishery was undertaken in 2007. Historical biomass estimates of the fishery are shown in Figure 2.
26. Assessments of SCA 1 occurred regularly between 1992 and 2007. Assessments were based on pre-season biomass surveys.
27. A substantial increase in biomass was observed between 2003 and 2006, which resulted in the 2006 biomass estimate being the highest recorded for Northland. In 2005 and 2006, estimates of biomass were considerably higher than those in 2003 for some beds (notably Bream Bay), but similar or lower in others.
28. In the mid 2000s southern beds within SCA 1 increased in biomass, while northern beds decreased. This was the reverse of an earlier trend in the far north that occurred in the early 1990s.
29. The 2007 survey results suggested that the biomass in Bream Bay and Mangawhai/Pakiri had declined markedly since 2006 and, consequently, the overall fishery biomass was far lower in 2007 than in previous years.
30. Industry-led surveys were conducted between 2012 and 2017. The industry-led surveys did not include the entire fishery, but focussed on commercial scallop beds, the most recent surveys focussing on Bream Bay.

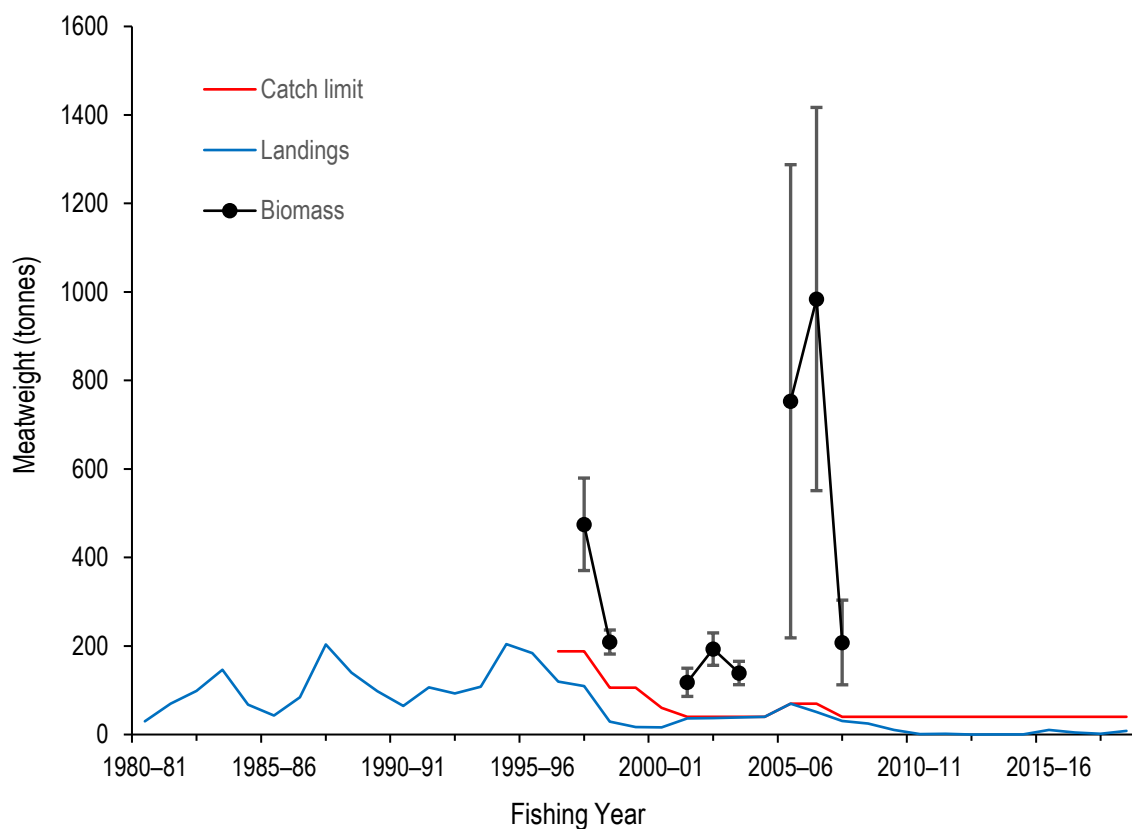


Figure 2: Estimated biomass (mean and CV), catch limits, and reported landings of recruited scallops (100 mm or larger shell length) in meatweight (in tonnes) for SCA 1 since 1980. Biomass estimates from the annual 2012–17 industry-based surveys at Bream and Rangaunu Bays are not presented here because the surveys did not cover the full extent of the SCA 1 fishery.

