



Review of Sustainability Measures and Other Management Controls for SNA 1 for the 2013-14 Fishing Year

Final Advice Paper

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1 EXECUTIVE SUMMARY

1.1 CONTEXT

1 The SNA 1 fishery is New Zealand's most valuable inshore finfish fishery. The fishery is highly valued and fully utilised by the customary Māori, recreational, and commercial sectors. The SNA 1 fishery management area encompasses a large proportion of the New Zealand population, with over two million people estimated to be living near its boundaries.

2 This is the first occasion management controls for SNA 1 have been reviewed since 1997. This review was triggered by the completion of a new science assessment of the status of SNA 1 and new information about the level of catch by recreational fishing interests.

3 In total, the Ministry for Primary Industries (MPI) received 47 709 submissions – including 46 059 form submissions (of which 6219 were individually amended).

4 The lapse of time between reviews has heightened tensions about likely outcomes given the potential that a further 15 years may elapse before interested parties have another opportunity to influence decisions about the management of SNA 1. As a consequence your decisions will be highly anticipated and closely scrutinised.

5 The situation in 2013 paints a considerably different picture compared to 1997 in terms of what has been achieved and what needs to occur in the future. Stakeholders have conflicting views about what has occurred in the fishery as well as the nature of the rights associated with their interests and what measures should now be taken. There is broad cross-sector support for engaging in discussion about a long term strategy for SNA 1, despite the taking of strong sector-based positions in submissions.

1.2 CONSULTATION DOCUMENT

6 MPI released a consultation document on the review of the SNA 1 fishery on 12 July. The SNA 1 consultation document highlighted the following information:

- The current Total Allowable Catch (TAC) is 7550 tonnes. The catch for the 2011-12 fishing year was estimated to be 9065 tonnes.
- The current combined non-commercial allowance is 2600 tonnes. The current recreational catch is estimated to be 3950 tonnes.
- In 1997 SNA 1 was assessed as being at a low level of 15% of unfished biomass (B_0). The stock has increased in size to reach between 24% B_0 and 19% B_0 , depending on the sub-population being measured

- In 1997 the target biomass level for SNA 1 was determined as being 23% B_0 . In 2013 a new interim biomass target of 40% B_0 , consistent with best practice, was adopted for the purposes of undertaking a new stock assessment.
- Future projections of what the SNA 1 stock size will look like were made using the 2013 stock assessment and either long term average recruitment of snapper or recent short term recruitment. The use of recent short term recruitment levels produces more optimistic projections than use of long term average recruitment.

7 Based on this information, the consultation document set out options regarding a number of management controls for SNA 1, namely:

- The level of the TAC.
- Allocation of the TAC. Allocation considers the allowances for customary and recreational fishing interests and other sources of mortality to the stock related to fishing, and the Total Allowable Commercial Catch (TACC).
- Other management controls. These include the recreational daily bag limit and minimum legal size (MLS) for snapper. For commercial fishers, the deemed value rates are a part of other management controls.

1.3 TAC OPTIONS

8 The consultation document presented three TAC options; 7050 tonnes, 7550 tonnes (the current TAC), and 8050 tonnes. These options reflect the choices about how to manage the ongoing rebuild of SNA 1 over the next five years.

9 The options are informed by short term projections based on levels of recent average recruitment of new individuals to the SNA 1 stock. These projections indicate that the stock will continue to rebuild, albeit very slowly, or remain at about the current biomass level over the next five years for all of the TAC options. In contrast, projections based on long term average recruitment levels suggest that under the same range of TAC scenarios the biomass level will decline.

10 The value of this fishery warrants a regular review (every five to seven years) of management settings to provide greatest utilisation benefits to all sectors. Maximising benefits from this management approach will require careful consideration of information needs and closer engagement and partnership with tangata whenua and stakeholders.

11 Submissions voiced a general preference by the users of the resource for a TAC of 8050 tonnes. However, the recreational and commercial fishing interests have preferences for quite different allocation outcomes. There was a sense (albeit not shared across all

submissions) that the SNA 1 stock is not in a crisis situation and that the stock assessment does not accurately reflect the situation on the ground. The exception to this is the state of the Bay of Plenty sub-population of the stock. The 2013 stock assessment confirms that the SNA 1 biomass has increased in size, but is still considerably below the interim biomass target and that better yields could be taken in the future if the stock continues to rebuild.

12 MPI suggest there is a need to reduce current catch, which was in excess of 9000 tonnes in 2011-12, to a level that provides for a rebuild of SNA 1 (based on short term recruitment levels), while allowing for the potential that a substantial reduction may be required in the future should recruitment levels in the fishery turn out to be lower than the estimated recent average levels of recruitment predict. MPI consider that the proposed TAC options adequately achieve that balance.

1.4 ALLOCATION

13 The consultation document identified that a combined non-commercial allowance was made in 1997. For your present decision, you are required under the Fisheries Act 1996 (the Fisheries Act) to make a separate allowance for recreational and customary fishers. This, together with the fact that the estimate of current recreational catch is well in excess of the existing combined allowance, means that there is no status quo option for allocation of the SNA 1 TAC.

14 The consultation document proposed that an allowance of 50 tonnes be made for customary fishing interests and the allowance of 450 tonnes be retained for other sources of mortality to the stock related to fishing. The consultation document identified two basic approaches for the allowance for recreational fishing and the TACC; a proportional or a non-proportional allocation.

15 Concerns were raised in submissions about the accuracy of information on the catch of all fishing interests, especially the catch of amateur charter boats, the lack of annual reporting of recreational catch, and the level of discarding by commercial fishing vessels. Industry has put forward a package of initiatives which will significantly improve information about the level of discards (both legal and illegal); these are set out in Table 1.

16 Customary fishing interests adopt a cautious response to the proposed customary allowance of 50 tonnes. There is a concern that it may constrain the fulfilment of customary fishing interests. MPI considers that setting a nominal allowance in a fully utilised fishery is not appropriate. The customary allowance will be adjusted when new information becomes available.

17 Commercial fishing interests support a proportional approach. Commercial interests point to a proportional approach as essential to maintaining the integrity of the Quota Management System (QMS). Commercial interests are also highly critical of the failure to manage recreational catch and the risks this poses to the long term sustainability of SNA 1.

18 Recreational fishing interests either claim a priority in terms of allocation or rely on a range of factors (such as value, recognition of population growth, the existing proportions are outdated) to support the case that preference should be given to the recreational allowance in this instance. A contention that it is unfair to place responsibility for the rebuild of SNA 1 solely on the public of New Zealand is also raised. A case is also made by recreational interests and others for a paradigm shift in terms of allocation of the TAC in inshore areas.

19 For SNA 1 your decisions regarding the allocations to recreational and commercial fishing interests will prove highly contentious. The Fisheries Act is largely silent on how the TAC is to be allocated. It affords no priority to one sector over another. You have discretion as to allocation based on consideration of the competing demands on a case by case basis. The issue is about the extent to which the recreational catch should be allowed for under the TAC, whether in full or in part. The best available information suggests that recreational demand has increased in SNA 1. You have discretion to decide, based on the available information, what is a reasonable allowance for recreational fishing interests and the TACC in the circumstances.

1.5 OTHER MANAGEMENT CONTROLS

20 The recreational daily bag limit and the MLS are designed to work in tandem to manage the average recreational catch to the recreational allowance (allowing for some fluctuation of catch from year to year). The consultation document presented a matrix of bag limits and MLS sizes under a range of possible recreational allowances.

21 A large majority of submissions from recreational fishing interests strongly object to a proposal to cut the recreational bag limits or increase the minimum legal size without an agreed strategy in place. Of those who supported changes, the majority supported a daily bag limit within a range of five to eight snapper, and a MLS of 30 to 33 centimetres. Commercial fishing interests strongly support the need to constrain recreational catch to support the integrity of the QMS and to ensure the objectives of the Fisheries Act are achieved.

22 The range of allocation options and corresponding controls for each of the proposed TAC levels is presented in Figures 3, 4 and 5 below.

1.6 ONGOING MANAGEMENT

23 MPI propose that a multi-sector working group is established by 15 December 2013 and is tasked with developing management plan for SNA 1 by 1 October 2015. The plan would determine how best to maximise the benefits from the fishery. There is cross-sector support for such a process.

24 Commercial fishing interests have developed a package of initiatives which will contribute to significantly improved information about the level of legal discards. More generally, MPI is undertaking the following initiatives in inshore fisheries which will support better monitoring and information about SNA 1:

- Condition on permits requiring vessels to be capable of carrying an observer from 1 October 2014
- Double the number of inshore observer days from 1000 to 2000 from 1 October 2013
- Trial the use of cameras to record and measure fish returned to the sea.

