



**Fisheries New Zealand**

Tini a Tangaroa

# Review of Sustainability Measures for Snapper (SNA 8) for 2021/22

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# 1 Stock being reviewed

**Snapper (SNA 8)** – West Coast of Northland, Auckland, Taranaki & Wellington  
*Pagrus auratus*, Karati, Tāmure

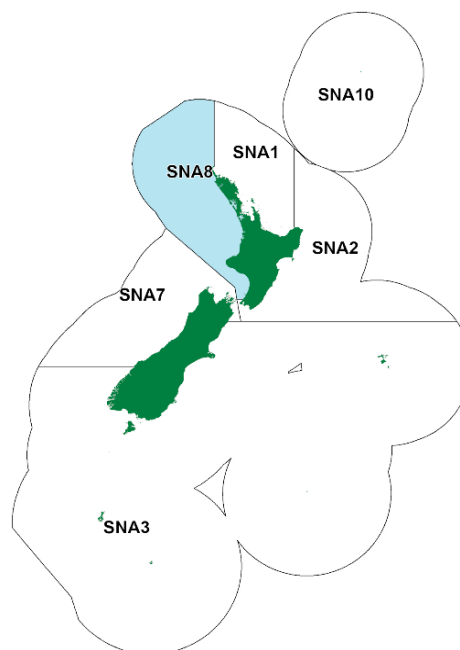
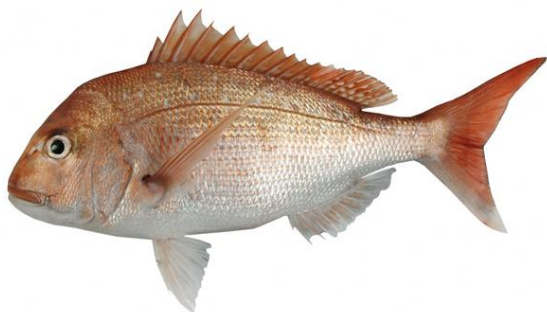


Figure 1: Quota Management Areas (QMA) for snapper, with SNA 8 highlighted.

## 2 Summary

1. Fisheries New Zealand is reviewing sustainability measures for snapper in SNA 8 for the 1 October 2021 fishing year (Figure 1).
2. SNA 8 is the second largest snapper fishery in New Zealand and is highly valued by tangata whenua, and stakeholders. The fishery was overfished and heavily depleted in the 1960s and 1970s, prior to its introduction into the Quota Management System (QMS), and the stock remained low through the mid-2000s.
3. An assessment of the stock in 2005 showed it was likely at 8-12% of the unfished biomass ( $B_0$ ), well below the management target. In response, a series of management measures were introduced to support a rebuild of the fishery. This primarily involved significant cuts to the Total Allowable Commercial Catch (TACC) and a reduction in the recreational bag limit. In 2007, a stringent deemed value regime was also introduced to ensure the commercial fishery was constrained at the catch limits set.
4. The rebuild of the SNA 8 fishery has been monitored over time using tools such as trawl surveys, catch per unit effort (CPUE) analysis of commercial fishing data, and biological sampling of landed catch. There have also been periodic surveys of recreational fishing activity and catch. These sources of information have been used to complete an updated stock assessment in 2021. The scientific stock assessment working group reviewed the results and rated the assessment as high quality. This indicates there is high confidence in the outputs from the stock assessment model.
5. The results of the stock assessment demonstrate that SNA 8 has rebuilt from historical low levels and is now very likely to be above the Harvest Strategy Standard management target of 40% of unfished biomass. This is the default target that is expected to achieve the maximum sustainable yield from the SNA 8 stock.
6. The success of this rebuild is likely a result of the management measures introduced following the 2005 stock assessment and strong recruitment to the population over the last 10 years. Reports from commercial and recreational fishers support the findings that the biomass of SNA 8 has increased.

7. Based on the results of the 2021 stock assessment, Fisheries New Zealand considers there is an opportunity to provide for increased utilisation in the SNA 8 fishery. It is also considered critical that proposed management settings support maintaining the fishery at rebuilt levels and do not initiate a repeat of the decline seen in the past. As such, alongside decisions on setting sustainable catch limits, the ongoing monitoring and management framework for the fishery is a key part of the review.
8. Fisheries New Zealand is presenting four options for consultation, all of which recommend increasing the Total Allowable Catch (TAC), the TACC, customary and recreational allowances, and the allowance for all other mortality to the stock caused by fishing.
9. Based on stock assessment model projections, the four options provide for varying levels of increased utilisation. The projections suggest all options maintain the fishery above 57%  $SB_0$  over the next five fishing years, and above 49%  $SB_0$  out to 10 years (albeit with less certainty). This approach would maintain the fishery above the current default management target of 40% and responds to strong feedback during pre-consultation engagement that further discussion around this target is needed and some caution should be applied to ensure the fishery is maintained at its current rebuilt level.
10. The 2021 stock assessment determined that recreational catch varied with respect to the size of the stock. As abundance of the stock increases or decreases, recreational catch is expected to respond in kind. This has also been observed through increasing estimates of recreational catch as the SNA 8 stock has rebuilt over time.
11. Fisheries New Zealand is proposing that the projected recreational catch for 2022 be used as the recreational allowance across all options, providing for the expected level of catch. Modelling from the stock assessment shows that, under the proposed options, catch would increase slightly above the proposed allowance and then decrease back down below the allowance as more fish are taken from the fishery. Based on how the stock is predicted to respond to the options, this projection is expected to provide for current and future recreational catch.
12. Based on an evaluation of predicted recreational catch under different size and bag limit options, Fisheries New Zealand considers the current size and bag limits to be appropriate to provide for recreational needs within the proposed allowance while supporting sustainability.
13. Within the TAC, all proposed options (1-4) include an increase of 57 tonnes (133%) to the customary allowance and an increase of 893 tonnes (286%) to the recreational allowance. The allowance for other sources of mortality caused by fishing is proposed to be set at a level equal to 9-10% of the TACC. Ultimately, setting or varying the TAC and allowances is a decision for the Minister.
  - **Option 1** is to increase the TAC for SNA 8 to 3,065 tonnes. This includes adjustments to the allowances, as well as a small increase to the TACC (23%). This option takes a cautious approach while allowing for use for both customary and recreational interests.
  - **Option 2** is to increase the TAC for SNA 8 to 3,437 tonnes. This includes adjustments to the allowances, as well as a 50% increase to the TACC. This option allows for a moderate increase in utilisation and provides for use for both customary and recreational interests.
  - **Option 3** is to increase the TAC for SNA 8 to 3,794 tonnes. This includes adjustments to the allowances, as well as a 75% increase to the TACC. This option allows for a substantial increase in utilisation and provides for use for both customary and recreational interests.
  - **Option 4** is to increase the TAC for SNA 8 to 4,152 tonnes. This includes adjustments to the allowances, as well as a 100% increase to the TACC. This option allows for an

extensive increase in utilisation and provides for use for both customary and recreational interests.

14. In conjunction with setting SNA 8 commercial catch limits, Fisheries New Zealand is proposing that the deemed value rates be adjusted, to better reflect the current state of the fishery.
  - **Deemed value Option 1**  
Special differential deemed value rates commence once catch exceeds Annual Catch Entitlement (ACE) by 10% and increase at 10% intervals.
  - **Deemed value Option 2**  
Standard differential rates which commence when catch exceeds ACE by more than 20%. Catch more than ACE holdings is charged at the annual deemed value rate up to the 20% level.
15. Fisheries New Zealand is seeking feedback and submissions on the proposed options to increase the TAC, TACC and allowances for SNA 8, deemed value rates and the ongoing monitoring and management of the fishery.

## 3 About the stock

### 3.1 Biology

16. Snapper is a long-lived species that may live up to 60 years or more, growing up to 105 cm, and has a very low natural mortality. Based on these biological characteristics (high longevity and low natural mortality), the [Harvest Strategy Standard \(HSS\) Operational Guidelines](#) consider snapper to be a 'low productivity' stock.
17. Snapper spawning usually occurs in November and December, with large schools of snapper congregating and moving onto spawning grounds, often near the entrances of the west coast harbours. The spawning season may extend to January-March in some areas and years before the fish disperse offshore.
18. Growth rate varies geographically and from year to year, but not between sexes. Males and females are thought to reach sexual maturity around three to four years of age and between 20 and 28 centimetres long. Females release numerous batches of eggs throughout the spring and summer months.
19. The diet of snapper is diverse and opportunistic, and they feed largely on crustaceans, polychaetes, echinoderms, molluscs and other fish. As snapper increase in size, harder bodied and larger diet items increase in importance.
20. There is some evidence to suggest that snapper have the ability to influence the environment that they occupy. On some rocky reefs (most notably inside marine reserves), the recovery of kina barrens has been attributed to growing numbers of large predators (including snapper).
21. SNA 8 is considered to be made up of a single biological stock. However, there is some information that reciprocal movements of fish between the southern portion of SNA 8 and SNA 7 exist.

### 3.2 Fishery characteristics

22. SNA 8 is a shared fishery that is highly valued by tangata whenua, recreational and commercial fishers, and the wider community. This means the fishery is utilised across sectors in a number of different ways.
23. Snapper is known to have been an important species for early Māori, with regular presence of snapper bones in Māori middens documented in literature. Snapper is considered a taonga and was an abundant and easily captured coastal species found in shallow waters close to the coastline, where people were most densely settled. Customary harvest of snapper has

continued through time and, while data on customary fishing is limited, it is acknowledged that access to, and utilisation of, a healthy snapper fishery is of significant importance to Māori.

24. The highest intensity of recreational fishing is typically around population centres, particularly where launching points and sheltered areas of coast provide access to the fishery. Approximately 25% of the recreational harvest is understood to come from fishing within west coast harbours such as the Kaipara, Manukau and Raglan. It is understood that harbour fishers typically encounter, on average, smaller snapper than those fishing on the open coast. This is especially the case for land-based fishers and those fishing in the upper reaches of harbour environments. Feedback during engagement identified that subsistence fishing on west coast harbours is common and supports local communities in these areas.
25. Coastal recreational fishing is also common; however, the remote and exposed nature of the west coast North Island means weather is often a limiting factor for access. Many recreational fishers on the west coast are also members of fishing clubs. Fisheries New Zealand is aware of 43 fishing clubs that are known to be active in the SNA 8 QMA.
26. Snapper in SNA 8 also support an important commercial fishery, one which has changed over time. Fishing effort in SNA 8 began to increase through the late 1800s. In the 1900s, a trawl fishery began as a small fleet operating from sheltered harbours with annual landings not exceeding 1,000 tonnes. In the 1950s, larger Auckland based trawlers entered the fishery. Landings from the trawl fishery gradually increased and, together with the introduction of foreign vessels during the 1960s, were exceeding 2,000 tonnes per year by 1973.
27. During the 1970s there was a rapid increase in landings to over 3,000 tonnes as a result of the transfer of trawl fishing effort from the east to the west coast and the introduction of pair trawling in 1973. It is estimated that total landings, including a combination of pair trawling and Japanese fishing operations, increased to a recorded peak of about 7,600 tonnes in 1976. It is likely there was also additional unreported catch being taken at this time.
28. After the establishment of the Exclusive Economic Zone (EEZ) in 1978, foreign fishing was excluded from SNA 8. Landings declined back to around 1,800 tonnes by 1985-86 and remained low until 2005, when a stock assessment showed the fishery was at 8-12% of the unfished biomass. In response, significant cuts to the TACC were made and a stringent deemed value regime was introduced in order to initiate a rebuild of the fishery. As abundance has increased, commercial operators have described increasing pressure as snapper become more prevalent and harder to avoid.
29. The west coast North Island inshore commercial fishing fleet is primarily made up of small to mid-size trawl vessels, with a small number of Danish seine, bottom longline and set net operators also present. The fishery is characterised as being 'mixed', meaning vessels catching SNA 8 also overlap with a number of other important inshore species. Commercial fishing operations account for this multi-species environment and manage their fishing activity across a range of target and by-catch species as part of their annual catch plans.
30. Reported fishing effort data show commercial fishing is widely distributed across SNA 8 with some areas of concentration, particularly in northern parts of the QMA - such as off Te Oneroa-a-Tōhe / Ninety Mile Beach.