7. Recent catch levels and trends

31. The Northland fishery is divided into 20 scallop statistical reporting areas and most of the catch landed from SCA 1 since 1989–90 has been taken from the three most frequently fished beds: Rangaunu Bay, Bream Bay, and Spirits Bay (Figure 3).

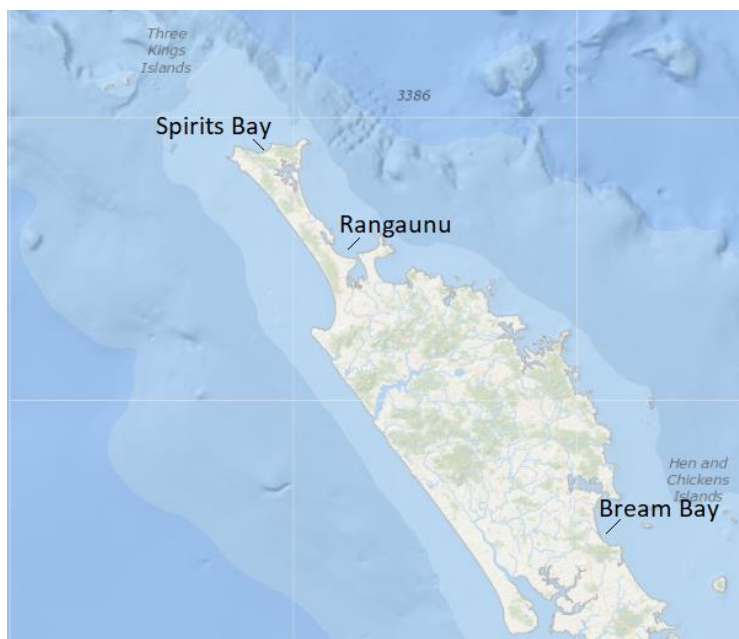


Figure 3: Key commercial scallop beds in SCA 1

32. Catch levels began a decline after a peak in the 2005-06 and 2006-07 fishing years, where 69 and 53 tonnes were caught respectively (enabled by in-season increases to the TAC and the generation of additional ACE) (Figure 4).
33. Catches declined to very low levels in 2010-11 and in 2012-13 ceased completely. In the 2013-14 and 2014-15 fishing years, low levels of exploratory fishing began again. In the 2016-17 fishing year 16 tonnes was caught, with large numbers of sub 100mm scallops noted in catches.
34. As the fishery has declined, effort has focused on a single scallop bed. Only Bream Bay has had significant catches since 2007. There is some concern that increased fishing pressure on scallop beds containing large numbers of small scallops could prevent recruitment into the fishery, due to dredge-related mortality.
35. Commercial fishers are excluded from many areas frequented by customary and recreational fishers, including the Bay of Islands and Whangarei Harbour. See section 10 on current other controls.
36. There is limited information available about levels and trends in customary and recreational catches. The current allowances for customary and recreational fishing were set in 2002 based on best available information of customary and recreational catch.
37. Scallops are an important customary fishery, and catch is reported in some but not all areas of SCA 1. Recreational catch is estimated based on the National Panel Survey of Marine Recreational Fishers undertaken in 2011/12 and 2017/18. The 2017/18 survey estimates approximately 2.5 tonnes of recreational catch across SCA 1.
38. Reports from recreational fishers indicate that some recreational beds in the Far North have been impacted by a change in environment. High levels of silt and mud have been reported in areas that have traditionally supported healthy scallop beds such as Whangaroa and Te Puna. In the Bay of Islands, divers have reported the non-invasive seaweed *Chaetomorpha linum* occupying key scallop areas.
39. Recreational fishers have reported that the scallop beds within Whangarei harbour appear to be healthy, and have supported a high level of recreational fishing for a number of years.