1.7 DESCRIPTION OF ALLOCATION OPTIONS AND CORRESPONDING CONTROLS FOR PROPOSED TAC OPTIONS

Figure 1: Current allowances, and TACC for SNA 1 (TAC of 7550 tonnes)

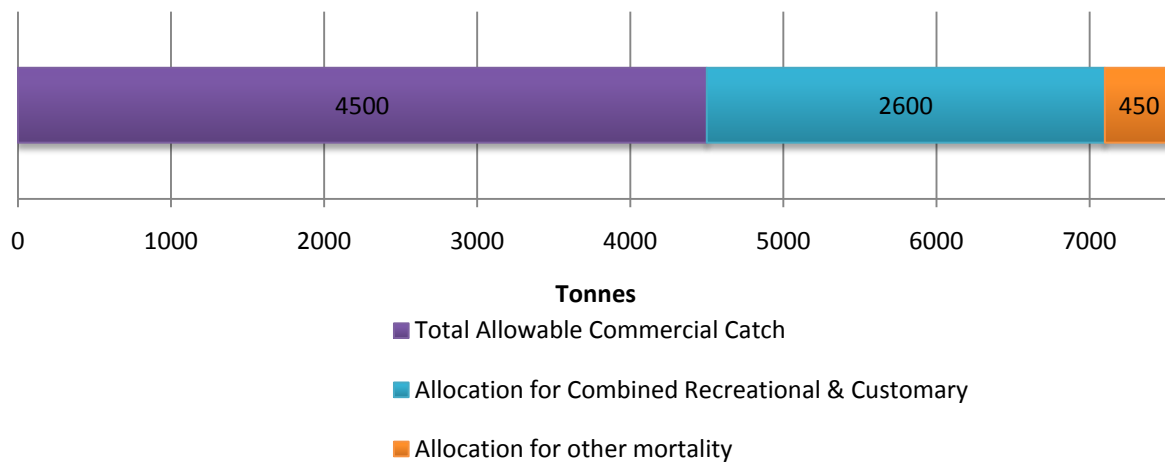
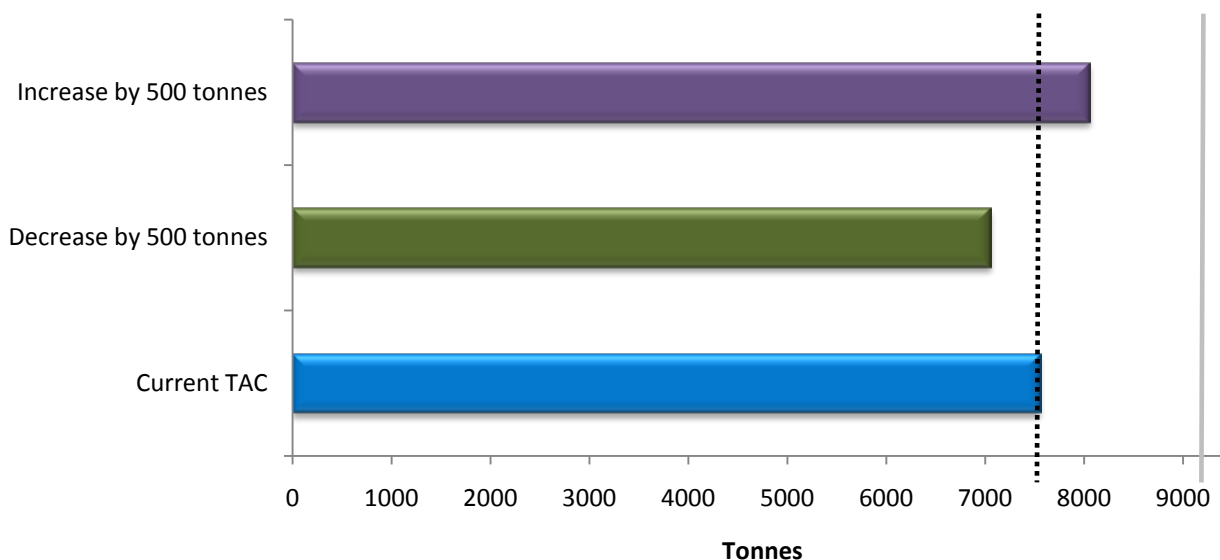


Figure 2: TAC options proposed (Decision One)



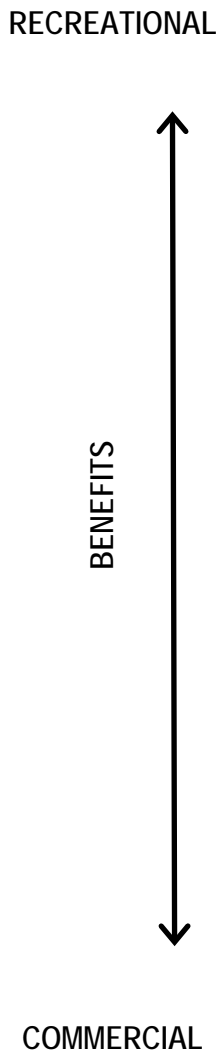
25 The dotted line indicates the current TAC (7550 tonnes). The grey line indicates the level of current estimated catch (from the 2011-12 year).¹

¹ Estimate of 2011/12 total catch is 9065t which includes 4615t reported commercial landings, 3750t recreational estimate, 200t amateur charter vessel estimate, 450t other sources of fishing-related mortality estimate, 50t customary harvest estimate

26 Figure 3 shows several scenarios for allowances and the TACC if the TAC is increased by 500 tonnes to 8050 tonnes.

Figure 3: Allocation and corresponding controls for a TAC of 8050 tonnes (Decisions Two and Three)

Allocation	TAC and allowances <i>(figures are in tonnes)</i>					MLS under various daily bag limits ² <i>(figures are in centimetres)</i>		
	TAC	Customary	OSFRM	Recreational	TACC	6	7	8
						6	7	8
RECREATIONAL Recreational allowance increases by 500 tonnes	8 050	50	450	3 050	4 500	27-32	29-33	31-34
Recreational allowance increases by 320 tonnes, TACC increases by 180 tonnes	8 050	50	450	2 870	4 680	30-34	31-34	32-35
Recreational allowance increases by 250 tonnes, TACC increases by 250 tonnes	8 050	50	450	2 800	4 750	31-34	32-34	32-35
TACC increases by 320 tonnes, recreational allowance increases by 180 tonnes (proportional allocation)	8 050	50	450	2 730	4 820	32-34	32-35	33-35
COMMERCIAL TACC increases by 500 tonnes	8 050	50	450	2 550	5 000	33-35	34-36	34-36



² There are a number of uncertainties and assumptions in this data that are explained in later sections of this final advice. The MLS figure is based on reducing recreational fishing from a level that, at the lower end, assumes recreational catch would otherwise continue at the level of estimated average catch over the past five years, or at the higher end, that recreational catch will otherwise continue at the level of harvest estimates (including for amateur charter vessels) for the 2011-12 fishing year.

27 Figure 4 shows several scenarios for allowances and the TACC if the TAC is decreased by 500 tonnes to 7050 tonnes.

Figure 4: Allocation and corresponding controls for a TAC of 7050 tonnes (Decisions Two and Three)

	Allocation	TAC and allowances <i>(figures are in tonnes)</i>				MLS under various daily bag limits ³ <i>(figures are in centimetres)</i>			
		TAC	Customary	OSFRM	Recreational	TACC	5	6	7
RECREATIONAL	TACC decreases by 500 tonnes	7 050	50	450	2 550	4 000	32-35	33-35	34-36
	TACC decreases by 320 tonnes, recreational allowance decreases by 180 tonnes (proportional allocation)	7 050	50	450	2 370	4 180	34-36	34-36	35-37
	TACC decreases by 250 tonnes, recreational allowance decreases by 250 tonnes	7 050	50	450	2 300	4 250	34-36	35-37	35-37
	Recreational allowance decreases by 320 tonnes, TACC decreases by 180 tonnes	7 050	50	450	2 230	4 320	35-37	35-37	35-37
COMMERCIAL	Recreational allowance decreases by 500 tonnes	7 050	50	450	2 050	4 500	36-38	36-38	36-38



³ There are a number of uncertainties and assumptions in this data that are explained in later sections of this final advice. The MLS figure is based on reducing recreational fishing from a level that, at the lower end, assumes recreational catch would otherwise continue at the level of estimated average catch over the past five years, or at the higher end, that recreational catch will otherwise continue at the level of harvest estimates (including for amateur charter vessels) for the 2011-12 fishing year.

28 Figure 5 shows several scenarios for allowances and the TACC if the TAC retained at 7550 tonnes.

Figure 5: Allocation and corresponding controls for a TAC of 7550 tonnes (Decisions Two and Three)

Allocation	TAC and allowances <i>(figures are in tonnes)</i>					MLS under various daily bag limits ⁴ <i>(figures are in centimetres)</i>		
	TAC	Customary	OSFRM	Recreational	TACC	6	7	8
Recreational allowance increases by 500 tonnes, TACC decreases by 500 tonnes	7 550	50	450	3 050	4 000	27-32	29-33	31-34
Current allocation remains unchanged	7 550	50	450	2 550	4 500	33-35	34-36	34-36
TACC increases by 500 tonnes, recreational allowance decreases by 500 tonnes	7 550	50	450	2 050	5 000	36-38	36-38	36-38

RECREATIONAL



BENEFITS

COMMERCIAL

⁴ There are a number of uncertainties and assumptions in this data that are explained in later sections of this final advice. The MLS figure is based on reducing recreational fishing from a level that, at the lower end, assumes recreational catch would otherwise continue at the level of estimated average catch over the past five years, or at the higher end, that recreational catch will otherwise continue at the level of harvest estimates (including for amateur charter vessels) for the 2011-12 fishing year.

Table 1: Other proposed measures

Proposed measure	Expected benefits	Implementation date	Estimated cost
Vessel Monitoring Systems (VMS) on all vessels	Knowing where commercial fishers operate in real time	1 October 2014	\$600,000 (industry)
Camera or observer coverage on: <ul style="list-style-type: none"> • 25% of SNA 1 trawl vessels by 01/12/ 2013 • 50% of all trawl vessels by 01/10/ 2014 • 100% of all trawl vessels by 01/10/ 2015 	Efficient way of increasing observation of the fleet	1 December 2013	\$250,000 (Crown) start-up cost Ongoing data processing costs not yet quantified (\$1-2 million split 50-50 between the Crown and industry)
Monitoring plan in place from 1 October 2013 (testing of cameras and reporting requirements)	Efficient way of increasing observation of the fleet	1 October 2013	See above
Introduce a move on rule, where fishers move fishing spots where a significant portion of catch is small juvenile fish.	Reduce juvenile mortality	During 2014	N/A
Scientific tagging survey	Up to date and reliable information on SNA 1 stock status	1 October 2014	\$7 million split 50-50 between the Crown and industry
Requirement to report all small catch under the commercial legal size (known as "sub MLS").	More information on actual juvenile mortality	1 April 2014	N/A
Development of new gear technology (Precision Seafood Harvesting)	PGP project underway aimed at reducing by-catch, avoiding small fish and improving the quality of catch (i.e. live catch)	Already underway	\$52.6 million split 50-50 between the Crown and industry
Long line maximum size limit	Reduce mortality of non-market but recreationally important large fish	1 October 2014	Nil

2 PART A: MANAGEMENT ADVICE

29 MPI consulted on your behalf regarding proposals for changes to management controls for snapper in Quota Management Area 1 (SNA 1).

