



Fisheries New Zealand

Tini a Tangaroa

Review of Sustainability Measures for Southern Blue Whiting (SBW 6B) for 2020/21

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1. Stock being reviewed

Southern blue whiting (SBW 6B)

Micromesistius australis

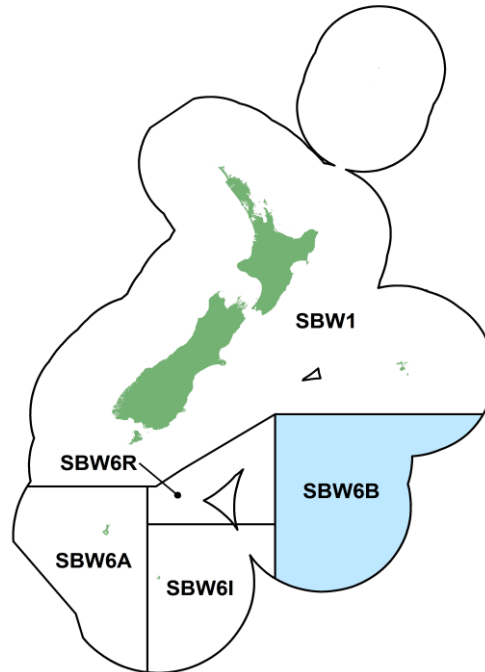


Figure 1: Quota Management Area (QMA) for SBW 6B

2. Summary

1. The agreed management approach for SBW 6B involves recommending catch limits based on the application of a harvest control (or decision) rule to the results from an annual abundance survey for the stock. This survey has not been undertaken for two years, and the best available information indicates the stock has not experienced strong recruitment in recent years. On that basis, Fisheries New Zealand proposes reducing the Total Allowable Catch (TAC) and Total Allowable Commercial Catch (TACC) to ensure the fishery remains sustainable.
2. Fisheries New Zealand proposes two options to decrease the TAC and TACC as follows:
 - A 10% decrease in the TAC, TACC and allowance for other sources of fishing related mortality. The TACC would decrease from 3,145 tonnes to 2,830 tonnes.
 - A 20% decrease in the TAC, TACC and allowance for other sources of fishing related mortality. The TACC would decrease from 3,145 tonnes to 2,516 tonnes.
3. There is no customary Māori or recreational take of southern blue whiting and it is proposed to retain zero allowances for these sectors. Fisheries New Zealand proposes to maintain the allocation for other sources of fishing related mortality (such as loss of fish from torn or burst nets) at 2% of the TACC. There are no proposals to change the deemed value rates.

3. Quota Management System

4. Southern blue whiting entered the Quota Management System (QMS) on 1 November 1999 for the 1999/00 fishing year. The fishing year is 1 April to 31 March to reflect the timing of the main fishing season which occurs in August and September. For more information about the QMS go to <https://www.mpi.govt.nz/law-and-policy/legal-overviews/fisheries/quota-management-system/>.

4. Legal basis for managing fisheries in New Zealand

5. 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

6. Input and participation of tangata whenua 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 which describes how the iwi in the Forum exercise kaitiakitanga over the fisheries of importance to them, and their objectives for the management of their fisheries interests. Particular regard will be given to kaitiakitanga when making sustainability decisions.
7. Iwi Fisheries Forums may also be used as entities to consult iwi with an interest in a fishery. The proposal to review southern blue whiting stocks was signalled at the November 2019 Iwi Fisheries Forum meetings. At the time of these meetings, however, the stocks for review had not been confirmed. Noting that the proposals were under development at the time of engaging with the forums, there were no detailed concerns raised or feedback provided by these forums.
8. Further input from tangata whenua across the regions covered by these proposals is being sought during consultation and before final advice and recommendations are made.