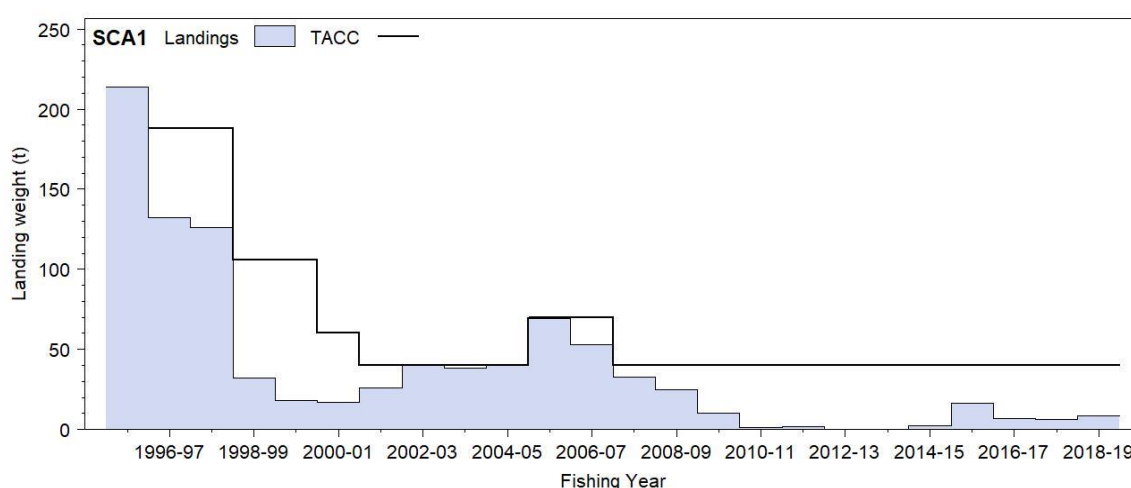


Figure 4: Landings and catch limits for SCA 1 (Northland) since 1995-96. Projections of biomass

40. Projections of biomass are currently unknown, given the limited information available on stock status and highly variable recruitment.

8. Current TAC, TACC and allowances

41. Table 3 lists the current catch settings for SCA 1.

Table 3: SCA 1 current TAC, TACC and allowances (in tonnes)

	Total Allowable Catch	Total Allowable Commercial Catch	Allowances		
			Customary Maori	Recreational	All other mortality to the stock caused by fishing
SCA 1	75	40	7.5	7.5	20

9. Current other controls

42. A number of controls are in place over the commercial scallop fishery, including, fishing season, minimum legal size, and spatial restrictions.
43. The fishing year operates from 1 April to 31 March; however, the commercial fishing season only runs from 15 July to 14 February each year.
44. The minimum legal size for commercial scallops in SCA 1 is 100mm shell length.
45. Areas closed to commercial fishing of scallops are in Table 4. This does not include areas that are closed to all forms of fishing.
46. Regulations governing the recreational harvest of scallops from SCA 1 include a minimum legal size of 100 mm shell length and a restricted daily harvest (bag limit) of 20 per person. A change to the recreational fishing regulations in 2005 allowed divers operating from a vessel to take scallops for up to two nominated safety people on board the vessel, in addition to catch limits for the divers. Until 2006, the recreational scallop season ran from 15 July to 14 February. In 2007 the season was changed to run from 1 September to 31 March to enable recreational fishers to better access scallops in good condition.

Table 4: Regulated areas closed to commercial scallop fishing

Parengarenga Harbour
Houhora Harbour
Rangaunu Harbour
Doubtless Bay: <i>Waters half mile from mean high water mark.</i>
Whangaroa Harbour
Bay of Islands
Whangaruru Harbour
Whananaki Estuary
Tutukaka Harbour
Ngunguru Estuary
Pataua Estuary
Whangarei Harbour

10. Options – varying the TAC and TACCs and allowances

47. Two options are proposed for the TAC, TACC and allowances for SCA 1. Feedback is sought on these options, or alternatives within this range.