30 The SNA 1 fishery is New Zealand's most valuable inshore finfish fishery. The fishery is both highly valued and fully utilised by the customary Māori, recreational, and commercial sectors. The SNA 1 fishery management area encompasses a large proportion of the New Zealand population, with over two million people estimated to be living near its boundaries.

31 Management controls for the SNA 1 stock were last reviewed in 1997. Consideration of potential changes to these management controls were triggered by the completion of a new stock assessment and new information about the level of recreational catch for SNA 1. The current catch from all sources is estimated to be well above the TAC.

32 Consultation occurred about options in respect of the following management controls:

- The level of the TAC.
- Allocation of the TAC. Allocation considers the allowances for customary and recreational fishing interests and other sources of mortality to the stock related to fishing, and the TACC.
- Other management controls. These include the recreational daily bag limit and MLS for snapper. For commercial fishers, the deemed value rates are a part of other management controls.

33 MPI's advice considers each of these management controls.

2.1 TOTAL ALLOWABLE CATCH

2.1.1 Current Settings

34 The current TAC for SNA 1 is 7550 tonnes. Catch for the 2011-12 fishing year is estimated as being 9065 tonnes.

35 The TAC for the SNA 1 stock was last reviewed in 1997. Using the best available information at the time, the SNA 1 stock was estimated at 15% B_0 . The management biomass target level was 23% B_0 . The Minister's decision in 1997 was to rebuild the stock to 23% B_0 , and a TAC reduction was implemented to achieve the rebuild over a twenty year period.

36 The management actions were effective. The recently completed 2013 stock assessment shows that in sixteen years the stock has increased in size to broadly achieve the 1997 target.

37 Targets are important as they identify the biomass level at which the stock can produce the maximum sustainability yield (B_{MSY}).

38 In the 2013 assessment the 1997 targets have been superseded by better information on how to manage fish stocks such as snapper (in particular the 1997 assessment did not allow for natural variability of the stock).⁵ MPI officials proposed a biomass target level of 40% B_0 as an interim reference point for the assessment; this was adopted by the fisheries science working group responsible for undertaking the 2013 assessment.

39 The interim target is consistent with the Harvest Strategy Standard, a policy guide for setting the TAC for fishstocks. The Harvest Strategy Standard was approved by the Minister of Fisheries in 2008. The target, a default proxy for B_{MSY} based on the biological productivity of snapper, is considered interim; pending further work during 2014 to determine an appropriate longer term target in discussion with stakeholders.

40 Based on the new information from the 2013 stock assessment, the consultation document proposed three TAC options within a relatively narrow continuum: 7050 tonnes, 7550 tonnes (the current TAC), and 8050 tonnes. These options sit within a broader range of what theoretically could be set, a range from 3800 tonnes to 9000 tonnes.

2.1.2 Submissions

State of Stock

- 41 A number of submissions noted that there was not a sustainability issue for SNA 1:
- The SNA 1 fishery is not in crisis; heavy handed action to safeguard the sustainability and health of the fishery is not needed (*Aotearoa Fisheries Ltd*)
 - There is a disjunct between the stock assessment model and the experience of fishers on the water. An independent review of the stock assessment is advocated in order to help provide confidence in the current model (*Te Ohu Kai Moana Trustee Ltd*)
 - This is “a success story which is being turned into a disaster” (*NZ Recreational Fishing Council*)
 - The stock is plentiful and in excellent condition/good health (*Leigh Fisheries; Te Runanga o Ngati Whatua; Ngatiwai Trust Board; Te Aupouri Fisheries Management Limited*)

⁵ Refer to Section 3.4 of this final advice for further explanation of the changes in the 2013 stock assessment to the 1997 stock assessment.

42 A key exception is the Bay of Plenty which is considered to be “in real trouble” (*Hibiscus Coast Boating Club*)

43 An alternative view is that there is a crisis of declining snapper (*Motiti Rohe Moana Trust*).

Biomass Target

44 Different views were raised about the use of a biomass target of 40% B_0 :

- Support for rebuilding the stock to 40% B_0 was voiced by Outdoors NZ, ECO, Forest & Bird, as well as by recreational interests/members of the public.
- Commercial fishing interests question the process for adopting the interim biomass target for SNA 1; little justification has been provided. It is suggested that the final advice to the Minister include yield estimates for SNA 1 associated with a range of biomass target levels (*Seafood NZ*)
- The target of 40% B_0 is simply unattainable in any meaningful timeframe. There is no capacity for the fishery to support any further increase in catch unless accompanied by improvements in fishery management practices and each sector demonstrates capability to limit its catch to within its resource allocation (*Aotearoa Fisheries Ltd*)
- The interim biomass target is very conservative (*SNA 1 Commercial*)

Options

45 A common suggestion in many submissions is that all of the proposed options should be rejected or that different options should be implemented.

- The options are contrary to the Fisheries Act, in particular the purpose and principles of the Fisheries Act (*ECO*)
- A TAC that would result in a decline in snapper stocks fails to comply with the “clear obligation” set out in the Fisheries Act to restore a stock to a level that can produce the maximum sustainable yield. (*Environmental Defence Society*)
- A further set of proposals should be put together that would result in the rebuild of the stocks to 40% B_0 based on long term recruitment level within the timeframe specified in the Harvest Standard Strategy (the timeframes have been calculated as 16 years for Northland and 24 years for Hauraki Gulf-Bay of Plenty). (*Environmental Defence Society*)
- SNA 1 should be rebuilt to over 40% B_0 within ten years (*ECO*).
- Changes should be deferred until better information is obtained (such as the effects on businesses, benefits of tourism; science information); or a strategy is in place (*LegaSea*)
- The options should be withdrawn and MPI should start with a wholly collaborative approach (*FishinFuture Search*)

- The concept of a TAC for SNA 1 is academic as there are no management controls in place to limit the actual catch, including unreported mortality, to the TAC. (*Aotearoa Fisheries Ltd*).

46 For the options proposed in the consultation document, a wide range of views were received:

- Support for a 500 tonne increase to the TAC (Option 2 in the consultation document) was voiced by a range of interests (*Te Ohu Kai Moana Trustee Ltd, SNA 1 Commercial, Auckland Fish Market retailers, Leigh Fisheries Ltd, NZ Fishing Industry Guild, Whitianga & Coromandel Peninsula Commercial Fishermen's Association, Runanga o Ngati Whatua; Ngatiwai Trust Board; Te Aupouri Fisheries Management Limited LegaSea form submission; NZ Sports Fishing Council*).
- The Iwi Collective Partnership also supported a 500 tonne increase to the TAC on a conditional basis, including requiring the Section 28N rights issue to be resolved so that non-right holders are not disproportionately impacted by any future TACC decrease; and the TAC is allocated proportionately. Failing that support for status quo TAC is stated.
- Support for a 500 tonne TAC reduction (*Waikato-Tainui Te Kauhanganui Inc; Hauraki Gulf Forum; Tauranga Sports Fishing Club*)
- There is adequate information for the need to take action and reduce the TAC (*ECO*)
- A “set and forget” approach of setting a TAC of 3800 tonnes is regarded as being as inappropriate, and would be unlawful (*SNA 1 Commercial*)
- A small number of submissions supported a TAC outside the range specified in the consultation document, with suggestions ranging from 3000 tonnes to 8500 tonnes.
- There is no legal requirement for the Minister to make any changes to the TAC or allowances – the stock is rebuilding towards BMSY, albeit slowly. There is no set timeframe in which this is required to occur. (*NZ Recreational Fishing Council*)

Other Matters to be Taken into Account

47 A number of additional matters were raised, some of which are relevant considerations under section 11 of the Fisheries Act in respect of your decisions:

- Some submissions consider that none of the TAC options are consistent with sections 7 and 8 of the Hauraki Gulf Marine Park Act 2000. All of the options will result in a decline in stocks, assuming long term average recruitment. A decline in stocks fails to provide for the life-supporting capacity of the Hauraki Gulf and for the social, economic, recreation, and cultural well-being of the people and communities of the Hauraki Gulf (*Environmental Defence Society, Forest & Bird*)

- New Zealand needs to do a lot more to implement the FAO Code of Practice including in the area of stock management, impacts of fishing and habitat effects (*ECO*).⁶
- The Minister must take into account the effects of fishing on the aquatic environment in making his decision. Commercial fishing for snapper (bottom long lining) represents the greatest single risk to any seabird species in New Zealand. Bottom trawling is habitat destructive form of fishing and should not be allowed to continue in the Hauraki Gulf (*Forest & Bird*).
- Greater than fifteen years between stock assessments for SNA 1 is not acceptable (*Aotearoa Fisheries Limited*).
- A tagging survey should be undertaken every five to ten years, with the cost spread over a number of years. Improved catch at age sampling is required (*ECO*).
- The marine environment is seen as an interlinked matrix where one species cannot be dis-associated from the ecological role within the ecosystem, therefore future management should be made on a holistic approach with integrated trophic planning (*Motiti Rohe Moana Trust*)

2.1.3 Setting a TAC - the Fisheries Act

48 The Fisheries Act contains a number of specific provisions to ensure a stock is managed sustainably. A key provision is the setting of a TAC for a QMS stock.

49 Section 13 of the Fisheries Act applies to the SNA 1 stock. Under section 13 there is a requirement to set a TAC to maintain, rebuild or reduce the biomass of snapper to at or above a level that can produce the maximum sustainable yield (MSY), having regard to the interdependence of stocks.

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

51 The obligation to have regard to the interdependence of stocks when setting a TAC requires consideration of the effects of fishing on associated stocks harvested with the target stock, and the role of the target stock in the food chain. In particular, it involves a direct trophic (i.e. one stock is likely to be directly affected through a predator or prey relationship by the abundance of another stock) or symbiotic (interdependent) relationship between stocks. It may also lead to additional bycatch of other stocks that may or may not be able to sustain additional mortality.