### **3.3 Fishing restrictions**

#### **Commercial**

31. A number of inshore areas within SNA 8 are closed to bottom trawl and Danish seining, including all harbours and estuaries.
32. Various restrictions on the use of commercial fishing gear and methods exist within SNA 8. Examples include but are not limited to the following:
  - Spatial prohibitions / restrictions in some areas on trawlers larger than 46 metres, drag netting, beach seining and set netting;

- Area prohibitions on the methods of pair trawling and Danish seining;
  - Fishing gear restrictions including set net and cod-end mesh size; and
  - Prohibition on the sale of certain reef species, to prevent targeting of reef habitat.
33. In 2020, as part of the fisheries measures under the Hector's and Māui Dolphin Threat Management Plan, a number of measures were introduced to strengthen the protection of Māui dolphins and reduce the risk of capture. This included broader closures for set netting and extending the area closed to bottom trawling.
34. A commercial minimum legal size (MLS) limit of 25 cm applies for snapper across all fisheries. Any snapper below 25 cm must be returned to the sea and, since the introduction of electronic reporting 2019, fishers must record an estimate of the quantity of undersize snapper returned for each fishing event where undersize snapper is caught.

### Recreational

35. The MLS limit for recreationally caught snapper in SNA 8 is 27 cm. The daily bag limit is 10 per person per day. It was noted during pre-engagement that the current bag limit and size limit in SNA 8 were important to allow for subsistence fishing, which supports local communities.
36. Various fishing method restrictions are also in place in SNA 8. These include closed areas for set netting consistent with those for commercial fishers. Outside these areas, a minimum net mesh size of 125 mm for set nets applies. For line fishing (long line, contiki and dahn lines) there is a maximum number of 25 hooks that can be used on a line.

## 4 Quota Management System

37. SNA 8 was introduced into the QMS in 1986 with a TACC set at 1,594 tonnes. The TACC was reduced to 1,500 tonnes in 1992.
38. A TAC was set at 2,060 tonnes in 1998, when the Minister of Fisheries decided to set a 10-year rebuild strategy for the fishery. Allowances set at this time were: a 50 tonne customary allowance, a 360 tonne recreational allowance, and a 150 tonne allowance for other sources of mortality caused by fishing.
39. SNA 8 was last reviewed in 2005 in response to a new stock assessment. The TAC, TACC and allowances were reduced to the current settings as part of a fishery rebuild plan.
40. For more information about the QMS go to <https://www.mpi.govt.nz/law-and-policy/legal-overviews/fisheries/quota-management-system/>.

## 5 Legal basis for managing fisheries in New Zealand

41. 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* at <https://www.mpi.govt.nz/dmsdocument/45235> for more information.

## 6 Treaty of Waitangi obligations

### 6.1 Input and participation of tangata whenua

42. 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 can develop 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 interest in fisheries. Particular regard will be given to kaitiakitanga when making



sustainability decisions. Iwi Fisheries Forums may also be used as entities to consult iwi with an interest in fisheries.

43. Engagement with Iwi on the SNA 8 sustainability review began in November 2020 and the review has been discussed with the Te Hiku o Te Ika (Far North), the Mid North, the Nga Hapu o Te Uru o Tainui (West coast/Waikato) and the Te Tai Hauāuru (Taranaki to Kāpiti) Iwi Fisheries Forums.
44. Iwi forums within SNA 8 provided the following input:
  - Forum members acknowledged that the fishery was in a healthy state and that (in most areas) the snapper fishing was good.
  - There was, however, concern that the fishery could go back to historical lows. It has taken 40 years to recover and forum members stated they do not want to see the stock fished down again.
  - There were concerns that, if the recreational bag limit was reduced as part of the review, it would affect harbour fishers who do not have access to the larger snapper found in the coastal fishery, and that this would impact local communities.
  - It was felt the current customary allowance is too low to meet the aspirations of tangata whenua, particularly as more iwi explore establishing Pātaka Kai using commercial vessels in some rohe.
  - Regarding the impact of preferential allocation (28N rights), concerns was raised over smaller fishers still not having access to the ACE they need, even if any increase was made to the TACC. A particular focus was on local Māori fishers who cannot enter the fishery, or struggle to sustain their operations, under the current ACE environment.
  - Concern was also expressed that the discharge of all 28N rights would have the effect of reducing the proportion of settlement quota shares, which they consider to be inconsistent with the provisions of the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992.
  - The Mid-North forum expressed support for the review of SNA 8 with respect to setting appropriate allowances however does not support increases to TACCs for any stocks.
  - There were concerns around localised depletion off the coast of Te Oneroa-a-Tōhe / Ninety Mile Beach. The Te Hiku o Te Ika forum raised that there is a disproportionate concentration of fishing effort in their rohe. Because trawl restrictions under the Hector's and Māui Dolphin Threat Management Plan end south of Ahipara, commercial vessels fish in areas close to shore along the coast of their rohe. Forum members believe that despite the wider stock being in good shape, large scale harvest of snapper (and other species) in their area is leading to localised depletion and affecting their ability to utilise and derive benefit from the recovery of the fishery.
  - This also led to concerns being raised around the size of the SNA 8 QMA, which did not support managing to deliver localised outcomes that support iwi aspirations for their rohe.
  - There was also concern expressed around the open access nature of the QMS and the fact that any permit holder can operate in the Te Hiku o Te Ika rohe moana, but the benefits are taken elsewhere and do not come back to Te Hiku o Te Ika. This was of particular concern with vessels coming around from the east coast, fishing along Te Oneroa-a-Tōhe, and then returning back to ports outside of the area.
45. Fisheries New Zealand welcomes any further input from tangata whenua and the forums on the options presented in this paper and any other alternative options.

## 6.2 Kaitiakitanga

46. The Te Hiku o Te Ika, the Mid North, the Nga Hapu o Te Uru o Tainui and the Te Tai Hauāuru Iwi Fisheries Forums all have members with rohe that overlap with SNA 8.
47. Snapper is listed as taonga species in the fisheries plans of Te Hiku o Te Ika, Nga Hapu o Te Uru o Tainui and Te Tai Hauāuru. As a newer forum, the Mid-North has not yet developed a fisheries plan.

48. Fisheries New Zealand considers that the management options presented in this consultation document are in keeping with the objectives of relevant Iwi Fisheries Plans, which generally relate to the maintenance of healthy and sustainable fisheries, but seeks further input from iwi to help inform this review.
49. Mātaitai reserves, taiāpure and temporary closures are customary management tools that also provide for kaitiakitanga. The Minister is required to take these into account when making allowances for customary non-commercial fishing interests. There are two mātaitai reserves and one taiāpure within SNA 8 (Table 1). Outside of the broad prohibition of commercial fishing activity within mātaitai reserves, none of these customary management areas have any specific restrictions on the taking of snapper.
50. Fisheries New Zealand considers all options proposed in this paper will see the biomass of SNA 8 increase over the next five years and will maintain or improve snapper availability in the customary fisheries areas within SNA 8.

**Table 1: Customary fisheries areas within SNA 8.**

Name	Management type
Aotea Harbour Mātaitai Marokopa Mātaitai	<b>Mātaitai Reserve</b> <i>Commercial fishing is not permitted within mātaitai reserves unless regulations state otherwise.</i>
Kawhia Aotea Taiāpure	<b>Taiāpure</b> <i>All types of fishing are permitted within a Taiāpure. The management committee can recommend regulations set for commercial, recreational and customary fishing.</i>

## 7 Relevant plans, strategies, statements and context

### 7.1 Draft National Inshore Finfish Fisheries Plan

51. Snapper will be managed under the [National Inshore Finfish Fisheries Plan](#) (the Plan) once finalised. The Plan outlines the management objectives and strategies for finfish fisheries for the next five years and was consulted on in early 2020.
52. The Plan is aimed at progressing New Zealand towards more ecosystem-based fisheries management. Stocks are grouped within the Plan, with management approaches and objectives tailored accordingly for each group. The Plan, alongside the HSS, guide the way Fisheries New Zealand manages fish stocks such as SNA 8 under the QMS.
53. Snapper fall under Group 1, which recognises stocks that provide the greatest benefit and are highly desirable to all sectors. They are managed to provide for utilisation, while mitigating the increased risk to their sustainability as a consequence of high levels of fishing pressure. The status of Group 1 stocks is determined using fully quantitative stock assessments to provide high levels of information.

### 7.2 Regional plans

54. There are six Regional Councils<sup>1</sup> that have coastline within the boundaries of SNA 8. Each of these regions has multiple plans to manage the coastal and freshwater environments, including terrestrial and coastal linkages, ecosystems and habitats.
55. Fisheries New Zealand considers that the proposed management options presented are in keeping with the objectives of relevant regional plans, which generally relate to the maintenance of healthy and sustainable ecosystems to provide for the needs of current and future generations.

<sup>1</sup> Regional Councils that have coastline within SNA 8: Northland Regional Council, Auckland Council, Waikato Regional Council, Taranaki Regional Council, Horizons Regional Council (Manawatu-Wanganui Region) and Greater Wellington Regional Council.

### 7.3 Te Mana o te Taiao (Aotearoa New Zealand Biodiversity Strategy)

56. [Te Mana o te Taiao – the Aotearoa New Zealand Biodiversity Strategy](#) sets a strategic direction for the protection, restoration and sustainable use of biodiversity, particularly indigenous biodiversity, in Aotearoa New Zealand. The Strategy sets a number of objectives across three timeframes. The most relevant to setting sustainability measures for SNA 8 are objectives 10 and 12:

**Objective 10:** Ecosystems and species are protected, restored, resilient and connected from mountain tops to ocean depths.

**Objective 12:** Natural resources are managed sustainably.

57. The Ministry for Primary Industries (MPI) is undertaking work to define specific terms used in the Strategy (e.g. 'environmental limits'), but is required by the Fisheries Act to manage fisheries to balance use and sustainability, including the requirement to avoid, remedy or mitigate adverse effects on the aquatic environment. The Ecosystem Interactions section in this paper provides information on relevant interactions within the wider aquatic environment for this stock.