5.2 Kaitiakitanga

9. Southern blue whiting (Figure 1) is identified as a taonga species in the Te Hiku O Te Ika Forum Fisheries Plan and the Mai I Nga Kuri a Whareki Tihirau Forum Fisheries Plan. The Te Waka a Māui me Ōna Toka Iwi Forum consider all fish species taonga.
10. The Te Waipounamu Iwi Forum Fisheries Plan contains objectives to support and provide for the interests of South Island iwi which includes SBW 6B in Fisheries Management Area 6. Two objectives are relevant to the management options proposed for SBW 6B
 - **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.
 - **Management Objective 5:** to restore, maintain and enhance the mauri and wairua of fisheries throughout the South Island.
11. Fisheries New Zealand considers the proposals in this consultation document meet those objectives.

6. Current state of the stock

12. The southern blue whiting fishery at the Bounty Platform has occurred consistently since the late 1980s, with catches reaching a peak of nearly 59,000 tonnes in 1991/92 (Figure 2). The fishery is focused on spawning aggregations at 250 to 600 metres depth.
13. Southern blue whiting grow quickly, especially during the juvenile life stage. The maximum age is considered to be around 25 years and the maximum recorded length is 58 cm.
14. Scientific data have demonstrated that the southern blue whiting stock in this region is characterised by occasional strong recruitment events (or year classes), followed by periods of weak recruitment. The year classes from large recruitment events can dominate the population and catch for several years and can cause significant variations in the fishable biomass over time. Current information suggests that there has been a prolonged period of poor recruitment, indicating the need for caution in the management of this fishery.

7. Recent catch levels and trends

15. Southern blue whiting is targeted between late August and early September. Landings in SBW 6B have been decreasing since 2016/17 (Figure 2). Since 2015/16, only one or two vessels have participated in the fishery. The catch in 2019 of 788 tonnes was the lowest since 1988/89, with only one vessel participating and inclement weather impacting its operation.