⁶ The Food and Agriculture Organization of the United Nations (FAO) Code of Conduct for Responsible Fisheries

52 SNA 1 is currently assessed to be below the biomass level that will support MSY. In this situation, section 13(2)(b) of the Fisheries Act requires a TAC to be set that will result in the stock being moved towards to the target stock level (i.e. at or above a biomass that will support MSY) in a way and rate which has regard to the interdependence of stocks and within a period appropriate to the stock. Before determining the period within which the target stock level is to be achieved, you are to have regard to the biological characteristics (including longevity and productivity) and environmental conditions (such as the effect of temperature on stock recruitment) affecting the stock. These matters are set out in the stock assessment section in Part B of this advice.

53 The most rapid rebuild possible is one with no fishing mortality, and therefore rebuild is constrained only by the biological capacity of the species and any environmental conditions that affect stock size. At the other end of the spectrum, the TAC may be set at a level that ensures that a depleted stock biomass is at least trending towards the target level, but in any particular year the TAC will not immediately move the stock towards that target level.

54 In determining the way and rate of rebuild, you must have regard to relevant social, cultural and economic factors. The immediate status of the stock will also influence the desired short-term rate of rebuild. Where there is an immediate risk of stock collapse, a high rebuild rate may be adopted in the short-term. Thereafter, the rate of rebuild may be decreased as greater weight is given to social, economic and cultural factors.

55 Where a decision with major economic impact is considered immediately necessary, the rationale for that decision should be clearly transparent. The Court of Appeal has stated that “[t]hose affected should be able to see, first, that all other reasonable possibilities have been carefully analysed, and, second, why the decision adopted was considered to be the preferable option”.⁷

56 Under the Fisheries Act, there is no set rate, or timeframe, within which a rebuild of a stock must be achieved. However, the progress of moving towards the target stock level must be suitable to the fishery in question; it must be within a reasonable time. A fisheries management standard (the Harvest Strategy Standard) has been developed which provides best practice policy guidance as to the rate of rebuild. However this does not fetter your discretion to choose a different way and rate to rebuild a fishery that is below target.

57 An interim target level of 40% B_0 was adopted for the purposes of the latest stock assessment of SNA 1. This target is a default proxy for B_{MSY} and is based the Harvest Strategy Standard and the biological productivity of snapper. Section 13 of the Fisheries Act

⁷ *New Zealand Fishing Industry Association (Inc) and Ors v Minister of Fisheries and Ors* (CA82/97, 22/7/97) at p 23.

makes it clear that you have the discretion to set a TAC that moves the biomass towards, or maintains the stock “at or above” a level that can produce B_{MSY} . The interim biomass target level is higher than the 1997 estimate of B_{MSY} . The higher target level was chosen in part to allow for the natural variability of the fishstock.

58 The TAC options in this paper all provide for the rebuild of the stock towards a biomass level that can produce the maximum sustainable yield based on an assumed continuation of recent average recruitment levels. However, there is increased uncertainty as to that outcome beyond the next five years. This uncertainty means that TAC changes may be required in the future. There is no legal requirement that the TAC which is set must deliver a certain rate of rebuild. As long the TAC will ensure that over time the stock size moves towards a biomass level that can produce the maximum sustainable yield, in any particular year a TAC may be set that will not immediately move the stock towards that target stock size.⁸

59 The SNA 1 stock assessment model refers to at least two sub-populations: Northland and Hauraki Gulf-Bay of Plenty. The Fisheries Act requires that the TAC must be set in relation to B_{MSY} for the stock as a whole (i.e. within the Quota Management Area (QMA)) and not the individual level of any sub-populations. The TAC should not be set at a level designed to bring a component sub-population to B_{MSY} .

60 Measures designed to ensure sustainability at a QMA level may not be effective at providing desired levels of access to fisheries on a localised basis. The Fisheries Act provides for a range of measures that may be applied at the stock or local level to address sustainability issues, including catch spreading arrangements; area specific catch limits and bag limits; closed areas; controls on methods, size, and season; plus customary Māori spatial tools.

2.1.4 Additional Factors to be Taken into Account

61 In making your decisions on sustainability measures for SNA 1 (including the TAC) you must under section 11 of the Fisheries Act:

- a) Take into account any effects of fishing on the stock and the aquatic environment. Snapper is taken by a range of fishing methods: rods, set nets, long lines, Danish seine and trawl. Fishing for snapper occurs within the context of a mixed species fishery. Fishing effects on the aquatic environment include impact on habitats and seabirds. One of the options in the paper is for a 500 tonne increase in the TAC. This is not likely to lead to any substantial increase in the fishing effort in respect of recreational and customary fishers (subject to allocation decisions). A 500 tonne increase to the TACC will increase commercial effort by about 10%. A range of existing controls

⁸ *Greenpeace New Zealand Inc v Ministry of Fisheries and Ors* (HC, Wellington, CP 492/93, 27/11/95, Gallen J).

have been implemented to address the effects of fishing. Generally, these controls are considered adequate to address the effects of fishing on the stock and the aquatic environment as a result of the options proposed in this paper. Black petrels have been identified as a high risk species. A process is in place to develop a species specific action plan. Further information on this matter is set out in Part B of this final advice.

- b) Take into account any existing controls that apply to the stock or area concerned. The TAC is supported by a number of management controls (some of which are not specifically related to snapper) that collectively ensure the sustainability of the stock and provide for utilisation within accepted limits. The most appropriate sustainability measure to be set or varied will depend on the precise nature of the issue being addressed.

For SNA 1 there is a large number of existing controls. These include method restrictions, closed areas, and size limits. More detail on existing controls are set out in Part B of this final advice. Given the current information and the status of the stock, MPI proposes changes to the TAC, allowances and TACC, plus additional controls relating to recreational catch are made.

- c) Take into account the natural variability of the stock concerned. Snapper stocks are not known to be highly variable. The recruitment success of snapper was actively considered as part of the 2013 stock assessment for SNA 1. Further information on this issue is outlined in Part B of this final advice.
- d) Have regard to any regional policy statement, regional plan, or proposed regional plan under the Resource Management Act 1991 (the RMA). Under the RMA, a regional council must not perform certain functions in respect of the coastal marine area involving control of the taking, allocation or enhancement of fisheries resources for the purpose of managing fishing or fisheries resources controlled under the Fisheries Act. However, the plans can address the cumulative effects of activities in the coastal marine area. Regional Coastal Environmental plans have been developed by the Bay of Plenty and Northland Regional Councils and the Auckland Council; a Regional Coastal plan has been developed by the Waikato Regional Council. The broad objectives of the relevant plans and policies are consistent with the rebuild of the SNA 1 stock.
- e) Have regard to any management strategy or management plan under the Conservation Act 1987 that apply to the coastal marine area and which the Minister considers to be relevant. Conservation management plans for Northland, Auckland and Waikato have expired.
- f) Have regard to sections 7 and 8 of the Hauraki Gulf Marine Park Act 2000: The options for snapper one presented in this advice are consistent with the objectives stated in these provisions. Section 7 recognises the national significance of the

Hauraki Gulf, including its capacity to provide for the relationship of tangata whenua with the Gulf and the social, economic, recreational and cultural well-being of its people and communities. Section 8 sets out objectives for the management of the Hauraki Gulf, its islands and catchments, which relate to:

- i. the protection and, where appropriate, enhancement of the natural resources of the Hauraki Gulf;
 - ii. the protection and, where appropriate, enhancement of the natural, historic, and physical resources of the Hauraki Gulf
 - iii. the protection and, where appropriate, the enhancement of those natural, historic, and physical resources (including kaimoana) of the Hauraki Gulf with which tangata whenua have an historic, cultural and spiritual relationship
 - iv. the protection of cultural and historic associations of people and communities in and around the Hauraki Gulf with its natural resources;
 - v. the maintenance and, where appropriate, the enhancement of the contribution of the natural, historic and physical resources of the Hauraki Gulf to the social and economic well-being of the people and communities of the Hauraki Gulf and New Zealand; and
 - vi. the maintenance and, where appropriate, the enhancement of the natural resources of the Hauraki Gulf which contribute to the recreation and enjoyment of the Gulf for the people and communities of the Gulf and New Zealand.
- g) Have regard to regulations made under the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012. Regulations were promulgated dealing with permitted activities. The regulations do not affect the lawful taking of wild fish under the Fisheries Act.
- h) Have regard to a planning document lodged with the Minister of Fisheries by a customary marine title group under section 91 of the Marine and Coastal Area (Takutai Moana) Act 2011. No such document has been lodged.
- i) Take into account any conservation services or fisheries services. There is a range of services provided that relate to the management of SNA 1. Existing services do not materially affect proposals for SNA 1 outlined in this paper.
- j) Take into account any relevant fisheries plan approved under this Part. No plans have been approved.
- k) Take into account any decisions not to require conservation services or fisheries services. No decisions materially affect proposals for SNA 1 as outlined in this paper.

2.1.5 MPI Advice on setting the SNA 1 TAC

Biomass target

62 The 2013 stock assessment shows that in just sixteen years the SNA 1 stock has increased in size to broadly achieve the 1997 biomass target. The 1997 biomass target and estimate of B_{MSY} for SNA 1 was calculated as being 23% B_0 .

63 For the 2013 assessment, the 1997 target was superseded because of better information on how to manage fishstocks such as snapper. The 1997 target was deterministic in nature and assumed perfect knowledge and perfect management of the fishery, including frequent changes to the TAC. MPI considers such an approach is unrealistic in practice.

64 The 2013 assessment calculated deterministic B_{MSY} for SNA 1 based on the previous approach for comparative purposes. The B_{MSY} for SNA 1 is estimated to be 29% B_0 (consisting of 26% B_0 for East Northland and 30% B_0 for Hauraki Gulf-Bay of Plenty) rather than the 23% B_0 calculated in 1997.