## 8 Recent catch levels and trends

### 8.1 Commercial

58. SNA 8 is a valuable core species in the west coast inshore trawl fishery and is the predominant species within the inshore environment. It is taken both as target species and as bycatch alongside trevally, gurnard, tarakihi, John dory, and school shark.
59. While the TACC has been slightly exceeded six times in the last ten fishing years (Figure 2), catch is typically constrained closely to the TACC due to the stringent deemed value settings implemented to support the rebuild of the fishery. An over-catch of snapper can drastically impact the economic viability of fishing operations in SNA 8. As the abundance of SNA 8 has increased over time, commercial operators have reported this has become an increasingly challenging factor in the west coast North Island mixed species trawl fishery.
60. Because of high snapper abundance, commercial operators say they have had to change their behaviour and gear configurations to try and avoid catching too much snapper and exceeding their available ACE. As snapper in SNA 8 is an unavoidable bycatch when targeting other species which occupy the same habitat, fishers must manage the snapper component of their catch to enable them to utilise other stocks. Fishers have reported that the level of snapper bycatch influences where the vessels fish within SNA 8, with effort focussing in areas where snapper bycatch is known to be lower. Some trawlers in the fishery have also resorted to using a lower headline on their trawl nets in order to try and reduce snapper bycatch while targeting gurnard.

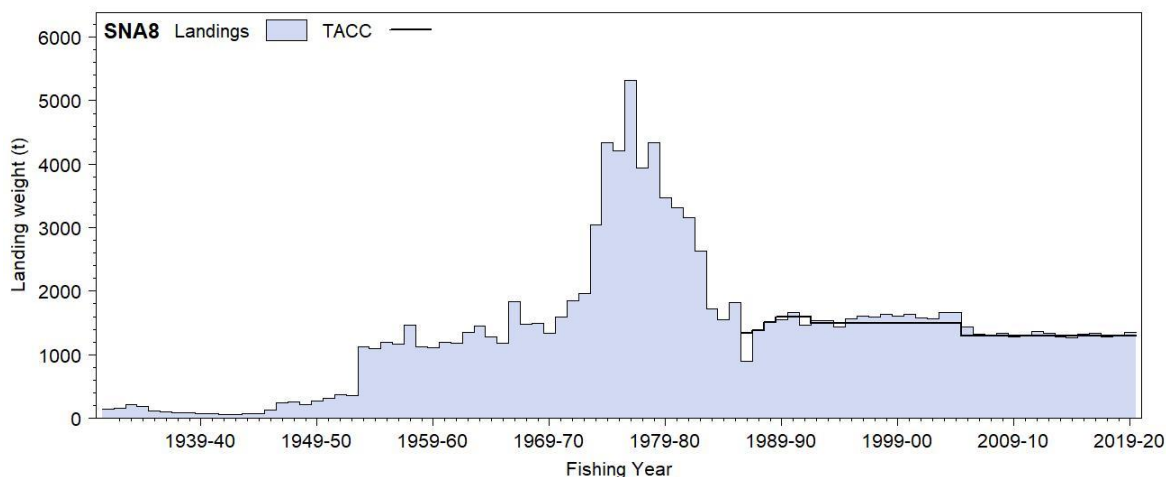


Figure 2: Reported catch landings and TACC for SNA 8 from 1931 to 2019-20.

61. Landings in the last 10 years show 81% of the commercial SNA 8 catch has been taken using trawl (Figure 3). A relatively small core fleet is responsible for the majority of SNA 8 catch, with 13 vessels taking approximately 80% of landed SNA 8, and two of those vessels catching approximately 40%.

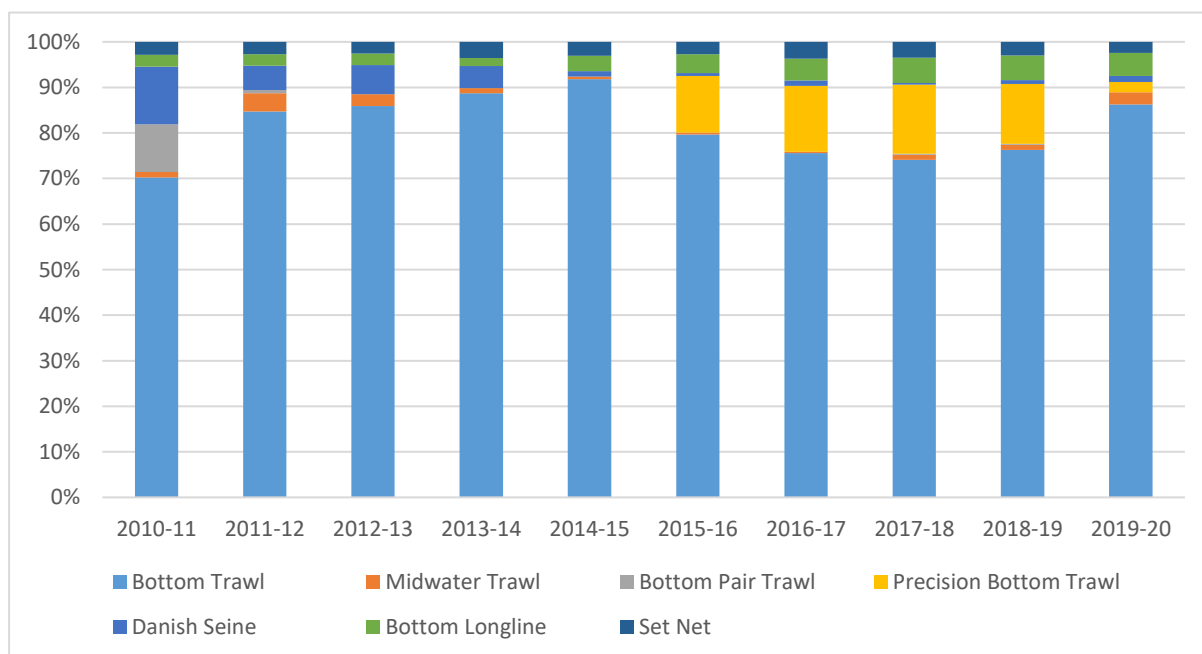


Figure 3: SNA 8 catch proportions by method from 2010-11 to 2019-20.

62. The majority of snapper is caught in the northern areas of SNA 8. Between 2010-11 and 2019-20 (the last 10 fishing years), approximately 27% of snapper was taken from statistical area 047 which is west of Te Oneroa-a-Tōhe / Ninety Mile Beach. Statistical area 045 (Figure 4), west of the Kaipara Harbour, accounted for 23% of snapper caught (Figure 5). Fishers have reported that the reason for the increased fishing effort in the north is the lack of safe harbour for vessels in bad weather further south, and the abundance of snapper leading to difficulties in targeting other species (e.g. trevally, gurnard) that are associated with the inshore mixed trawl fishery.

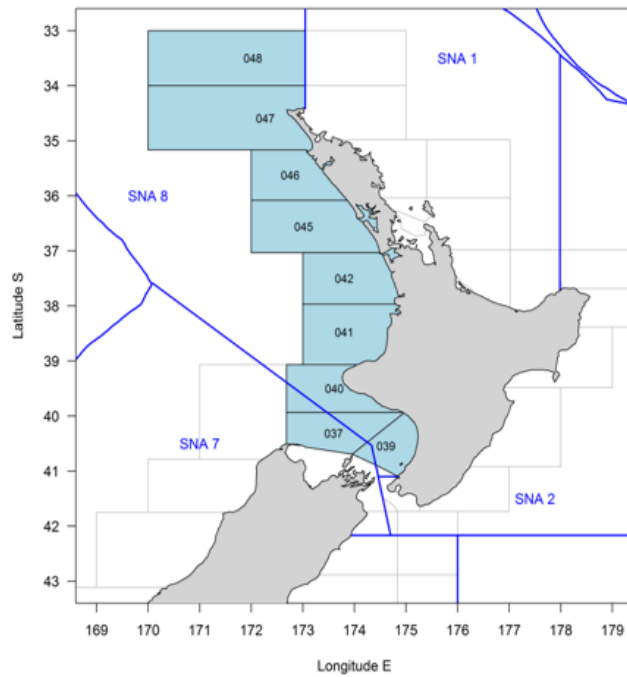


Figure 4: Map of the SNA 8 fish stock area and constituent Statistical Areas.

General statistical area	Estimated average catch from 2011-2020 (%)	Average estimated catch from 2011-2020 (tonnes)
047	27.35%	334.93
045	23.21%	284.23
042	15.36%	188.09
041	10.81%	132.37
046	9.26%	113.39
039	5.70%	69.83
040	4.04%	49.54
037	3.58%	43.80
801	0.45%	5.50
044	0.16%	1.92
043	0.07%	0.90
048	0.01%	0.23
101	0.01%	0.23

Figure 5: SNA 8 average estimated commercial Catch by Statistical area 2011 – 2020.

63. In the last ten fishing years, approximately 15% of snapper caught was recorded as being the target species at the time. All other snapper was reported as being taken as bycatch (Figure 6). This is likely a function of fishers attempting to avoid snapper and targeting other species to maximise overall catch with the SNA 8 ACE they have available.