Table 5: Options for varying TAC, TACC and allowances

Stock	Option	Total Allowable Catch (tonnes)	Total Allowable Commercial Catch (tonnes)	Allowances		
				Customary Māori (tonnes)	Recreational (tonnes)	All other mortality to the stock caused by fishing (tonnes)
SCA 1	Option 1 (<i>Status quo</i>)	75	40	7.5	7.5	20
	Option 2	30 ↓ (60%)	10 ↓ (75%)	7.5	7.5	5 ↓ (75%)

10.1 Total Allowable Catch

48. Option 1 is the *status quo* TAC of 75 tonnes for SCA 1. Option 1 carries the greatest sustainability risk.
49. Option 2 proposes to reduce the TAC from 75 tonnes to 30 tonnes. This option seeks to better reflect the current state of the fishery and provide for closer management to address sustainability risks.

Allowances

50. Current information on recreational and customary scallop harvest in SCA 1 indicates that catches are below current allowances; however, this information is uncertain and it is likely that the non-commercial catches will fluctuate and vary from year to year.
51. Fisheries New Zealand is not proposing to review allowances for recreational or customary fishing.

All other mortality to the stock caused by fishing

52. An allowance is made within the TAC to cover the mortality of fish that results from factors associated with fishing activity.
53. In commercial fisheries, this can include scallops that escape fishing gear, but die later. This allowance also covers any component of commercial catch that is unlawfully discarded or landed without being recorded.
54. Legal-sized scallops caught commercially in SCA 1 must be landed and must not be returned to the water. Incidental damage to uncaught or undersize scallops can occur during commercial dredging.
55. The box dredges used in the Northland commercial fishery have been found to be more efficient in the sandy conditions prevalent in the fishery than the ring-bag dredges used elsewhere in New Zealand. However, scallops encountered by box dredges have shown modest reductions in growth rate, compared with scallops collected by divers, and quite high mortality (about 20–30% mortality for scallops that are returned to the water. i.e. under the MLS of 100 mm). Field experiments and modelling suggest that dredging reduces habitat heterogeneity and increases juvenile mortality.

56. Other sources of fishing-related mortality are also likely to occur from recreational dredging and illegal take of scallops. Fisheries New Zealand does not have reliable estimates of these other sources of fishing related mortality.
57. It is proposed to reduce the allowance by 75% for all other mortality to the stock proportional to the reduction of the TACC to reflect that less fishing effort will lead to reduced mortality.

10.2 Total Allowable Commercial Catch

58. Under Option 1 for SCA 1, there will be no change to the TACC. This will provide the most opportunity for commercial fishers to take advantage of any future increase in abundance and places weight on the characteristic that scallop populations can be highly variable and change year to year. This option does not address the risk or respond to information indicating that the current TACC may no longer be sustainable.
59. Under Option 2 the TACC would decrease from 40 tonnes to 10 tonnes. Participation in the fishery has already been affected by the lower biomass. The lowering of the TACC may further reduce the ability of commercial fishers to invest in research to support re-establishing the fishery. Based on the reported port price (which does not reflect the total economic benefit), if the total TACC was currently being caught, then this decrease could result in a reduction of revenue of \$477,000 per year. However, catches have been declining since the 2006-07 fishing year, with the average catch in the last 4 years being approximately 9 tonnes. If catch rates do not increase above current levels, then the likelihood of revenue decreasing is less likely.

11. Uncertainties and risks

60. Declines in catches from 1997 onwards have been attributed to the reduction in fleet size during the introduction to the QMS, the subsequent outbreak of “black gill” disease and the invasion of tube worm *Chaetoperus spp.* However no cause has been identified for the recent low level of performance of the fishery.
61. There is no current biomass survey to inform management of the fishery, or agreed upon alternative. While surveys are the preferred source of information to monitor scallop fisheries, they can also be affected by uncertainties, including:
 - Dredge efficiency during the survey.
 - Growth rates and natural mortality between the survey and the start of the fishing season.
 - Predicting the average recovery of meatweight from greenweight.
 - The extent to which dredging causes incidental mortality and affects recruitment.