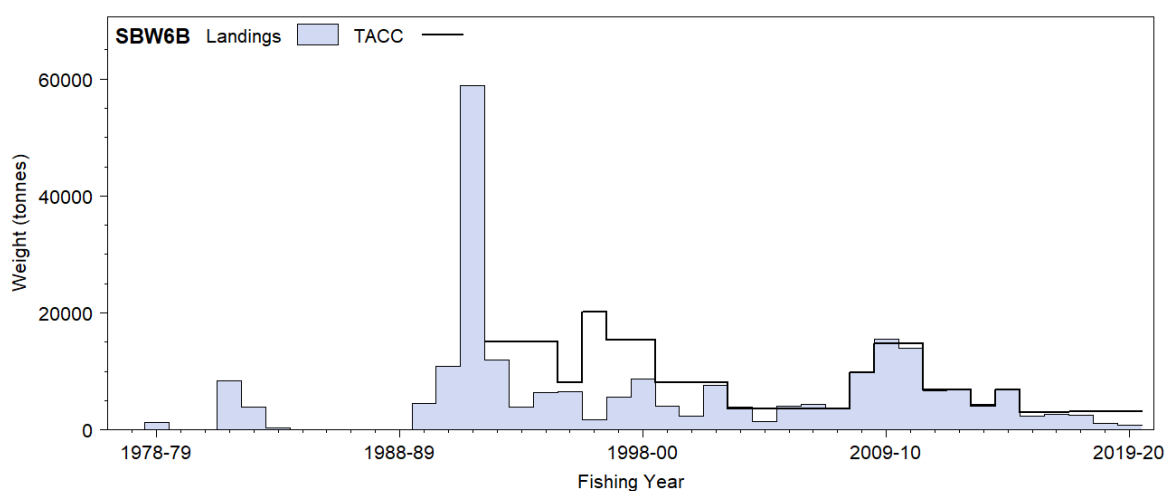


Figure 2: Landings for SBW 6B

8. Projections of biomass

16. Southern blue whiting is managed within the National Fisheries Plan for Deepwater and Middle-depth Fisheries, Part 1A¹ (National Deepwater Plan) as a Tier 1 stock. A fisheries-specific southern blue whiting fisheries chapter for the National Deepwater Plan was completed in 2011². The chapter sets the operational objectives and performance criteria for all southern blue whiting fisheries. It also addresses the management of environmental effects caused by fishing for southern blue whiting.
17. The management approach of SBW 6B is supported by annual acoustic surveys to monitor spawning stock abundance. These surveys enable regular biomass monitoring and TAC and TACC reviews. A harvest control rule is applied, which estimates the annual sustainable yield based on the biomass estimate from the acoustic survey. From 2004 to 2017, acoustic surveys have been carried out by an industry vessel fishing at the Bounty Platform in August/September.
18. Because of weather and other operational constraints, acoustic surveys were not completed successfully in either 2018 or 2019. The harvest control rule has not been applied in 2018 or 2019 because it is applied to outputs from acoustic surveys. The TAC has remained at the 2017/18 level.
19. Fisheries New Zealand reviewed fish length information from the SBW 6B fishery in 2019 which suggests that there has been low recruitment into the fishery recently. Fish lengths from 2017 to 2019 have a distribution centred around 40 cm for males and 45 cm for females. In the past, (for example the 2016 catch proportions at length), there has been a broader spread of year classes in the fishery with fish lengths ranging from around 30 cm to 58 cm and a distinct bimodal distribution showing two or more strong year classes.
20. Preliminary results from the age analysis³ are presented in Figure 3. Most fish being caught in the fishery are made up of three strong year classes, 2002, 2007, and 2012. The 2002 year class continues to decline in abundance and the last year of high recruitment was from 2012. There was an unusual mode of observer sampled lengths from the commercial fishery in 2019 between 17 and 21 cm that have been aged at 2 years old. It is not known at this stage whether this is a strong year class that will recruit into the fishery in two or three years' time. Fisheries New Zealand is proposing a reduction in TAC as a cautious response to the information available on recruitment to the fishery.

¹ Accessible at: <https://www.fisheries.govt.nz/growing-and-harvesting/fisheries/fisheries-management/deepwater-fisheries/>

² Accessible at: <https://deepwatergroup.org/wp-content/uploads/2013/03/2011-National-Fisheries-Plan-for-Deepwater-Southern-Blue-Whiting-chapter.pdf>

³ Received 16 December 2019, not presented to the DWWG

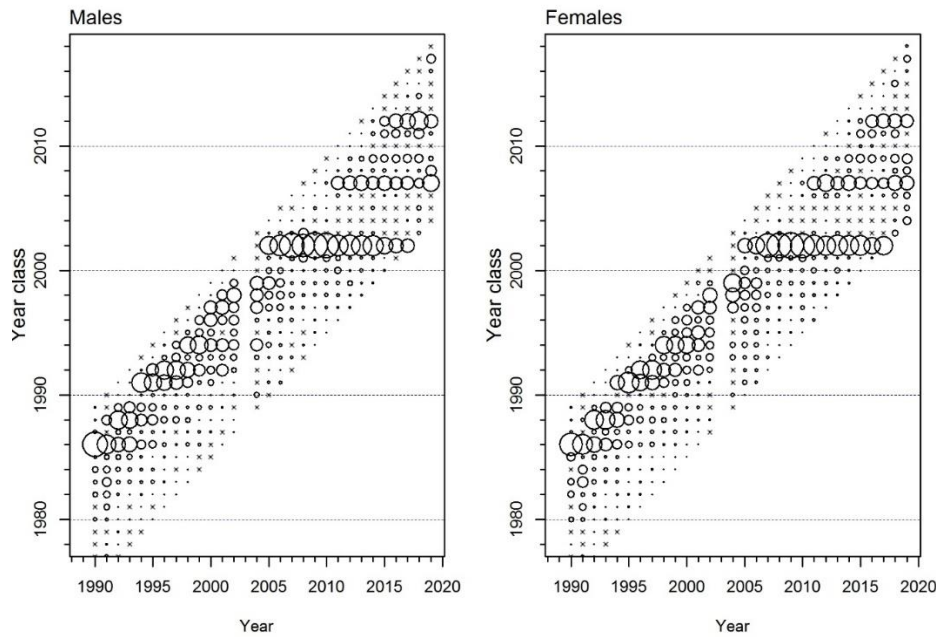


Figure 3: Information on the strength of year classes based on sampling the commercial catch. The y-axis indicates the year of birth of a cohort and the size of the circle represents how important it was to the catch. The three major year classes in 2002, 2007, and 2012 can be clearly seen in the top-right of each graph as being important contributors to the catch.