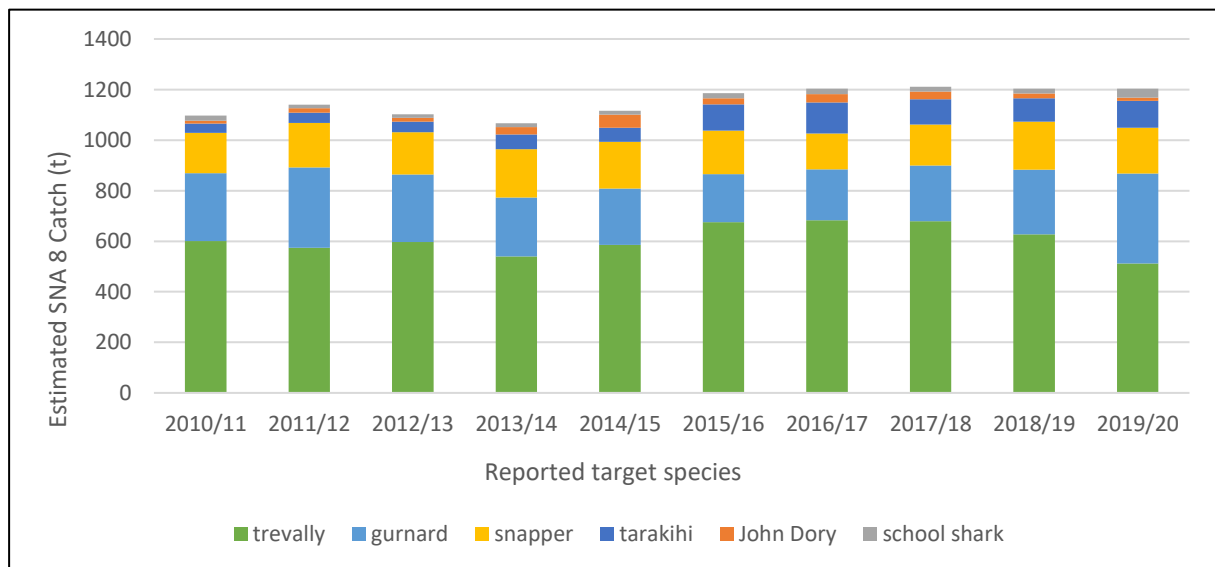
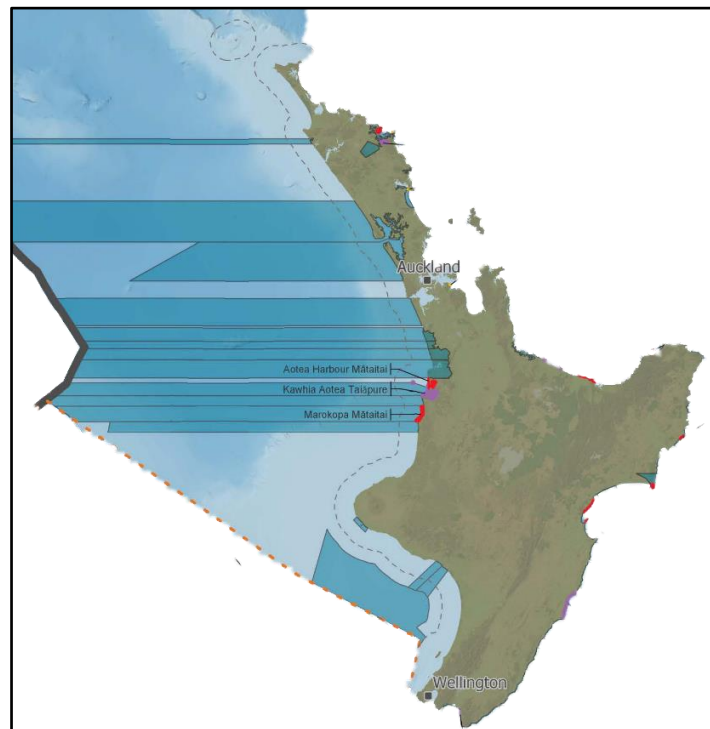


Figure 6: Estimated catch of SNA 8 with proportion of reported target species from 2010-11 to 2019-20.

## 8.2 Customary Māori

64. The allowance for customary fishing is currently 43 tonnes. This was reduced from 50 tonnes in 2005. At the time, it was acknowledged that information on customary fishing in SNA 8 was uncertain. The numbers of customary permits issued for SNA 8 is relatively low, with an average of 19 permits issued per year in the last ten years.

65. The information on Māori customary harvest is limited. It is likely that Māori customary fishers utilise the provisions under recreational fishing regulations. A significant part of the QMA is not under the Fisheries (Kaimoana Customary Fishing) Regulations 1998 (Figure 7). Customary fishing authorisations in some parts of the SNA 8 QMA, if issued, would be under the Fisheries (Amateur Fishing) Regulations 2013, where there is no requirement to report on catch. As such customary harvest records held by Fisheries New Zealand are likely incomplete.
66. The customary regulations provide a mechanism to enable the use of Pātaka Kai. This is where customary fishers store and distribute fish taken under a customary authorisation. Fishing for the purposes of a Pātaka Kai can be undertaken by commercial fishing vessels, under authorisation from a kaitiaki of the area.
67. Since 2014, Te Atiawa (Taranaki) iwi have operated a Pātaka Kai system for the purpose of providing kaimoana to whānau/ngā uri o Taranaki Iwi for tangihanga. Fisheries New Zealand is aware that other iwi within SNA 8 are exploring whether a form of Pātaka Kai meets their needs and should be considered. As snapper are one of the most abundant species on the west coast of the North Island, it is likely that if more Pātaka Kai are to be utilised within SNA 8, than the amount of snapper taken under the customary allowance will increase.

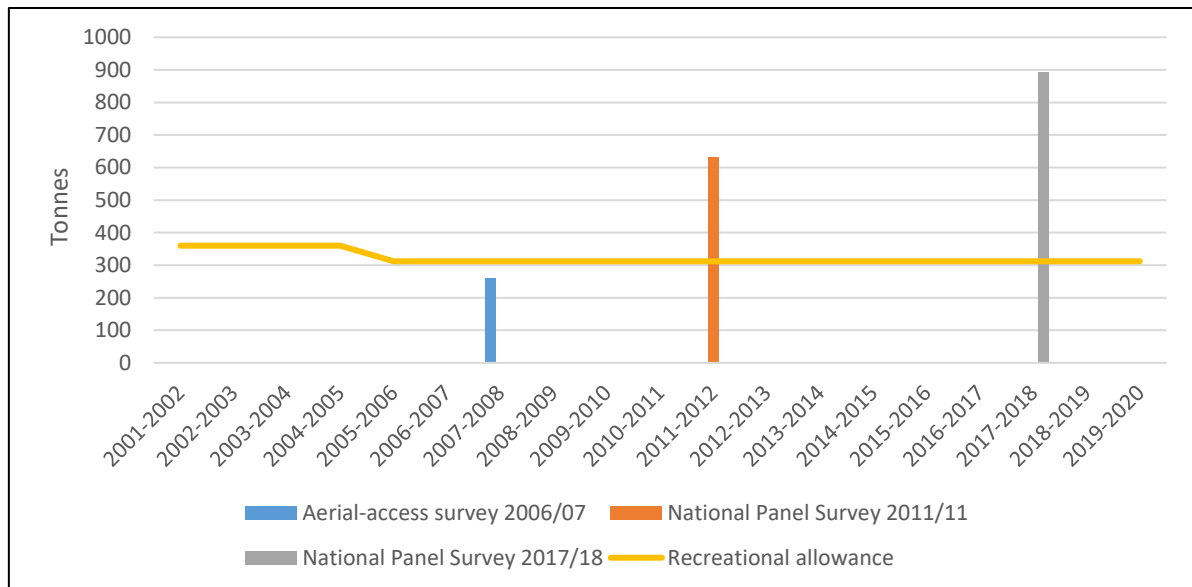


**Figure 7: Customary Fisheries Management Areas within SNA 8. Shaded areas indicate rohe moana boundaries under the Fisheries (Kaimoana Customary Fishing) Regulations 1998.**

### 8.3 Recreational

68. SNA 8 is the second largest snapper fishery and one of the most popular recreational fisheries in New Zealand. Reports from fishing club and recreational representatives have reported that catch rates were impacted by the low stock size when the fishery was below the management target but have recognised the improvement in the fishery as the stock recovered.

69. The best available information Fisheries New Zealand has on recreational catch is from the National Panel Survey of Marine Recreational Fishers (NPS). The most recent estimate of recreational harvest from the 2017-18 NPS showed a harvest of 892 tonnes (Figure 8). This was an increase from the 2011-12 NPS, which showed a harvest of 612 tonnes in SNA 8 (Figure 8).



**Figure 8: Estimated Recreational Harvest in SNA 8 from Aerial-access survey 2006-07 and National Panel Surveys 2011-12 and 2017-18.**

70. Both coastal and harbour recreational fisheries exist within SNA 8. Fisheries New Zealand understands that approximately 25% of recreational SNA 8 is caught within harbours. Coastal access (outside of harbours) is considered to have been constrained by weather conditions in the past. Fishers have reported that the coastal fishery has become more accessible in recent years. This is due primarily to the availability of larger recreational vessels, the use of different types of fishing platforms e.g. jet ski or personal watercraft (PWC), and better information about weather and bar crossing conditions.
71. Figure 9 shows the areas which the NPS breaks recreational fishing activity into. Figure 10 shows the estimated recreational catch in each of the areas for the 2011-12 and 2017-18 surveys. Results show that the most SNA 8 catch is taken by recreational fishers in survey areas 20 (south of the Manukau Harbour entrance) and 19 (Taranaki Coast).

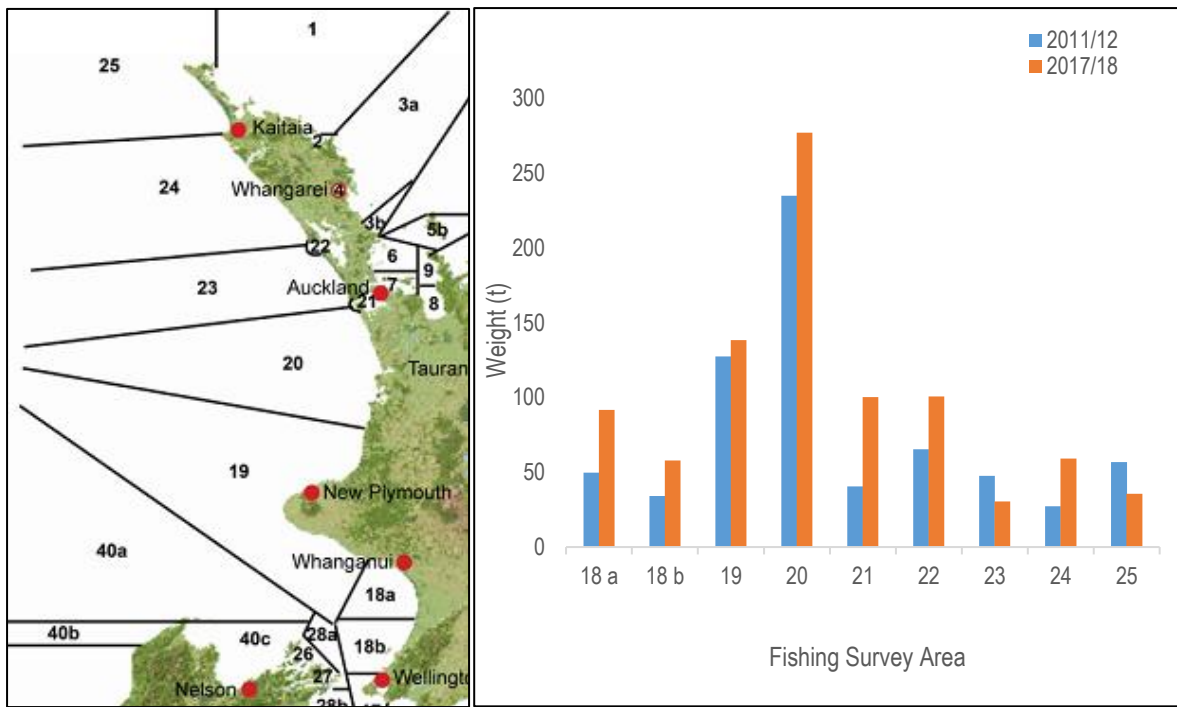


Figure 9: National Panel Survey fishing areas. Figure 10: National Panel Survey estimated recreational catch (in tonnes) by fishing areas: 2011-12 (blue bars) and 2017-18 (orange bars) surveys.

72. Within SNA 8, there are currently 48 amateur charter operators registered, with 52 charter vessels. Table 2 shows the number of charter vessels at registered base ports in SNA 8. Any operator of a vessel that takes fare-paying passengers on board for the purpose of recreational fishing is required to be registered and to report fishing activity and catch information.

Table 2: Number of Amateur Charter Vessels by base port.