65 However, MPI has a preference to use a more “real world” estimate of B_{MSY} (a stochastic approach) rather than continuing with a deterministic approach. This preference is not universally accepted by fisheries scientists or those with an interest in SNA 1. The fisheries science working group responsible for undertaking the 2013 assessment adopted, on advice from MPI fisheries managers, an “interim” biomass target level of 40% B_0 to guide the assessment work. For stocks with the biological characteristics of snapper, 40% B_0 represents a default B_{MSY} .⁹

66 The 2013 assessment does not provide a “real world” estimate of B_{MSY} . A “real world” B_{MSY} is a function of the harvest strategy adopted, which includes information about the fishery, what management controls are in place and how it is fished. To determine a “real world” B_{MSY} , discussions with tangata whenua and stakeholders need to occur in the context of the long term management of SNA 1. Although no final B_{MSY} target has been determined the biology of snapper suggests the target will range between 30-40% B_0 , which is above current levels of biomass.

67 The current biomass level is estimated to be 20% B_0 . This current level is below the deterministic B_{MSY} estimate and is highly likely to be below a “real world” B_{MSY} estimate. There are benefits associated with a rebuilt biomass. From a sustainability perspective, it broadens the age structure of the population to include a higher number of older, bigger fish and offers greater protection against environment perturbations affecting spawning success.

⁹ Based on the majority of the biological characteristics of snapper it is deemed to be a low productivity stock

From a utilisation perspective, there are clear benefits both in terms of higher yields and increased availability.

68 Future work is proposed in 2013-14 to assess the costs and benefits of alternative long term biomass target levels (“real word” estimates of B_{MSY}) specific to SNA 1, following input by stakeholders on preferred management approaches.

69 The 2013 assessment indicates that even in the absence of a long term biomass target of B_{MSY} , continued efforts are required to rebuild SNA 1. While a commonly held perspective is that the SNA 1 stock is in a plentiful state, the stock assessment represents the best available information about the status of the stock. Since 1997 SNA 1 has rebuilt from an estimated 15% B_0 to 20% B_0 (24% B_0 for the Northland sub-population and 19% B_0 for the Hauraki Gulf-Bay of Plenty sub-population), with the Bay of Plenty biomass being particularly low.

70 Using the stock assessment model and interim biomass target, projections of what SNA 1 stock size will look like over the short and longer term under a range of TAC scenarios were modelled. Short term projections using levels of recent average recruitment indicate that the stock will continue to rebuild, albeit very slowly, or remain at about the current biomass level over the next five years. Projections using long term average recruitment levels suggest that under the same range of TAC scenarios the biomass level will decline. Recruitment levels for snapper are thought to be influenced by environmental conditions, in particular water temperature.

TAC Options

71 There is considerable uncertainty around the levels of current catch. The sources of uncertainty include: recreational release mortality; recreational illegal catch; recreational undersized mortality; commercial undersized mortality; levels of recreational catch; commercial unreported catch (black market); commercial high grading; commercial dumping.

72 The total catch for the 2011-12 fishing year is estimated to be 9065 tonnes. MPI considers there is a need to reduce this catch level to protect against recruitment and environmental perturbations and to support an increase in biomass and associated future utilisation benefits.

73 Projections showing expected biomass levels of SNA 1 under a range of TAC options have been modelled. All options assume that current catch is managed on average within the TAC. MPI has a preference for using five year projections based on recent levels of recruitment to assess TAC options. MPI considers the value of the SNA 1 fishery warrants a

responsive management approach following regular review (every five to seven years) of management settings to provide greatest utilisation benefits to all sectors. MPI also considers that recruitment in the near future is likely to be similar to levels of recent average recruitment.

74 Short term projections assuming levels of recent average recruitment indicate a range of TAC levels up to 9000 tonnes will maintain current biomass levels for the next five years. In contrast, projections using long term average recruitment levels suggest a TAC of 3800 tonnes is needed to rebuild the fishery to the interim target within the timeframe recommended by the Harvest Strategy Standard.

75 There is uncertainty over future recruitment levels. In addition, a formal management target for this fishery has not been developed or agreed upon. Given these factors, MPI does not support substantial changes to the TAC at this time.

76 Consequently, the consultation document proposed three TAC options that were within a relatively narrow continuum. The TAC options proposed were 7050 tonnes, 7550 tonnes (the current TAC), and 8050 tonnes. These options reflect choices about the way and rate the rebuild of SNA 1 is managed in the short term.

77 All of the proposed options have little influence on the short term biomass trajectories. Five year projections based on levels of recent average recruitment show the biomass will increase slightly over five years under all of the TAC options, shown in Table 2.

Table 2: Median B2018 (as %B₀), by stock and scenario (assuming recent average recruitment levels)

	Hauraki Gulf–Bay of Plenty (B ₂₀₁₃ = 19% B ₀)	East Northland (B ₂₀₁₃ = 24% B ₀)
Scenario 1: Current catch levels	20.2	26.5
Scenario 2: TAC and catch of 7550 tonnes	21.3	27.3
Scenario 3: TAC and catch of 8050 tonnes	20.6	26.8
Scenario 4: TAC and catch of 7050 tonnes	21.9	28.1

78 Under all TAC options, if future recruitment levels revert to the long term average levels there is a risk that the TAC will need to be reduced to rebuild the stock within a reasonable timeframe to any future target.

79 Each of the options has different short term opportunity costs and benefits. A TAC of 8050 tonnes (an increase of 500 tonnes from the current TAC) increase places the greatest weight on the short term projections and the opportunity to provide for an increased level of

utilisation (within the TAC). There are clear utilisation benefits from a 500 tonne TAC increase.

80 With a TAC of 8050 tonnes the stock will rebuild, albeit only slightly, over the next five years – it is estimated that East Northland will increase from 24% to 26.8% B_0 and Hauraki Gulf–Bay of Plenty will increase from 19% B_0 to 20.6% B_0 . Under a TAC of 8050 tonnes, there is a 42% probability that the 2018 Hauraki Gulf–Bay of Plenty biomass will be below 20% B_0 and a 7% probability that the East Northland stock will be below this level. Under the Harvest Strategy Standard a biomass level below 20% signals the need for a time bound rebuild programme to be implemented (although this is not legally required).

81 An increase of 500 tonnes also reflects efforts to bring the overall current catch within the TAC. A TAC of 8050 tonnes in essence provides for a phased reduction of current catch; a phased reduction provides recognition of the social and economic implications of a more substantive reduction.

82 A TAC of 7550 tonnes (the current TAC) gives greater weight to rebuilding the biomass of SNA 1. The impact of reducing levels of current catch by 500 tonnes more than under a TAC of 8050 tonnes is a slightly faster rebuild rate over the next five years.

83 With a TAC of 7550 tonnes the stock will rebuild over the next five years, although to a level only slightly higher than a TAC of 8050 tonnes. It is estimated that East Northland will increase from 24% B_0 to 27.3% B_0 and Hauraki Gulf–Bay of Plenty will increase from 19% B_0 to 21.3% B_0 . Under a TAC of 7550 tonnes, there is a 34% probability that the 2018 Hauraki Gulf–Bay of Plenty biomass will be below 20% B_0 and a 5% probability that the East Northland stock will be below 20% B_0 .

84 The cost of a TAC of 7550 tonnes will be the requirement to significantly constrain current catch to ensure the TAC is not exceeded on average. The need to constrain current catch will have socio-economic implications for sectors which will vary in magnitude depending on allocation decisions.

85 The option of a TAC of 7050 tonnes (a decrease of 500 tonnes from the current TAC) places greater weight on the projections that use levels of long term average recruitment, given uncertainty and the possibility of recent recruitment levels not being sustained over the next five years. A 500 tonne reduction to the TAC can be seen as the start of a programme of TAC reductions (dependent on future recruitment and determination of a long term target level for the stock) that will be necessary to ensure SNA 1 rebuilds to any future likely target level.

86 With a TAC of 7050 tonnes it is estimated that the stock will rebuild over the next five years from 24% B_0 to 28.1% B_0 for East Northland and from 19% B_0 to 21.9% B_0 for Hauraki Gulf–Bay of Plenty. Under a TAC of 7050 tonnes, there is a 26% probability that the 2018 Hauraki Gulf-Bay of Plenty biomass will be below 20% B_0 and a 4% probability that the East Northland stock will be below 20% B_0 .

87 Given the slow rebuild rate indicated with catch levels at or near current levels and initial analysis suggesting that in the long term there would be additional yield available to fishers from a fully rebuilt fishery, there are clear grounds for taking measures to commence a rebuild. A 500 tonne reduction in the TAC will lead to social, cultural and economic implications associated with reduced catch levels. It will potentially exacerbate current concerns of all fishing sectors about the inability to avoid snapper. It will also, subject to allocation decisions, have immediate impact on both the ability of commercial fishers to fully utilise the TACC for other species and the benefits which are accrued to recreational fishers.

88 The options consulted on are consistent with the Fisheries Act. A decision as to the way and rate at which SNA 1 is rebuilt must, in particular, take account of the uncertainties in the information and relevant social, cultural and economic factors. Basing your decision on short term projections and recent recruitment trends does not mean that the decision is inconsistent with the Fisheries Act. A more frequent assessment of SNA 1 will ensure that changes in the status of the stock can be monitored and management action taken accordingly.

2.1.6 Conclusions

89 MPI advise that if you consider that the current information supports the ability to increase catch in the short term without impacting on the long term rebuild of the fishery and there is scope for providing utilisation benefits associated with the increase in the biomass of SNA 1 and enable the growing demand for snapper to be met in part then you should increase the TAC from 7550 to 8050 tonnes. You could also select this option if you were of the view that it provides for an appropriate staged reduction in current catch levels.

90 MPI advise that if you consider that it is necessary to maximise the rate of rebuild of SNA 1 in order to provide for future social, cultural and economic benefits then you should reduce the TAC from 7550 to 7050 tonnes.