9. Current TAC, TACC and allowances

Table 1: TAC, TACC and allowances for SBW 6B (tonnes)

	Total Allowable Catch	Total Allowable Commercial Catch	Allowances		
			Customary Māori	Recreational	All other mortality to the stock caused by fishing
SBW 6B	3,209	3,145	0	0	64

10. Options – varying the TAC, TACCs and allowances

21. Two options are proposed to decrease the TAC, TACC and allowances for SBW 6B. Feedback is sought on these options, or alternatives within this range.

Table 2: Options for varying TAC, TACC and allowances for SBW 6B

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)
	Current Setting	3,209	3,145	0	0	64
SBW 6B	Option 1	2,888 ↓ (10%)	2,830 ↓ (10%)	0	0	58 ↓
	Option 2	2,567 ↓ (20%)	2,516 ↓ (20%)	0	0	51 ↓

10.1 Total Allowable Catch

22. TACs for southern blue whiting are adjusted to take advantage of periods of high recruitment, or to respond when biomass declines. In the absence of acoustic estimates of biomass in recent years, nominal reductions are proposed to address the potential for poor recruitment to impact the biomass and yield.
23. Option 1 proposes to decrease the TAC by 10% from 3,209 tonnes to 2,888 tonnes.
24. Option 2 proposes to decrease the TAC by 20% from 3,209 tonnes to 2,567 tonnes.

10.2 Allowances

25. The best available information for Māori customary take is under the South Island customary regulations. No permits have been issued and southern blue whiting has not been reported under the South Island regulations. There are no reported customary authorisations for SBW 6B at this time. There are no mātaihai reserves or closures or restrictions under s186A of the Fisheries Act 1996 that impact southern blue whiting fishing in SBW 6B.
26. There has been no recreational take of southern blue whiting reported because the fishery operates at depths of 250 to 600 metres in sub-Antarctic waters, 700 kilometres to the south east of Stewart Island. Fisheries New Zealand proposes retaining zero allowances for customary Māori and recreational sectors.
27. Fisheries New Zealand proposes maintaining the allocation for other sources of fishing-related mortality at 2% of the TACC. This equates to an allocation of 58 tonnes for other sources of fishing-related mortality under Option 1, and 51 tonnes for other sources of fishing related mortality under Option 2.

10.3 Total Allowable Commercial Catch

28. Under Option 1, the Total Allowable Commercial Catch would decrease by 10% from 3,145 tonnes to 2,830 tonnes. Based on an estimated average southern blue whiting export price in 2018 of NZ \$879/tonne, this decrease would result in an approximate potential decrease in revenue of \$276,885 per year if the entire current TACC was caught (Table 3). We note in 2019 only 25% of the TACC for SBW 6B was caught (788 tonnes). If this level of catch continued there would be no decline in revenue.
29. Under Option 2, the Total Allowable Commercial Catch would decrease by 20% from 3,145 tonnes to 2,516 tonnes. Based on estimated average southern blue whiting export price in 2018 of NZ\$879/tonne, this decrease would result in an approximate potential decrease in revenue of \$552,891 per year if the entire current TACC was caught (Table 3).

Table 3: Predicted changes to commercial revenue for the proposed options, based on estimated average export price in 2018 of \$879/tonne for SBW 6B.

Stock	Option	Change from current TACC (tonnes)	Predicted revenue changes (\$p.a.)
SBW 6B	Option 1	315 ↓	\$276,885
	Option 2	629 ↓	\$552,891

11. Uncertainties and risks

30. The key uncertainty in data for this stock relates to an estimate of current biomass. The annual acoustic survey to monitor spawning stock abundance has not been successfully completed in 2018 or 2019. The harvest control rule has not able to be applied for two years so has not provided a trend for recent biomass for the SBW 6B fish stock nor a recommended catch limit.
31. Samples of the length and age composition from some of the catch taken in 2019 provides some information of the status of the SBW 6B fish stock. Uncertainty exists around whether the fish stock was adequately sampled by the limited number of tows which took place, meaning that the length frequency and ageing information may not be representative of the SBW 6B fish stock. However, the best available information suggests the need for caution in the management of this stock.