ACV Base Port	Number of Charter Vessels
Auckland, Auckland	31
Helensville, Kaipara	3
Hobson Bay, Auckland	1
Hoteo, Kaipara	1
Kawhia, Kawhia	6
New Plymouth, New Plymouth	1
Patea, Wanganui	1
Port Taranaki, New Plymouth	2
Raglan, Raglan	4
Ruawai, Kaipara	1
Wanganui, Wanganui	1



## 9 Status of the stock

### 9.1 Stock assessment

73. The stock assessment for SNA 8 was updated and finalised in 2021. [The May 2021 Stock Assessment Plenary](#) reviewed the SNA 8 assessment and concluded it was of high quality. The 2021 assessment supersedes the previous assessment conducted in 2005 and incorporated the following data from the intervening period up to and including the 2020-21 fishing year:
- Commercial catches by fishing method, 1931–2021;
  - Recreational catches, 1931–2021;
  - Tagging biomass estimates and population length compositions from surveys in 1990, 2002;
  - Estimates of numbers of snapper at age 2, 3, 4, and 5 years from research vessel *Kaharoa* inshore trawl surveys;
  - Single trawl catch per unit of effort (CPUE) indices from commercial fishing in 1997–2020;
  - Pair trawl CPUE indices from 1974–1991;
  - Age compositions of snapper from single trawl catches 1975–2019;
  - Age compositions from pair trawl catches 1975–2006;
  - Length compositions of snapper from recreational catches; and
  - Average length-at-age of snapper derived from otolith samples (which provide snapper ages).

#### Commercial catches

74. The assessment included reported commercial catches from 1931–1990 which include estimates of reported foreign catches for 1968 to 1979. However, catch reports from the Japanese longline fleet were not available for 1965–1974. As done in previous assessments, an additional catch of 2,000 tonnes per annum was assumed for the Japanese fleet for that period. Annual commercial catches from 1986–87 to 2019–20 fishing years from catch reporting under the QMS were used.

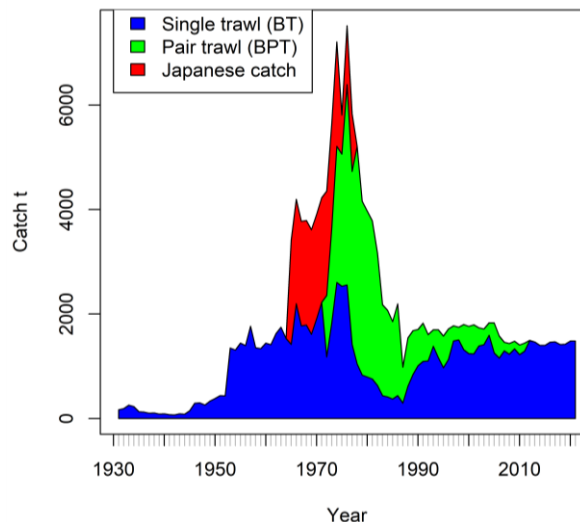
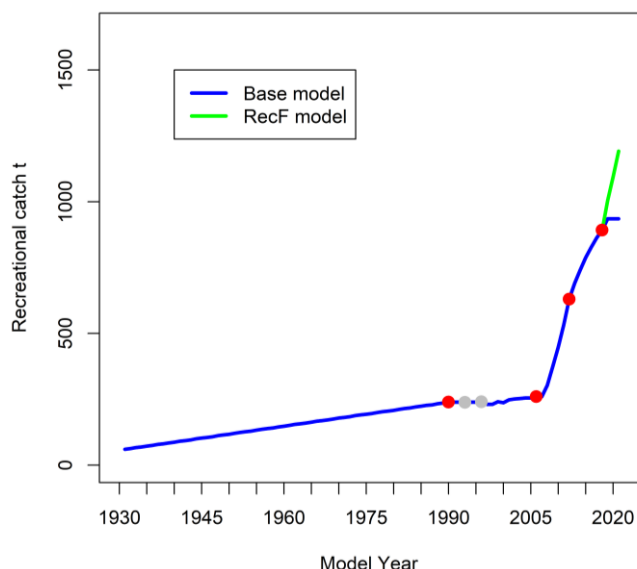


Figure 11: Annual commercial catches included in the base assessment model, assuming unreported Japanese longline catches of 2000 tonnes.

75. Previous snapper assessments have included an additional component of catch to account for unreported commercial catches. Annual unreported catches were assumed to represent an additional 20% of the reported catch in the period prior to the introduction of the QMS and 10% of the reported catch in subsequent years.
76. It is noted that in the current assessment, recent trends in stock abundance are strongly informed by the recent CPUE indices from the trawl fishery. The overall trend in these indices is generally consistent with other recent observations from the fisheries. However, it is apparent that the operation of commercial fisheries has changed considerably as fishers have altered practices to avoid catching snapper in response to the increase in the abundance of snapper and lack of ACE over the last decade. These changes are unlikely to have been fully accounted for in the standardised CPUE indices used in the assessment, and the resulting indices might underestimate abundance during the last few years of the series.

### Recreational catches

77. There is no information available on levels of recreational catch prior to 1990. To account for this, the model that assesses the status of the SNA 8 stock uses an estimated value of recreational catch from 1931 and assumes continual and steady increase to 1990 when the first reliable estimate of catch is available. Some stakeholders raised that they disagree with the pre-1990 catch history assumptions, noting that catch would likely have fluctuated with changes in abundance over this time. However, the assessment model was run with the estimate of Japanese catch during period 1965–1974 was increased and decreased by 1000 tonnes to test the sensitivity of the model to early catch levels. These changes had negligible influence on the stock assessment results, leading the working group to conclude that any refinement of historical recreational catch would not change the results of the stock assessment, especially when the relative magnitude of recreational harvest at the time is taken into consideration.
78. An aerial-access survey in 2007 and the NPS results from 2012 and 2018 have provided estimates of recreational catches in those three years. These estimates were used in the stock assessment to determine the recreational fishing exploitation rate (the proportion of snapper that would be taken from the available biomass) and hence the catches in the years between and beyond surveys. This approach allows the recreational catch to vary annually in response to variations in stock abundance.
79. For the base assessment model runs, recreational catches in 2020 and 2021 were the same as in 2019.
80. To reflect that catch likely changes with snapper abundance, an alternative series of recent (2019–2021) recreational catches was calculated using the recreational exploitation rate in 2018 (these runs are called the 'RecF' model – see Figure 12). Further explanation of the estimation of recreational catches is provided in the May 2021 Fisheries Assessment Plenary Report.



**Figure 12: Recreational catch estimates from SNA 8 (red points) used in the derivation of the recreational catch history (blue line). The green line represents an alternative series of recent recreational catches assuming a constant recreational harvest rate from 2018.**

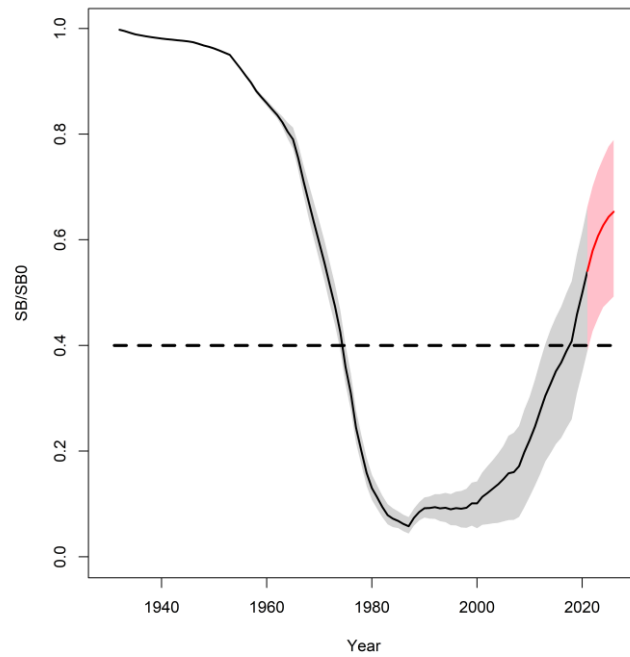
81. Information about the length of fish caught by recreational fishers in SNA 8 shows that smaller fish are typically caught inside the west coast harbours (Hokianga, Kaipara, Manukau, Raglan, Kawhia) compared to those caught in the coastal area outside the harbours. On that basis, the annual recreational catches used in the stock assessment were partitioned into two fisheries based on the recent distribution of catch (approximately 25% within harbours).

### Customary Catch

82. There were no reliable estimates of annual customary catches from SNA 8 available for inclusion in the assessment model, although recent information indicates that the level of customary catch was relatively low (less than six tonnes per annum, Table 6b). A component of the customary catch is considered to be included within the time series of recreational catch estimates and no additional estimate for customary catch was included in the assessment model.

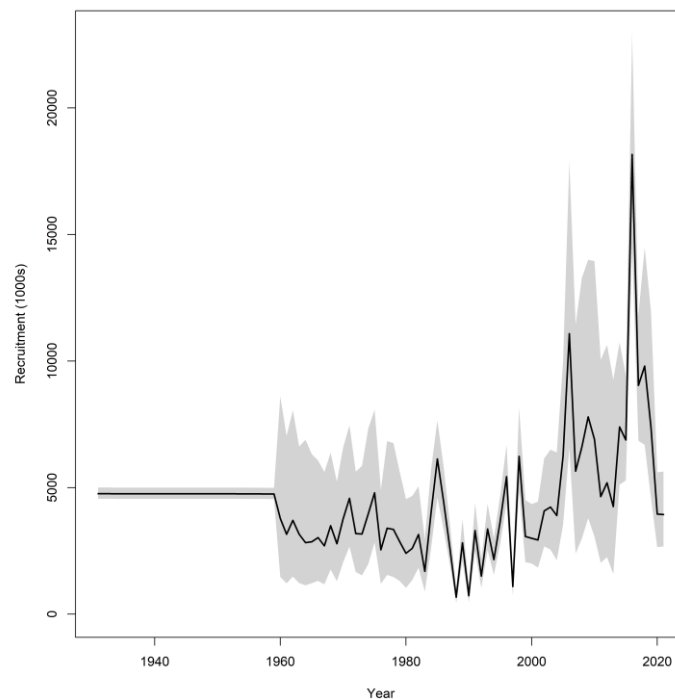
### Stock assessment results

83. The trend in stock biomass produced by the 2021 assessment (Figure 13) is consistent with the previous stock assessments. The SNA 8 stock is estimated to have been heavily depleted, reaching a minimum in 1987 at about 6% of the unfished biomass level. The spawning biomass (the biomass of sexually mature snapper) increased slightly in the late 1980s, following the recruitment of strong year classes in 1985 and 1986, and then remained at about 9% of the unfished biomass level throughout the 1990s. The more recent data sets, specifically the recent CPUE indices and age compositions, provided a consistent signal that stock abundance has increased considerably from 2009, primarily due to an increase in recruitment of young snapper into the population from the mid-2000s, and also supported by the TAC, and bag limit reductions in 2005.