91 MPI advise that if you consider that the current TAC of 7550 tonnes adequately balances the need to rebuild the fishery and provides for utilisation of the fishery then you should retain the TAC of 7550 tonnes.

2.2 ALLOCATION OF THE TAC

2.2.1 Current Settings

92 The current TAC of 7550 tonnes was allocated in 1997 (prior to the Fisheries Act 1996 coming into force) with the following allocation:

- A combined non-commercial allowance for recreational and customary Māori of 2600 tonnes
- An allowance for other sources of fishing related mortality of 450 tonnes
- A TACC of 4500 tonnes

93 In accordance with section 21 of the Fisheries Act, there is a need to separate out the recreational and customary Māori non-commercial allowances.

94 The best estimate of current catch (i.e. for the 2011-12 fishing year) is 9065 tonnes consisting of :

- Reported commercial landings of 4615 tonnes
- An estimate of recreational harvest of 3950 tonnes (including an estimate of amateur charter vessel harvest of 200 tonnes),
- An estimate of other sources of fishing-related mortality of 450 tonnes
- An estimate of customary Māori harvest of 50 tonnes

2.2.2 Submissions

General Points

95 A number of general points were made:

- More fundamental adjustments to the TAC allocation, particularly in the inshore areas, should be considered. This includes the option of buying out the commercial quota in some areas to allow the rebuild to be achieved and to recognise the higher value of the stock for recreational users. (*Environmental Defence Society*)
- A paradigm shift may be required so recreational interests can derive maximum benefit at the national level and enable the full spectrum of values from recreational marine fishing to be taken into account. (*NZ Sports Fishing Council*)
- The time is overdue for MPI and government to have meaningful discussions on public fishing access and allocation framework (*NZ Recreational Fishing Council*)
- In order to retain a proportional increase in catch the commercial and recreational sector need to demonstrate a commitment to develop measures to manage their own harvesting and to work together in partnership with all stakeholders and MPI to develop a joint management strategy (*Te Ohu Kai Moana Trustee Ltd*)

- There is a need for good information and for better management of the fishery within sector allowances. All sectors need to work together to obtain better information about this fishery and identify practical and innovative ways to improve its management (*Te Ohu Kai Moana Trustee Ltd*)

Recreational Allowance

96 Different views are expressed about recreational catch estimates:

- The NZ Recreational Fishing Council confirms that their own survey figures align closely with MPI estimates of recreational catch.
- Many fishers find the 2011-12 estimates for the Hauraki Gulf to be higher than what they would currently expect. They submit that snapper harvest in 2011 and 2012 was significantly higher than previous years and expect catch levels to come down in 2013; as a result average estimates between 2004-05 and 2010-11 (3100 tonnes) should be used (*NZ Sports Fishing Council*)
- The methodology for measuring recreational catch is flawed; MPI surveys tended to take place over peak times and inflate the recreational catch (*Epic Adventures Ltd*)
- No surveys were carried out in specific areas (*Ngunguru Fishing Club*)

97 A common theme in submissions from recreational fishers and members of the public is that recreational interests must be given priority when the Minister sets allowances because:

- Recreational fishing is a right and represents a significant part of the social and cultural heritage of all New Zealanders
- The recreational allowance is not a constraint on catch and the Minister must allow for recreational fishing interests
- There is no precedent for the Minister to take any action to limit the non-commercial catch with the present “guesstimate of catch”
- Interpreting recent Court decisions as giving the Minister the power to set a tonnage limit for the public, and then search for regulations that will constrain the public is “inflammatory at least, and an error at most” (*NZ Sports Fishing Council*)
- Moyle’s Promise (a statement made by the Rt Hon Colin Moyle, Minister of Fisheries, in 1989 regarding a national policy for marine recreational fisheries: “where a species of fish is not sufficiently abundant to support both commercial and non-commercial fishing, preference will be given to non-commercial fishing. This position reflects Government’s resolve to ensure all New Zealanders can enjoy and benefit from our fisheries.”)

98 The vast majority of recreational submitters support setting a recreational allowance of 3100 tonnes (mostly via form submissions). Other submissions support a higher allowance of 4000 or 4500 tonnes. Recreational interests submit that the proportion allocated to the recreational allowance should increase:

- There is no requirement in the legislation requiring the Minister to lock public fishers into a fixed proportional share (*NZ Recreational Fishing Council*)
- To reflect the value of the snapper fishery to non-commercial interests
- To allow for the increase in population and increase in recreational demand in SNA 1
- The existing recreational allowance was underestimated when it was set in 1997. The allowance has not been sufficient to cover the actual catch. (*NZ Recreational Fishing Council, Hibiscus Coast Boating Club, Maritime Transport Association*)
- The consultation document focuses on maintaining catch at the proportions established in 1997 without considering what contemporary allowance is reasonable (*Form submissions; NZ Sports Fishing Council*)
- Recreational interests utilise SNA 1 as primarily a food fishery. The fishery is important in areas of high levels of unemployment (*Whangarei District Council*)
- The efficiency of methods and the effects of fishing methods on the aquatic environment should be considered when determining how the TAC is allocated. Recreational fishing techniques have considerably less environmental impact than commercial fishing techniques. (*Environmental Defence Society, Hauraki Gulf Forum*)
- There were some submissions from recreational fishing interests in favour of proportionality, although the common recreational view on proportionality differs from that outlined in the consultation document.

99 Criticism was voiced regarding the consultation document:

- The consultation document places responsibility for the rebuild of SNA 1 on the public of New Zealand and not the commercial sector. This is seen as morally wrong and not in keeping with the principles of the Fisheries Act (*Maritime Transport Association*); it is not equitable (*Whangarei District Council*); recreational fishers have been subject to a number of cuts but the commercial sector has not faced the same treatment. A key focus should be placed on commercial wastage.
- The single intent of the consultation document was to force the public into the quota management system and in effect to treat non-commercial fishing as proportional quota holders of the TAC. (*Form submissions, NZ Sports Fishing Council*); or lock in the recreational sector into a proportional slice of the SNA 1 TAC (*Whangarei District Council*).

- The value of recreational sector has been grossly underestimated; the estimated recreational value of \$136 per trip is fundamentally flawed.
- The consultation document fails to make any estimate of the effects and costs to the plethora of small businesses that depend on, or are associated with, recreational fishing in SNA 1 (*NZ Sports Fishing Council*); serious consideration would be given to moving the entire business to Australia because of the impact on New Zealand sales from changes to recreational fishing measures (*Surtees Boats 2005 Ltd*).
- The marine industry, New Zealand's largest manufacturing sector after primary industries, with \$1.7 billion in annual turnover including \$650 million in exports, relies on its base business of New Zealander's using boats and sailing. Recreational fishing is the singularly most compelling reasons for people purchasing and using their boats. Any new restrictions reducing the ability for New Zealanders to catch a fair quantity of snapper will threaten New Zealand's largest marine manufacturing sector of building and servicing of boats. It would reduce the economies of scale of many member companies making their exports less competitive internationally and result in loss of jobs including reduction in number of boat building apprenticeships. (*NZ Marine Industry Association*)
- There is evidence that recreational fishing provides greater value than commercial fishing in the Hauraki Gulf. Particular reliance is placed on:
 - The Auckland Council and the Hauraki Gulf Forum economic analysis that found that commercial fishing added \$41million of value in 2010 whereas the value of recreational fishing was assessed as \$81million in 2010 (*Environmental Defence Society*)
 - An Auckland University Business School study shows the value in recreational fishing to be around \$1 billion per year (*NZ Recreational Fishing Council*)
 - The capital value of recreational boats and gear is estimated to be about \$4 billion with an annual spend of \$700 million in the SNA 1 area (*Maritime Transport Association*)
 - The benefits to the nation from tourism and much higher job multipliers attached to tourism in comparison to commercial fishing (*ECO; Whangarei District Council; Epic Adventures Ltd*)

100 Commercial fishing interests highlight the perceived failure to manage recreational catch levels and the subsequent effects on the commercial sector:

- The recreational sector enjoys extremely generous allowances in shared fisheries.
- The government is required to impose whatever measures are necessary to constrain recreational catch within the allowance (*NZ Rock Lobster Industry Council, Paua Industry Council*)

- Commercial fishers suffered significant catch reductions in many of the key inshore fisheries as part of the introduction of the QMS; the benefit of rebuilding stocks has been reallocated to the recreational sector over time as the recreational fishery has been allowed to grow in an unconstrained and unmanaged way. Since 1986 total snapper caught annually by commercial fishers has reduced 21%, while over the same period total snapper caught annually by recreational fishers has increased 149% (*SNA 1 Commercial*)
- The unconstrained recreational catch puts at risk the long term sustainability of the SNA 1 stock. If Government is unable or unwilling to constrain recreational fishing within allowances then there are significant consequences for achieving the purpose of the Fisheries Act (*NZ Rock Lobster Industry Council*)
- The growth rate in recreational take far exceeds the capacity of the fishstock to meet the demands of the recreational sector without imposing undue adverse impacts on the commercial sector in particular (*Seafood NZ*)
- The recreational sector seems unwilling and unable to agree to implement any structure or mechanism that would enable it to manage the catch. (*Seafood NZ*)
- The lack of effective management of the recreational SNA 1 catch presents a significant impediment to obtaining MSC Certification for snapper, and the reputational and enhanced export value benefits such certification would bring. (*SNA 1 Commercial*)
- Conditions are not conducive to industry investing to improve their harvesting and reporting when these efforts result not in a healthier fishery but a transfer of catch to the recreational sector. (*Aotearoa Fisheries Ltd*)
- There is an urgent need to obtain, reliable and up to date information on the nature and size of the non-commercial catch. This view is supported by the Iwi Collective Partnership, Te Runanga O Ngati Whatua, and Ngatiwai Trust Board.
- Alarm is expressed about the number of charter boat operators and the failure to gather information on catch. The MPI estimate of charter vessel catch as 200 tonnes is likely to be significantly underestimated. Across the 150 charter vessels working in SNA 1 their cumulative snapper take could be well in excess of 1500 tonnes. (*SNA 1 Commercial*)
- Priority should be given to obtaining accurate information on the harvest levels of recreational (and customary) fishers (*Paua Industry Council*)