12. Environmental interactions

32. The key environmental interactions with the southern blue whiting fishery, which must be taken into account when considering sustainability measures, are:

Marine mammals

33. The SBW 6B fishery overlaps with the foraging range of New Zealand fur seals which live on the Bounty Islands. The Department of Conservation classify the New Zealand fur seal population as 'Not Threatened – least concern'. A survey undertaken in 2001 provided an estimate of over 200,000 fur seals⁴. No surveys have been conducted since that time but anecdotal reports suggest an increase in both the abundance and distribution of fur seals since that time. The Bounty Islands are one of the main colonies for the New Zealand fur seal in the Sub-Antarctic. There are no recent New Zealand fur seal population estimates for the Bounty Islands.

⁴ Accessible at: <http://www.doc.govt.nz/nature/native-animals/marine-mammals/seals/nz-fur-seal/>

34. Interactions between the SBW 6B fishery and fur seals occur. Observer coverage has been around 100% over the last five years. In the five fishing years between 2013/14 and 2017/18 the mean annual capture rate for all southern blue whiting fisheries was 7 fur seals per 100 tows. The proposed TAC/TACC changes will likely result in a decrease in the potential fishing effort in the fishery and therefore the potential for interactions with fur seals in SBW 6B.

Fish bycatch

35. Southern blue whiting fisheries are amongst the 'cleanest' trawl fisheries in New Zealand, with very low levels (<1%) of bycatch of other fish species.⁵ The target fishery focuses on highly aggregated schools of spawning southern blue whiting and as a result takes minimal fish bycatch. Non-target catch in the fishery will continue to be monitored but at current levels does not give rise to concern.

Seabirds

36. Seabird interactions with New Zealand fisheries is managed under the framework of the 'National Plan of Action to Reduce the Incidental Captures of Seabirds in New Zealand Fisheries' (NPOA-Seabirds 2013).⁶
37. Seabird interactions with vessels in the SBW 6B fishery generally occur at very low rates. From 2013/14 to 2017/18, observer coverage of southern blue whiting fisheries has been around 100% with a mean of 8 seabirds caught annually (range from 6 to 16). While catches have been below the level of the TACC in recent years, the proposed TAC/TACC changes are expected to reduce the potential for interactions with seabirds in SBW 6B.

Benthic impacts

38. Southern blue whiting are generally fished over a relatively restricted area in SBW 6B using mid-water trawl gear near or on the seabed.
39. The incidental bycatch of benthic organisms by the southern blue whiting fleet is closely monitored by high observer coverage and is analysed and reported annually.
40. The trawl footprint of southern blue whiting fisheries is monitored and reported annually.

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

- Which option do you support for revising the TAC and allowances? Why?
 - If you do not support any of the options listed, what alternative(s) should be considered? Why?
 - Are the allowances for other sources of mortality appropriate? Why?
 - Is there any other information relevant to these decisions which should be considered?
41. Please provide detailed, verifiable information and rationale to support your views.

⁵ Anderson, O.F. (2017). Fish and invertebrate bycatch in New Zealand deepwater fisheries from 1990–91 until 2013–14. New Zealand Aquatic Environment and Biodiversity Report No. 181. 75 p.

⁶ NPOA (2019) is currently out for public consultation.

14. Deemed values

42. Deemed values are an economic tool that incentivises commercial fishers not to catch in excess of their individual annual catch entitlements. There are no proposals to change the deemed value rates for southern blue whiting (SBW 6B).

15. Referenced reports

43. Fisheries Assessment Plenary May 2019: <https://www.fisheries.govt.nz/news-and-resources/science-and-research/fisheries-research/>

16. How to get more information and have your say

44. 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**.
45. 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.