**Figure 13: Annual spawning biomass in SNA 8 relative to virgin biomass (equilibrium, unexploited) estimated from the Base Case model (black) and the five-year projection (red) assuming annual catches equivalent to the 2021 catch and average recruitment. The solid line represents the median and the shaded area represents the 95% confidence interval. The horizontal dashed line represents the default target biomass level.**

84. Annual recruitment remained relatively constant during the 1960s and 1970s (Figure 14), although recruitment was generally lower during the 1980s and 1990s when spawning biomass was at the lowest level (below 10%  $SB_0$ ). However, relatively large recruitments were estimated during the mid-2000s when the stock was still at a relatively low level (10–20%  $SB_0$ ). Recruitment was well above average during 2005–2018, with exceptionally high recruitments estimated for 2006 and 2016 to 2018. The estimates of recent recruitment are informed by the strength of year classes determined from the recent trawl surveys as well as the age composition of the commercial catch.



**Figure 14: Annual estimates of recruitment (numbers of fish, thousands) from the Base Case model (MCMCs). The black line represents the median of the MCMC estimates and the shaded error represents the 95% confidence interval.**

## 9.2 Stock Status

85. Stock status in the current fishing year (2020–21) was determined relative to the estimated unfished spawning biomass  $SB_0$ . The spawning biomass is believed to have increased considerably over the last 10 years. Current spawning biomass was estimated at 54% of the unfished level with a 97% probability of being above the default target (40% adult spawning biomass  $SB_0$ ) biomass level. The probability of the stock being below the hard (10%  $SB_0$ ) and soft (20%  $SB_0$ ) limits is negligible (Table 3). The fishing mortality (the proportion of the available biomass taken by fishing) has declined over the last 10 years, which corresponds to the relatively stable catch and the increase in spawning biomass. Current (2021) fishing mortality is estimated to be below the rate that would produce the target biomass level.

**Table 3: Estimates of current (2021 = FY 2020–21) and virgin spawning biomass (tonnes) (median and the 95% confidence interval from the MCMCs) and probabilities of current biomass being above specified levels and probability of fishing mortality being below the level of fishing mortality associated with the interim target biomass level.**

	$SB_0$	$SB_{2021}$	$SB_{2021}/SB_0$	$Pr(SB_{2021} > X\% SB_0)$		
				40%	20%	10%
<b>Base case model</b>	99 319 t (95 129–104 419)	53 689 t (37 876–68 059)	0.541 (0.39–0.663)	0.967	1.000	1.000

### Projections into the future

86. Ten-year stock projections (to the 2030–31 fishing year) were conducted using the Base Case model assuming average recruitment (the average across the full series of recruitment data) after 2022. Projections under recent recruitment (the average over the most recent 10 years of recruitment data) showed substantially more optimistic biomass trajectories. For the purposes of supporting the developing management options, the long-term average recruitment projections have been used as they mitigate the risk that recruitment does not sustain current high levels into the next five and 10 year periods.
87. In all options modelled, annual commercial catch at the proposed TACCs, customary catch (100 tonnes), and other mortality (approximately 10% of the TACCs) were constant, while annual recreational catch varied as stock biomass varied. The scenarios or options modelled are shown in Table 4.

**Table 4: Proposed TAC, TACC and allowances (tonnes) modelled.**

	TAC	TACC	Māori customary	Recreational	Other mortality
<b>Projection 1</b>	2,665	1,300	43	1,205	130
<b>Projection 2</b>	3,437	1,950	100	1,205	195
<b>Projection 3</b>	3,794	2,275	100	1,205	227
<b>Projection 4</b>	4,152	2,600	100	1,205	260

88. The projections indicate that under long-term average recruitment, the stock biomass will continue to increase during the initial five-year projection period under all scenarios. This is due, in part, to the contribution of the exceptionally large 2016 year class recruiting to the fishery. These recruitments have the potential to support higher catches over the next 10 years, although catch levels beyond the next five years would need to be determined based on ongoing monitoring and assessment.
89. If the current level of total catch is maintained, the biomass in 2026 is projected to increase from 54% of the unfished biomass in 2021 to reach 63% of the unfished level ( $SB_{2026}/SB_0 = 0.63$ , C.I. 0.49–0.77) with a 98% or better probability of being above 40% of the unfished biomass, and 84% probability of being above 50%. The highest catch scenario (4,152 tonnes) results in a smaller increase in biomass by 2026 to reach 57% of the unfished level with a probability of 98% of being above 40% of unfished level and 84% of being above 50%  $B_0$ .

90. At the end of 10 years, the projections estimate that the biomass will decline to some degree under all options, but retains a 90% or better probability of being above 40% of the unfished level in 2031 and a better than 45% probability of being above 50%.

## 10 Current and proposed TAC, TACC and allowance settings

Table 5: Summary of current and proposed catch settings for SNA 8 from 1 October 2021. Figures are all in tonnes.

Option	TAC	TACC	Allowances		
			Customary Māori	Recreational	All other mortality caused by fishing
<b>Current settings</b>	1,785	1,300	43	312	130
<b>Option 1</b>	3,065 ↑ (1280 t)	1,600 ↑ (300 t)	100 ↑ (57 t)	1,205 ↑ (893 t)	160 ↑ (30 t)
<b>Option 2</b>	3,437 ↑ (1652 t)	1,950 ↑ (650 t)	100 ↑ (57 t)	1,205 ↑ (893 t)	182 ↑ (52 t)
<b>Option 3</b>	3,794 ↑ (2009 t)	2,275 ↑ (975 t)	100 ↑ (57 t)	1,205 ↑ (893 t)	214 ↑ (84 t)
<b>Option 4</b>	4,152 ↑ (2367 t)	2,600 ↑ (1300 t)	100 ↑ (57 t)	1,205 ↑ (893 t)	247 ↑ (117 t)

91. All proposed options in this paper are based on projections from the stock assessment model, using average recruitment. All options are likely to maintain the fishery above 57%  $B_0$  over the next five fishing years. This is above the current management approach for SNA 8 and exceeds the most cautious feedback to date from stakeholders around biomass targets for this fishery. Ultimately, setting or varying the TAC and allowances is a decision for the Minister
92. Ten-year projections on all options indicate a high probability that the biomass will remain well above the default target biomass (62%  $B_0$  to 49%  $B_0$ ). However, the long-term projections are considered less certain and Fisheries New Zealand considers it appropriate that a subsequent stock assessment and review (under any option) should be scheduled to ensure that the stock is maintained at above target.
93. Fisheries New Zealand considers the proposed options reflect the shared nature of SNA 8 and will support maintaining the biomass at levels higher than the current default target of 40%  $B_0$ . Fisheries New Zealand welcomes feedback on the appropriate biomass target for SNA 8 or what approach should be taken to determine a suitable target. Fisheries New Zealand acknowledges feedback from tangata whenua and stakeholders, that an abundant and accessible fishery has high value.
94. In 2018, the then Minister of Fisheries, as part of decisions relating to the 2018 October sustainability round, decided to set an allowance for all other sources of mortality caused by fishing at an equivalent of 10% of the TACC for predominantly trawl caught fisheries. This is considered an appropriate approach unless evidence suggests an alternative setting would be more suitable to the fishery being reviewed. Fisheries New Zealand acknowledges concerns the setting of an allowance for all other sources of mortality caused by fishing at 10% of the TACC<sup>2</sup> does not reflect real levels of mortality caused by fishing (including mortality associated from fish escaping fishing gear, mortality from recreational released fish or illegal discarding).
95. Fisheries New Zealand acknowledges there may be rationale for setting a lower allowance for all other mortality caused by fishing. Factors to consider include the predominance of larger size snapper in commercial SNA 8 catch and associated low levels of undersize returned to the sea, increased monitoring of the fishery through observer and camera coverage, and improvements in fishing gear.
96. Noting the concerns with respect to the setting of the allowance for other mortality caused by fishing at an amount equal to 10% of the TACC, Fisheries New Zealand invites feedback on the proposed allowance.

<sup>2</sup> 2018 October sustainability round Minister of Fisheries Decision Letter: <https://www.mpi.govt.nz/dmsdocument/30846-2018-October-sustainability-round-decision-letter-signed>.

## 10.1 TAC - Total Allowable Catch

### Option 1

97. Option 1 is an increase to the TAC of 1,280 tonnes, a 72% increase from the current setting. This option is a cautious approach and gives weight to uncertainty of how the fishery and the habitat that supports it may respond to increases in catch. This option provides for a low level of utilisation despite information indicating greater increases would be sustainable. It responds to concerns raised by tangata whenua and recreational fishers that the alternative proposed changes to the TAC are too large and could lead to another decline in the fishery. Under this option, a further review would be scheduled, likely in three years when the stock assessment could be updated with new information and further discussions on levels of utilisation could occur.
98. Under Option 1, projections using long term average recruitment indicate that the SNA 8 biomass is likely to increase from 54%  $B_0$  to above 60%  $B_0$  over the next five years. Option 1 was not projected using the stock assessment model, the catch settings in Option 1 are anticipated to result in a biomass between Projections 1 and 2.

### Option 2

99. Option 2 is an increase to the TAC of 1,652 tonnes, a 93% increase from the current setting. This option provides a greater opportunity for utilisation and places weight on the status of the stock while acknowledging uncertainty in how the fishery will respond to a significant increase in TAC.
100. Under Option 2, projections using long term average recruitment indicate that the SNA 8 biomass is likely to increase from 54%  $B_0$  to above 60%  $B_0$  (95% CI:0.44 to 0.73) over the next five years. There is a 92% probability that under a TAC of 3,437 tonnes the 2026 biomass will be above 50%  $B_0$ .

### Option 3

101. Option 3 is an increase to the TAC of 2,009 tonnes, a 113% increase from the current setting. This option provides a greater opportunity for utilisation and places weight on the status of the stock, acknowledging that the biomass is likely to remain high over the next five years.
102. Under Option 3, projections using long term average recruitment indicate that the SNA 8 biomass is likely to increase from 54%  $B_0$  to 58%  $B_0$  (95% CI:0.43 to 0.71) over the next five years. There is an 89% probability that under a TAC of 3,794 tonnes the 2026 biomass will be above 50%  $B_0$ .

### Option 4

103. Option 4 is an increase to the TAC of 2,367 tonnes, a 133% increase from the current setting. Option 4 recognises the strong recovery of the stock and represents the least cautious option. This option provides a greater opportunity for stakeholders to utilise the fishery and places weight on the status of the stock, acknowledging that the biomass is likely to remain high over the next five years.
104. Under Option 4, projections using long term average recruitment indicate that the SNA 8 biomass is likely to increase from 54%  $B_0$  to 57% (95% CI:0.41 to 0.71) over the next five years. There is an 84% probability that under a TAC of 4,152 tonnes the 2026 biomass will be above 50%  $B_0$ .

## 10.2 Allowances

### 10.2.1 Māori Customary Allowance (all options)

105. Under all options Fisheries New Zealand is proposing a 57 tonne increase to the customary allowance. This equates to an increase of 133%. Information on current levels of customary catch are uncertain, however Fisheries New Zealand considers the proposed increase is appropriate considering feedback through engagement with Iwi Fisheries Forums within SNA 8, and acknowledging the new status of the stock.