12. Environmental interactions

62. The key environmental interactions with the scallop fishery, which must be taken into account when considering sustainability measures are protected species interactions, the impact of fishing on the environment, and habitats of significance.

Marine mammals, fish bycatch and seabirds

63. There is no known bycatch of seabirds, mammals or protected fish species from New Zealand scallop fisheries.

Benthic impacts (or “Biological diversity”)

64. It is well known that fishing with mobile bottom contact gear such as dredges has impacts on benthic populations, communities, and their habitats. The effects are not uniform, but depend on at least the specific features of the seafloor, the natural disturbance regime, the species present, the type of gear and the frequency it is used.
65. The effects of scallop dredging on the benthos are well-studied, with New Zealand studies (including in SCA 1) showing that with increasing fishing intensity there are decreases in the density and diversity of benthic communities and, especially, the density of emergent epifauna that provide structured habitat for other fauna.

Habitats of significance

66. An area within Spirits Bay and Tom Bowling Bay was closed to commercial scallop fishing in 1999 under the Fisheries (Auckland and Kermadec Areas Commercial Fishing) Regulations 1986 due to the presence of sponge and bryozoan assemblages with unique levels of biological diversity.
67. The area was discovered during a scallop biomass survey in 1996 and, prior to the regulated closure, Industry maintained a voluntary closure.

13. Questions for submitters on options for varying TACs, TACCs and allowances

- Which option(s) do you support for revising the TACs and allowances? Why?
- If you do not support any of the options listed, what alternative(s) should be considered? Why?
- Are the allowances for customary Māori non-commercial fishing appropriate? Why?
- We ask tangata whenua to provide any additional information you may have on customary catch.
- Are the allowances for recreational fishing appropriate? Why?
- Are the allowances for other sources of mortality appropriate? Why?
- What other management controls should be considered for both recreational and commercial fishers? Why?

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

14. Deemed values

69. Deemed values are an economic tool that incentivises commercial fishers not to catch in excess of their individual annual catch entitlements.
70. A discussion of the deemed value rates for SCA 1 is included in the accompanying consultation document “Review of Deemed Value Rates for Selected Stocks April 2020”. It proposes increasing the interim deemed value rate for all April fishing year stocks (including for SCA 1) from 50% to 90% of the annual rates. These proposals follow the recommendations of the Deemed Values Working Group.

71. For details about this proposal, see the Deemed Values consultation on the Fisheries New Zealand website here: <https://www.fisheries.govt.nz/news-and-resources/consultations/review-of-sustainability-measures-for-1-april-2020>.

15. Referenced reports

Fisheries Assessment Plenary November 2019: <https://www.mpi.govt.nz/dmsdocument/38960-fisheries-assessment-plenary-november-2019-stock-assessment-and-stock-status>

Hartill, B; Williams, J R (2014) Characterisation of the Northland scallop fishery (SCA 1), 1989–90 to 2010–11. *New Zealand Fisheries Assessment Report 2014/26*. 43 p.
[https://fs.fish.govt.nz/Doc/23662/FAR_2014_26_2550_SEA2010-07%20\(Obj.%201-2,%20MS%201,3,4,6\).pdf](https://fs.fish.govt.nz/Doc/23662/FAR_2014_26_2550_SEA2010-07%20(Obj.%201-2,%20MS%201,3,4,6).pdf)

National Panel Survey of Marine Recreational Fishers 2017-18:
<https://www.mpi.govt.nz/dmsdocument/36792-far-201924-national-panel-survey-of-marine-recreational-fishers-201718>

16. How to get more information and have your say

72. Fisheries New Zealand invites you to make a submission on the proposals set out in this Discussion Document. All submissions must be received by Fisheries New Zealand no later than 5pm on **Wednesday 5 February 2020**.
73. Please see the Fisheries New Zealand sustainability consultation webpage (<https://www.fisheries.govt.nz/news-and-resources/consultations/review-of-sustainability-measures-for-1-april-2020>) for related information, a helpful submissions template, and information on how to submit your feedback. If you cannot access to the webpage or require hard copies of documents or any other information, please email FMSubmissions@mpi.govt.nz.