TACC

101 Commercial fishing interests overwhelmingly support a proportional approach to allocation. Several iwi submissions also supported a proportional approach. Relevant supporting statements are:

- The use of proportionality in allocation of any TAC variations is one of the foundation blocks that preserve the integrity of the QMS. Accordingly, the Minister would need to demonstrate strong reasons for moving away from that default position. (*Seafood NZ*)
- The integrity of the QMS means that all sectors must enjoy or suffer the fluctuation of the stock (*Te Runanga O Ngati Whatua., Ngatiwai Trust Board, Te Aupouri Fisheries Management Limited*)
- If the commercial inshore fishery can be readily “taken” by the government other than on a “willing buyer/willing seller” basis, and reallocated to the recreational sector, the result would be completely contrary to the fundamental tenets of, and essentially destroy, the QMS. Quota owners will stop investing in fisheries research, plant, vessels and people and develop a very short term focus on the fishery, aimed at extracting value over short time horizons in the clear knowledge that their property right is soon going to be taken from them, either by stealth or explicitly. (*SNA 1 Commercial*)
- “[A] reapportionment of the TAC in favour of recreational interests is a derogation of our Treaty rights that were carried through into the Settlement Act and are now reflected in our Individual Transferable Quota ... any reduction or reapportionment of the SNA 1 TAC in favour of recreational and charter interests will be considered by us to be a breach of trust and good faith” (*Te Runanga o Ngati Whatua; Ngatiwai Trust Board*)

102 A range of views are expressed regarding the TACC. The NZ Sports Fishing Council submit the TACC should remain unchanged. ECO support a reduction to the TACC. Other submitters advocate a substantial reduction. Commercial submissions overwhelmingly support a proportional increase.

103 A large number of non-commercial submissions were critical of commercial fishing practices:

- Commercial methods are destructive and inefficient, especially trawling and Danish / purse seining methods.
- Commercial fishers operating in spawning grounds and during spawning seasons.
- Commercial fishers operating in areas highly frequented and valued by recreational fishers (especially close to shore).

- Commercial offending, including dumping and discarding of snapper and other bycatch species. Many submitters stated that they had observed illegal dumping behaviour from commercial vessels.

104 On the question of value, commercial interests contend that:

- The viability of the wider commercial fishery in Northland, Auckland and Waikato regions is reliant on SNA 1 catch.
- That no comparative assessment of commercial and recreational value can be made at all (*SNA 1 Commercial*)
- It is not for the Government to determine who values the fishery most and make allocation decision on that basis. The Government should create a framework that enables the sectors to make those trade-offs themselves (*Te Ohu Kai Moana Trustee Ltd*)
- The value of a particular fishstock needs to take into account the role it plays in the catch portfolio of commercial fishers (*Seafood NZ*)
- The SNA 1 commercial fishery represents hundreds of millions of dollars in value (including export returns, investment and real jobs). Some 820 full time jobs in Auckland and 360 jobs in the Waikato result directly from the fishery of which SNA 1 is a critical component. (*SNA 1 Commercial*)
- Seafood NZ submits that the interests of New Zealand are better served by:
 - The generation of export receipts rather than the high value consumption of imported components.
 - The need to use our limited natural resources in the most efficient and effective manner.
 - The need to ensure that available savings are channelled into productive investment and not wasteful consumption.
 - The availability of quality seafood products to all New Zealanders, irrespective of their ability to fish for themselves.

105 The SNA 1 Commercial group (representing 95% of commercial vessels in FMA 1 and 90% of the quota ownership of SNA 1) has put forward a suite of initiatives to improve management of SNA 1 and enhance the ability to constrain commercial catch within the TACC – this includes:

- Help funding and participating in tagging programme to better estimate stock status;
- Adopting “a move on rule” when areas of small fish are encountered;
- Investing \$600,000 to install VMS on the SNA 1 commercial fleet; and

- Investigating the practicality of electronic monitoring on vessels to address management objectives.

Other Sources of Fishing Related Mortality

106 The accuracy of the current allowance is questioned in submissions:

- The level of mortality is much larger than the 450 tonne allowance (both recreational and commercial fishing interests consider the allowance is unproven and mortality is likely to be much higher)
- The rebuild of SNA 1 is being retarded by unnecessary waste and discarded juveniles (*NZ Sports Fishing Council*)
- It is unacceptable that not all mortality is reported by the commercial sector and that MPI's statistics do not include all the known sources of recreational mortality (*Aotearoa Fisheries Ltd*)
- The discard rate for snapper has undoubtedly increased due to higher ratios of juveniles caught as the stock becomes more numerically dominated by younger cohorts; the incentives to dump by high deemed value rate; and the demise of "iki" longlining and the increase in bottom trawl and Danish seine methods (*NZ Sports Fishing Council*)
- Reference is made to statement by Glenn Simmons of the Auckland School of Business that dumping is at epidemic levels and widespread and that high deemed values are resulting in an estimated 33% of the inshore catch being dumped.
- High deemed value rates are thought to be driving up Annual Catch Entitlement (ACE) prices up leaving dumping of fish as the only option (*Maritime Transport Association*)
- The bycatch and illegal dumping of snapper could be high as 1000 tonnes annually in the Bay of Plenty alone (*Maritime Transport Association*)
- The 10% of the TACC routinely deducted from the TAC as a "catch-all" allowance for all other mortality caused by fishing is in need of a more contemporary estimate.
- MPI has failed to assess the recreational fishing mortality expected under different bag and limits proposed in the consultation document.

107 A number of suggestions were made as to how other sources of fishing related mortality should be addressed:

- Both commercial and recreational fishers need to reduce fishing related mortality. Research and consultation on additional voluntary measures to reduce fishing related mortality should be initiated (*Outdoors NZ*)

- All discards/waste by commercial fishing should be measured, monitored and reported. It should be counted against quota to incentivise better practices (*Form submissions*)
- A standard for managing juvenile mortality is proposed by the NZ Sports Fishing Council, who suggests the standard be by numbers rather than the weight.
- Both form submissions and the NZ Sports Fishing Council state that with a recreational allowance of 3100 tonnes they would initiate research and consult with the public on what additional voluntary controls would be taken to reduce recreational fishing related mortality to accelerate the rebuild of the SNA 1 stock.

Customary Allowances

108 Issues regarding the customary allowance raised in submissions include:

- The level of the proposed allowance is too low and it may restrict Maori from fulfilling their customary requirements. The 50 tonne allowance should be an interim step until such time as these rights are able to be fully exercised under the customary regulations, and the levels of need can be reliably determined. (*Te Ohu Kai Moana Trustee Ltd*)
- The Iwi Collective partnership has signalled its intention to start a scheme in the Bay of Plenty whereby commercial fishers can harvest agreed levels of customary take.
- Full implementation of the reporting regime under the customary fishing regulations and the addition of an equivalent catch reporting requirement under regulation 27 of the Fisheries (Amateur Fishing) Regulations 1986 is advocated (*Paua Industry Council*)
- The splitting of the non-commercial allowance is opposed as it may put pressure on customary rights in favour of recreational needs; customary fishing rights is a Treaty right guaranteed to us (*Ngati Tamaoho*)

2.2.3 Relevant Provisions of the Fisheries Act

109 After setting the TAC, a separate decision arises in respect of allocating the TAC. Section 21 of the Fisheries Act states that in setting or varying the TACC, the Minister must have regard to the TAC and allow for:

- a) Māori customary non-commercial fishing interests;
- b) Recreational interests; and
- c) All other mortality to that stock caused by fishing.

110 The customary fishing regulations - the Fisheries (Kaimoana Customary Fishing) Regulations 1998 and regulations 27 and 27A of the Fisheries (Amateur Fishing) Regulations 1986 do not provide for the Crown to place limitations on customary fishing. Customary take is regulated through the authorisation system in the customary regulations, which requires that all customary fishing is to be undertaken in accordance with tikanga and the overall sustainability of the fishery. This framework was put in place to give effect to legal obligations in the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992.

111 When allowing for Maori customary non-commercial interests, you must take into account:

- a) any mataitai reserve in the relevant quota management area; and
- b) any temporary area closure or temporary fishing method restriction or prohibition imposed in the area for the purposes of improving the availability of size of a species for customary fishing purposes or recognising a customary fishing practice in the area.

112 The intent is that measures (including bylaws) enacted for purposes of customary fishing are not rendered nugatory, or reasons for limited customary take are ignored, when setting the customary allowance. There are three mataitai (Te Maunga o Mauao, Raukokore, and Te Puna) and three temporary closures (Maunganui Bay, Marsden Bank, and Umupuia Beach). There are also two Taiapure in existence. Of these areas, only Maunganui Bay is of relevance to your decision, being closed to all fishing except for kina.

113 When allowing for recreational interests, you must take into account regulations that prohibit or restrict fishing in any area closed to commercial fishing to recognise recreational fishing interests. Such recreational-only areas can be created following the exercise of a formal dispute resolution process, set out in the Fisheries Act, between recreational and commercial fishing interests. No recreational only areas have been created under this process.

114 An allowance is to be made for all other mortality to a stock that results from fishing by all fishing interests. This includes illegal catch, discards, and incidental mortality from fishing gear. Information about other sources of fishing related mortality for snapper is set out in Part B of this final advice.

115 For the TACC, the Fisheries Act states that it can be set at zero (section 20). This would occur in situations where the TAC was set at zero for sustainability reasons (i.e. the fishery was closed) or allocative reasons (i.e. the species was recognised as non-commercial only).

116 There is also a requirement to have “particular regard” to sections 7 and 8 of the Hauraki Gulf Marine Park Act 2000 when making decisions under s 21 of the Fisheries Act. The requirement to have particular regard requires the decision-maker to satisfy himself or herself that the decision meets those of the purposes which are of most relevance, to the extent that that can be achieved in harmony with other relevant considerations applying to the decision.¹⁰ Details of these matters are set out earlier in this final advice. The social, cultural and economic well being of those with an interest in fishing for snapper is recognised in the options for allocation of the TAC for SNA 1 in this paper.