### 10.2.2 Recreational Allowance (all options)

106. Fisheries New Zealand is proposing to increase the recreational allowance from 312 tonnes to 1205 tonnes for all options. This is a 286% increase of 893 tonnes. This proposal recognises the high value that recreational fishers place on SNA 8. The proposed allowance is the projected recreational catch for 2022 from the stock assessment. Modelling from the stock assessment shows that, under all proposed options, catch would increase slightly above the proposed allowance and then decrease back down as more fish are taken from the fishery.
107. Based on how the stock is predicted to respond to the options, this projection is expected to provide for current and future recreational catch.

### 10.2.3 All other mortality caused by fishing (all options)

108. Fisheries New Zealand proposes an increase to the allowance for all other mortality caused by fishing for all four options. The increases proposed are approximately 9 -10% of the TACC. This is a cautious approach that places weight on the uncertainty in estimates of unreported catch.

## 10.3 TACC - Total Allowable Commercial Catch

109. Under Option 1, the TACC would be increased by 300 tonnes, equating to a 23% increase. Based on the reported SNA 8 port price, this would generate a predicted revenue change of \$1.48 million per annum. Option 1 provides the least increase for utilisation. Projections from the stock assessment indicate that the biomass will continue to grow and will impact the ability of fishers to target associated fish stocks.
110. Under Option 2, the TACC would be increased by 650 tonnes equating to a 50% increase. Based on the reported SNA 8 port price, this would generate a predicted revenue change of \$3.2 million per annum. Option 2 is a moderate increase for the purpose of utilisation. Projections from the stock assessment indicate that the biomass will continue to grow and will impact the ability of fishers to target associated fish stocks.
111. Under Option 3, the TACC would be increased by 975 tonnes equating to a 75% increase. Based on the reported SNA 8 port price, this would generate a predicted revenue change of \$4.8 million per annum. Option 3 provides a large increase for the purpose of utilisation. Projections from the stock assessment indicate that the biomass will be well above the target biomass over the next five years. Fisheries New Zealand acknowledges feedback that Option 3 is a significant increase to the TACC and may lead to an increase of the trawl footprint and a corresponding negative impact on the benthic environment.
112. Under Option 4, the TACC would be increased by 1,300 tonnes equating to a 100% increase. Based on the reported SNA 8 port price, this would generate a predicted revenue change of \$6.41 million per annum. Option 4 places the greatest weight on the opportunity for utilisation. It is the least cautious approach; however, it is supported by projections from the stock assessment that the biomass will remain well above the current default target. Fisheries New Zealand acknowledges feedback that Option 4 is a significant increase to the TACC and may lead to an increase of the trawl footprint and a corresponding negative impact on the benthic environment.



# 11 Environmental interactions

113. Key environmental interactions with this fishery, which must be taken into account when considering sustainability measures, concern marine mammals, seabirds, fish and invertebrate bycatch, benthic impacts and habitats of particular significance for fisheries management.

## 11.1 Marine Mammals

114. Historically, trawl fisheries in the areas that encompass SNA 8 have been responsible for incidental capture of fur seals and dolphin species.
115. SNA 8 includes the only habitat that Māui dolphin are found in. [The Hector's and Māui dolphin Threat Management Plan](#) (TMP) guides management approaches for addressing both non-fishing and fishing-related impacts on Hector's and Māui dolphins. Extensive set netting and trawl prohibitions are in place to manage the risks of commercial and recreational fishing to Māui dolphins along the west coast North Island (Cape Reinga to Wellington).
116. In October 2020, as part of a revised TMP, the previous Minister of Fisheries implemented extensive new measures to further reduce fishing-related threats to Māui dolphins. The new measures provide a high degree of certainty that the current risk fishing has to Māui dolphin mortality is close to zero. The measures included:
- creating a new commercial and recreational set-net closure out to 4 nm offshore between Cape Reinga and Maunganui Bluff;
  - extending the commercial and recreational set-net closure between Maunganui Bluff and the Waiwhakaiho River (New Plymouth) from 7 nm to 12 nm offshore;
  - extending the commercial and recreational set-net closure between the Waiwhakaiho River (New Plymouth) and Hawera from 2 nm to 7 nm offshore;
  - creating a new commercial and recreational set-net closure out to 4 nm offshore between Hawera and Wellington; and
  - extending the existing trawl closure between Maunganui Bluff and Pariokariwa Point further south to the Waiwhakaiho River (New Plymouth), and to 4 nm offshore from Maunganui Bluff to the Waiwhakaiho River.
117. New regulations also include a fishing-related mortality limit (FRML) of one dolphin (*Cephalorhynchus spp.*) within the Māui dolphin habitat zone that extends from Cape Reinga to Cape Egmont. To support this, on-board cameras or observers are used to monitor potential interactions with commercial trawl or set net vessels operating in the coastal area.
118. Any increase to the TACC for SNA 8 will need to be closely monitored to assess changes in fishing effort (number of events and distribution) by methods that pose a risk to Māui dolphins. Reviews of the existing fisheries restrictions may be necessary if new information changes our assessment that the risk of fishing-related mortality is no longer close to zero. Industry will need to be very mindful of an increase in effort and risk within the Māui dolphin habitat zone and whether that increases the potential of triggering the FRML.

## 11.2 Seabirds

119. The management of seabird interactions with New Zealand's commercial fisheries is guided by the National Plan of Action to Reduce the Incidental Captures of Seabirds in New Zealand Fisheries ([NPOA-Seabirds](#)).
120. Seabirds can accidentally get caught during commercial fishing. Commercial fishers must file daily reports about what they have caught. Fisheries New Zealand is now releasing these reports quarterly (from the 2019/20 fishing year). You can view this information on our webpage: <https://www.mpi.govt.nz/science/open-data-and-forecasting/fisheries/seabirds-and-protected-marine-species-caught-by-commercial-fishers/>

121. The Spatially Explicit Fisheries Risk Assessment ranks bird species according to their risk from commercial fisheries. The 2020 assessment identified black petrel as the most at-risk seabird, followed by five taxa in the second-highest category: Salvin's albatross, Westland petrel, flesh-footed shearwater, southern Buller's albatross and Gibson's albatross. Approximately 21 seabirds per year have been reported captured in the fisheries associated with SNA 8 since 2010. Approximately 52% of those captures occurred in the trawl fishery. The seabirds most caught in SNA 8 include flesh-footed shearwater, white capped albatross and Black petrel.
122. All options proposed include an increase to the TACC. It is likely that if fishing effort increases in SNA 8 as a result of an increased TACC, then incidental capture of seabirds will also increase. Fisheries New Zealand will monitor the impacts of any changes to the SNA 8 fishery as a result of this review.

### 11.3 Fish bycatch

123. Snapper is predominately taken in a 'mixed' multispecies inshore trawl fishery. The core associated species are trevally, gurnard, tarakihi and John dory. All options propose increases to the settings and allowances. The increased ability to utilise SNA 8 may lead to increased fishing effort in SNA 8. Industry has indicated that it is unlikely to see a significant increase in effort as changes in gear configuration to avoid snapper would be reverted back so snapper catch rates would go up with similar effort, however, this is uncertain.
124. GUR 1 is being reviewed as part of this sustainability round. GUR 1 and SNA 8 are both part of the west coast North Island mixed species trawl fishery. Proposed options for GUR 1 are to decrease the TACC and set a TAC and allowances for the first time. A lower TACC for GUR 1 could lead to the stock constraining commercial fishers' ability to catch SNA 8.
125. Future reviews of west coast fishery could consider a multi stock management approach.

### 11.4 Benthic impacts

126. SNA 8 is mainly caught by trawl, which is known to have a negative impact on benthic habitat. All options propose an increase to settings and allowances.
127. One outcome of a significant increase to the TACC could be an increase in the trawl footprint. This may lead to new areas being fished, or intensification of fishing in areas that have traditionally had less effort. Industry has reported that the trawl footprint is unlikely to grow and that increased SNA 8 catch can largely be taken in the same locations vessels currently operate.
128. During pre-engagement, it was noted that some commercial trawlers have changed fishing behaviour and gear set up to actively avoid snapper and target gurnard. The resulting lowered headline and concerted effort to keep the net on the benthos to actively target gurnard may result in greater levels of bottom contact.
129. Recreational fishing representatives have reported better recreational snapper fishing in areas where trawlers are prohibited; this was attributed to better seabed habitat to support snapper, and snapper food sources.
130. Trawlers are currently prohibited from significant areas within SNA 8. This includes harbours and estuaries, and Māui dolphin habitat protected under the Hector's and Māui dolphin Threat Management Plan. This protects large areas of inshore marine space from impacts from trawling.
131. Fisheries New Zealand considers that the proposed options may result in increased impacts on the benthic environment. However, Fisheries New Zealand will continue monitor changes in the fishery (including trawl footprints) that occur as a result of this review.

## 11.5 Habitats of particular significance

132. Snapper are one of the most abundant demersal generalist predators found in the inshore waters of northern New Zealand and occupy nearly every coastal marine habitat less than 200 m deep.
133. Habitats of particular significance for fisheries management include areas likely to be important for snapper spawning. This includes the coastal areas adjacent to harbour mouths on the west coast throughout SNA 8, particularly the Manukau and Kaipara Harbours.
134. For juvenile snapper, it is likely that certain habitats, or locations, are critical to successful recruitment and maintaining the stock's productivity. After first settling out of the water column, juvenile snapper (10–70 mm fork length) associate strongly with three-dimensional structured habitats in estuaries, harbours, and sheltered coastal areas (such as beds of seagrass and horse mussels). The reason for this association is currently unclear, but the provision of food and shelter are likely explanations.
135. Some potential nursery habitats appear to have a significant contribution to the stock and are likely to be habitats of particular significance for the management of SNA 8. For example, a 2009 study showed that Kaipara Harbour contributed to more than 75% of the recruits to the SNA 8 fishery in 2003. These habitats are subjected to land-based stressors such as pollution and sedimentation, which may affect the survival of juvenile snapper and hence recruitment to the SNA 8 fishery. It should, however, be noted that recruitment over the last decade has been exceptionally good, suggesting that environmental factors affecting egg and larval survival in the ocean have had greater influence on the number of fertilised eggs surviving to adulthood. The strong recruitment could also be supported by the improvement of harbour habitats as a result of riparian fencing and planting, as has occurred in the Kaipara, Raglan and Kawhia areas.
136. Fisheries New Zealand considers that the options proposed are unlikely to pose a threat to the areas identified as potential habitats of significance. This is because of the existing measures that protect the harbour and estuary benthic habitats.
137. The following table summarises the identified habitats of significance, the threats faced, and the existing protection measures.

**Table 6: Habitats of significance within SNA 8.**

<b>Fish Stock</b>	<b>SNA 8</b>
Habitats of significance	Kaipara Harbour, Manukau Harbour, and probably other harbours in SNA 8 that are utilised by SNA 8 juveniles.
Attributes of habitat	Large areas of shallow flats, especially areas with emergent benthic fauna/flora that provide: <ul style="list-style-type: none"> <li>• Feeding opportunities.</li> <li>• Refuge from predation.</li> </ul>
Reasons for particular significance	<ul style="list-style-type: none"> <li>• Important inshore stock.</li> <li>• Juvenile snapper density much higher within biogenic habitats.</li> <li>• A high proportion of SNA 8 recruits are known to come from the Kaipara Harbour especially.</li> <li>• Likely that recruitment failure would result in major decline of stock productivity.</li> </ul>

Risks/Threats	<ul style="list-style-type: none"> <li>• Sedimentation from land-based practices.</li> <li>• Eutrophication from land-based practices and finfish farming.</li> <li>• Electricity generating turbines altering tidal energy flux – note: this proposal has not progressed.</li> <li>• Additional aquaculture facilities over seagrass beds.</li> <li>• Commercial fishing using bottom-impacting methods.</li> <li>• Amateur scallop dredging.</li> <li>• Adverse effects from non-indigenous/invasive species such as the Asian date mussel.</li> </ul>
Existing protection	<ul style="list-style-type: none"> <li>• Trawl, Danish seine, and commercial scallop dredging are prohibited in all estuaries and harbours in SNA 8.</li> <li>• The Kaipara Harbour is closed to recreational fishing for scallops (hence no recreational dredging).</li> </ul>

## 12 Uncertainties and risks

### Catch per unit of effort (CPUE) in the 2021 SNA 8 Stock Assessment

138. There have been considerable changes in the operation of the trawl fisheries during the stock assessment period related to the extent of targeting/avoidance of snapper. The CPUE analysis has endeavoured to account for some of these changes; however, the CPUE indices are considered to under-estimate the increase in abundance during the more recent years.

### Recruitment estimates in the Stock Assessment

139. The precision of the estimates of the recent (2014 onwards) year class strengths from the trawl survey have yet to be fully supported by sufficient additional observations from the commercial catch-at-age sampling. The shift in the overall level of recruitment is likely to be related to environmental conditions.
140. Fisheries New Zealand considers the risks of the uncertainties in the current stock assessment can be managed through ongoing monitoring and assessment. It is considered that the stock should be assessed again within five years and sustainability measures reviewed if necessary. More information on monitoring of the SNA 8 stock can be found in section 15.1 of this document.

## 13 Deemed values

141. Deemed values are the price paid by fishers for each kilogram of unprocessed fish landed in excess of a fisher's ACE holdings. The purpose of the deemed values regime is to provide incentives for individual fishers to acquire or maintain sufficient ACE to cover catch taken over the course of the year.
142. [The Deemed Value Guidelines](#) set out the operational policy Fisheries New Zealand uses to inform the development of advice to the Minister on the setting of deemed values.
143. The current deemed values rates for SNA 8 are shown below in Table 7. Since 2012 a stringent differential schedule has been applied to SNA 8 (with rates for maximum excess equalling 400% of the annual rate) to support the rebuilding of the stock. The current scheme has been effective in maintaining catches within or close to the TACC however it is now appropriate to consider alternative settings to reflect the current status of the stock.

**Table 7: Current deemed value rates (\$/kg) for SNA 8.**

Stock	Interim	Annual 100-105%	Differential rates (\$/kg) for excess catch (% of ACE)						
			105- 110%	110- 120%	120- 130%	130- 140%	140- 150%	150- 160%	160%+
<b>SNA 8</b>	5.40	6.00	7.00	9.00	12.00	16.00	18.00	20.00	22.00

144. The Deemed Value Guidelines identifies ACE and port price as references to determine annual deemed values. Setting the annual deemed value above the ACE price and below the port price is generally considered to provide a balance between encouraging fishers to balance their catch with ACE and avoiding incentives to discard.
145. The average price paid by fishers during the 2019/20 fishing year for one kilogram of SNA 8 ACE was \$4.03. The 2019/20 port price index of SNA 8 was \$4.93/kg. An annual deemed value of \$4.48 and an interim level of \$4.03 is proposed (recognising that the guidelines suggest interim deemed values should be set at 90% of the annual rate).
146. The application of differential deemed values is optional. Given the shared nature of the SNA 8 fishery and the desire to maintain the fishery at rebuilt levels, the application of differential deemed values is proposed with a choice of two options outlined below.

#### **Option 1**

147. Special differential deemed value rates commence once catch exceeds ACE by 10% and increase at 10% intervals.

**Table 8: Special differential deemed value rates (\$/kg) proposed for SNA 8 under Option 1.**

Stock	Interim	Annual 100- 110%	Differential rates (\$/kg) for excess catch (% of ACE)							
			110- 120%	120- 130%	130- 140%	140- 150%	150- 160%	160- 170%	170- 180%	180%+
<b>SNA 8</b>	4.03	4.48	4.90	5.34	5.78	6.23	6.68	7.12	7.57	8.01

#### **Option 2**

148. Standard differential rates which commence when catch exceeds ACE by more than 20%. Catch more than ACE holdings is charged at the annual deemed value rate up to the 20% level. This option provides greater tolerance for low levels of over catch.

**Table 9: Standard deemed value rates (\$/kg) for proposed for SNA 8 under Option 2.**

Stock	Interim	Annual 100-120%	Differential rates (\$/kg) for excess catch (% of ACE)				
			120-140%	140-160%	160-180%	180-200%	200%+
<b>SNA 8</b>	4.03	4.48	5.34	6.23	7.12	8.01	8.90

149. Fisheries New Zealand welcomes any feedback on the proposed deemed value options.

## 14 Preferential allocation rights (28N rights)

150. There are 932.4 tonnes of preferential allocation, known as '28 N' rights, associated with the SNA 8 stock. A total of 16 SNA 8 quota holders have preferential rights, with two holders having 96% of the rights.
151. When 28N rights are triggered in a fishery through an increase to the TACC, they are honoured by reallocating quota shares from other quota holders in the fishery to the 28N rights holders – in this case the tonnage held may increase, but the percentage share of other quota holders in the fishery decreases. Reallocation of quota shares not only increases the catch entitlement of the 28N rights holder, but also alters the proportionate shares of all quota owners in the stock.
152. Notwithstanding their automatic consequence for quota holders, the existence of 28N rights is not a reason for or against setting or varying the TAC, TACC, and allowances.

## 15 Other Matters

### 15.1 SNA 8 Monitoring Plan

153. During pre-engagement with tangata whenua, recreational and commercial stakeholders and environmental non-government organisations, robust future monitoring was identified as a critical output of a successful review of SNA 8. A desire to manage and maintain the stock at a high biomass (at or above the default 40% target) was communicated, and concerns were raised that SNA 8 could decline below current levels if monitoring did not support a responsive management approach.
154. In response to this, Fisheries New Zealand recommends the development of a monitoring plan for SNA 8. This plan will ensure the right information is available at the appropriate time to inform future management decisions and ensure the long-term sustainability of the stock.
155. Fisheries New Zealand invites views on how the SNA 8 fishery should be monitored to support ongoing sustainable management of the fishery.

### 15.2 Recreational Controls

156. The options outlined in this paper do not propose any new controls on recreational fishing that would constrain current catch. The current status of the stock is above the default target biomass and the current estimated recreational catch is considered by Fisheries New Zealand to be sustainable.
157. Some stakeholders have suggested that the daily bag limit and MLS should be aligned with the SNA 1 fishery, by increasing the MLS to 30cm and decreasing the daily bag limit to seven. Fisheries New Zealand commissioned an evaluation of alternative recreational snapper MLS and bag limits for SNA 8. The findings of this report indicated that the alignment of MLS and bag limits for SNA 1 and SNA 8 would have a negligible effect on constraining the level of current recreational catch.

## 16 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 customary Māori, recreational and other sources of mortality appropriate? Why?

- Do you support the creation of a SNA 8 monitoring plan and/or advisory group? What monitoring would you like to see in the fishery?
- Do the current recreational controls provide for recreational catch?
- Do you support the current default target biomass of 40% B<sub>0</sub> for the fishery? If not, what should be considered when setting an alternative target?
- Do you think these options adequately provide for social, economic, and cultural wellbeing?
- Do you have any concerns about potential impacts of the proposed options on the aquatic environment?

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

## 17 How to get more information and have your say

159. Fisheries New Zealand invites you to make a submission on the proposals set out in this discussion document. Consultation closes at 5pm on 27 July 2021.

160. Please see the Fisheries New Zealand sustainability consultation webpage (<https://www.mpi.govt.nz/consultations/review-of-sustainability-measures-2021-october-round>) 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](mailto:FMSubmissions@mpi.govt.nz).

## 18 Referenced reports

Department of Conservation and Fisheries New Zealand (2019). Hector's and Māui Dolphin Threat Management Plan. Latest review accessible at: <https://www.mpi.govt.nz/consultations/hectors-and-maui-dolphins-threat-management-plan-review/>

Department of Conservation and Fisheries New Zealand (2020). National Plan of Action — Seabirds 2020. Accessible at: <https://www.mpi.govt.nz/dmsdocument/40652-National-Plan-Of-Action-Seabirds-2020-Report>

Fisheries (Kaimoana Customary Fishing) Regulations (1998). Accessible at: <https://www.legislation.govt.nz/regulation/public/1998/0434/latest/DLM267987.html>

Fisheries Act (1996). Accessible at: <https://www.legislation.govt.nz/act/public/1996/0088/latest/DLM394192.html>

Fisheries (Amateur Fishing) Regulations (2013). Accessible at: <http://www.legislation.govt.nz/regulation/public/2013/0482/latest/DLM3629901.html?src=qs>

Fisheries New Zealand (2011). Operational Guidelines for New Zealand's Harvest Strategy Standard. Accessible at: <https://www.mpi.govt.nz/dmsdocument/19706-OPERATIONAL-GUIDELINES-FOR-NEW-ZEALANDS-HARVEST-STRATEGY-STANDARD>

Fisheries New Zealand (2019). Draft National Inshore Finfish Fisheries Plan. Accessible at: <https://www.mpi.govt.nz/consultations/draft-national-inshore-finfish-fisheries-plan/> Fisheries New Zealand (2020). Guidelines for the review of deemed value rates for stocks managed under the Quota Management System. Accessible at: <https://www.mpi.govt.nz/dmsdocument/40250/direct>

Fisheries New Zealand (2021). Fisheries Assessment Plenary, May 2021: stock assessments and stock status. Compiled by the Fisheries Science and Information Group, Fisheries New Zealand, Wellington, New Zealand. Accessible at: <https://www.mpi.govt.nz/science/fisheries-science-research/about-our-fisheries-research>

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Wynne-Jones, J.; Gray, A.; Hill, L.; Heinemann, A. (2014) National Panel Survey of Marine Recreational Fishers 2011–12: Harvest Estimates. New Zealand Fisheries Assessment Report 2014/67. Accessible at: <https://www.mpi.govt.nz/dmsdocument/4719/direct>

Wynne-Jones, J.; Gray, A.; Heinemann, A.; Hill, L.; Walton, L. (2019). National Panel Survey of Marine Recreational Fishers 2017-2018. New Zealand Fisheries Assessment Report 2019/24. 104p. Accessible at: <https://www.mpi.govt.nz/dmsdocument/36792-far-201924-national-panel-survey-of-marine-recreational-fishers-201718>