2.2.4 Judicial Guidance

117 Relevant judicial findings provide useful guidance in terms of your allocation decisions under section 21 of the Fisheries Act.

118 The wording of the Fisheries Act sets out a particular order of decisions – after allowing for Maori customary non commercial fishing interest, recreational fishing interests, and all other sources of fishing-related mortality, the remainder constitutes the TACC.¹¹ On their ordinary meaning the words “allow for” require the Minister both to take into account those interests and to make provision for them in the calculation of the total allowable commercial catch.¹² However this does not mandate any particular outcome.¹³

119 Importantly, the Fisheries Act does not confer priority for any interest over the other¹⁴ and does not limit the relative weight which the Minister may give to the interests of competing sectors.¹⁵ It leaves that judgment to the Minister.

¹⁰ *Sanford Limited and Ors v New Zealand Recreational Fishing Council Inc and Anor* (Court of Appeal, CA 163/07, 11 June 2008), para 99.

¹¹ *New Zealand Recreational Fishing Council Inc v Sanford Limited and Ors* (Supreme Court, SC 40/2008, 29 May 2009), para 53.

¹² *Ibid*, para 55.

¹³ *Sanford Limited and Ors v New Zealand Recreational Fishing Council Inc and Anor* (Court of Appeal, CA 163/07, 11 June 2008), para 57.

¹⁴ *New Zealand Recreational Fishing Council Inc v Sanford Limited and Ors* (Supreme Court, SC 40/2008, 29 May 2009), para 65.

¹⁵ *Sanford Limited and Ors v New Zealand Recreational Fishing Council Inc and Anor* (Court of Appeal, CA 163/07, 11 June 2008), para 61.

120 The Courts do not accept that the question of common law rights is relevant to the decisions regarding the allocation of the TAC. The Fisheries Act covers the entire ground that would be occupied by such rights. In this respect the legislation accordingly governs all aspects of the rights of the various fishing sectors to the exclusion of the common law.¹⁶

121 The Courts have also provided guidance as to the nature of the allowances to be provided. Where there are competing demands exceeding an available resource it could perhaps be said the Minister can “allow for” use by dispensing a lesser allotment than complete satisfaction, creating not a full priority but some degree of shared pain.¹⁷ The requirement to “allow for” the recreational interest can be construed as meaning to “allow for in whole or part”.¹⁸ The Supreme Court stated that the Fisheries Act envisages that the allowance for recreational interests, as well as Maori customary fishing interests and the TACC, will be a reasonable one in all the circumstances.¹⁹

122 Section 21 is concerned with allocation of a limited resource and that what is allowed for non-commercial fishing interests will impact on the TACC.²⁰

123 The consideration of the wellbeing factor (as expressed in section 8 of the Fisheries Act) requires a balance of competing interests, especially in the case of a shared fishery.²¹

124 In terms of recreational interests, the Supreme Court stated that “[A]lthough what the Minister allows for is an estimate of what recreational interests will catch, it is an estimate of a catch which the Minister is able to control. The Minister is, for example, able to impose bag and fish length limits. The allowance accordingly represents what the Minister considers recreational interests should be able to catch but also all that they will be able to catch. The Act envisages that the relevant powers will be exercised as necessary to achieve that goal”.²²

125 In terms of commercial interests, a decision you make which impacts adversely on quota holders which advantaged—deliberately or incidentally—non-commercial interests, does not in itself imply an improper purpose.²³ It is an inherent element of the QMS that the TACC can be reduced, with a consequential reduction in quota. In considering a reduction of

¹⁶ *New Zealand Recreational Fishing Council Inc v Sanford Limited and Ors* (Supreme Court, SC 40/2008, 29 May 2009), para 63.

¹⁷ *Roach v Minister of Fisheries* (HC, Wellington CP715/91, 12/10/92, McGechan J), p 16

¹⁸ *New Zealand Federation of Commercial Fishermen (Inc) & Ors v Minister of Fisheries & Ors* (HC, Wellington CP237/95, 24/4/97), p 150.

¹⁹ *New Zealand Recreational Fishing Council Inc v Sanford Limited and Ors* (Supreme Court, SC 40/2008, 29 May 2009), para 65.

²⁰ *Ibid*, para 53

²¹ *Sanford Limited and Ors v New Zealand Recreational Fishing Council Inc and Anor* (Court of Appeal, CA 163/07, 11 June 2008), para 61.

²² *New Zealand Recreational Fishing Council Inc v Sanford Limited and Ors* (Supreme Court, SC 40/2008, 29 May 2009), para 56.

²³ *New Zealand Federation of Commercial Fishermen (Inc) & Ors v Minister of Fisheries & Ors* (HC, Wellington CP237/95, 24/4/97, McGechan J) p 89

the TACC, you must weigh the economic impact of your proposed course of action on individual quota holders and on the QMS generally.²⁴

¹²⁶ The interests of commercial fishers are not just the economic interests of the proprietors of the fishing businesses, but also include those of employees, consumers who are able to purchase the fish as a result of the commercial catch being sold at retail, fish merchants, suppliers to the commercial fishers and others affected by any relevant downstream effects of the location of fishing businesses, such as processing businesses in particular geographical locations.²⁵

¹²⁷ No implied obligation to attain proportionality between commercial and recreational catch arises from the legislation. The imprecision of the actual recreational catch is a good reason why strict proportionality would be near impossible to achieve.²⁶ Further, in respect of earlier litigation relating to management of snapper one, the Courts have stated that:

*“We can see no reason why either as his primary purpose or as a consequence of some other purpose the Minister should not be able to vary the ratio between commercial and recreational interests.”*²⁷

*“If over time a greater recreational demand arises it would be strange if the Minister was precluded by some proportional rule from giving some extra allowance to cover it, subject always to his obligation to carefully weigh all the competing demands on the TAC before deciding how much should be allocated to each interest group.”*²⁸

*“It is not outside or against the purposes of the Act to allow a preference to non-commercials to the disadvantage in fact of commercials and their valued ITQ rights, even to the extent of the industry’s worst case of a decision designed solely to give recreationalists greater satisfaction. Both are within the Act.”*²⁹

¹²⁸ The Courts have also emphasised the importance of decisions undertaken for sustainability purposes not being undermined by increased fishing by one or other of the fishing sectors.

“[W]hen Parliament empowered the Minister to reduce the TACC for conservation purposes—not to improve recreational catch rate—it expected

²⁴ *New Zealand Fishing Industry Association (Inc) and Ors v Minister of Fisheries and Ors* (Court of Appeal, CA82/97, 22/7/97, p 16

²⁵ *Sanford Limited and Ors v New Zealand Recreational Fishing Council Inc and Anor* (Court of Appeal, CA 163/07, 11 June 2008), para 61.

²⁶ *New Zealand Fishing Industry Association (Inc) and Ors v Minister of Fisheries and Ors* (Court of Appeal, CA82/97, 22/7/97), p 18

²⁷ *Ibid*, pp 17-18

²⁸ *Ibid*, p 18.

²⁹ *New Zealand Federation of Commercial Fishermen (Inc) & Ors v Minister of Fisheries & Ors* (HC, Wellington CP237/95, 24/4/97, McGechan J) p 89.

the Minister to take any concurrent steps necessary to minimise sabotage by recreational fishing. . . The significant point is that both law and common sense dictate that a Minister should not reduce the TACC for conservation reasons unless able to take, and taking, reasonable steps to avoid the reduction being rendered futile through increased recreational fishing.”³⁰

129 While this statement relates to reduction of the TACC, the principle equally applies in situations where measures are enacted to rebuild a fishery. Litigation relating to management decisions for kahawai involved this very issue, where the failure to agree to a reduction in the daily bag limit was found to be unlawful.³¹

130 In respect of quota granted to iwi under the Waitangi of Fisheries (Fisheries Settlement Act) Act 1992 and the Maori Fisheries Act 1989, in earlier litigation involving SNA 1, the Court stated that:

“Under the settlement Maori became holders of quota along with all other holders. Their rights were in our view no more and no less than those of non Maori quota holders.”³²

“Under s 5 of the 1996 Act the Minister in making future decisions is obliged to act in a manner consistent with the Settlement Act. The idea that the settlement is any the less just, honourable and durable should Maori quota be reduced, is unpersuasive. An asset which Maori obtained under the settlement had within it the capacity for diminution. If that capacity is lawfully realised, there cannot be any complaint on the basis that the settlement has been broken or have not proved durable. Something which was liable to happen under the settlement has happened. A reduction in TACC, which is otherwise lawful, cannot be viewed as a decision by the Minister inconsistent with the Settlement Act.”³³

131 While the Court of Appeal was dealing with a TAC/TACC reduction for sustainability purposes, the same principle would apply in terms of an adjustment of the ratio of the TAC allocated to commercial and recreational fishing interests.

2.2.5 MPI Advice - Overall Approach

132 This fishery is a key shared fishery. It is highly valued by all sectors. The Fisheries Act is largely silent on how the TAC is to be allocated. The Fisheries Act does not recognise an inherent priority that directs your decisions. You also have considerable discretion as to the matters you consider to be relevant to your decision. Actions and approaches taken in this fishery will have policy implications for other shared fisheries and the management

³⁰ *New Zealand Federation of Commercial Fishermen (Inc) & Ors v Minister of Fisheries & Ors* (HC, Wellington CP237/95, 24/4/97, McGechan J) p 102.

³¹ *New Zealand Recreational Fishing Council Inc & Anor v Minister of Fisheries* (HC, Auckland CIV 2005-404-4495, 21 March 2007, Harrison J). at paras 110-126.

³² *New Zealand Fishing Industry Association (Inc) and Ors v Minister of Fisheries and Ors* (Court of Appeal, CA82/97, 22/7/97) at p 20.

³³ *Ibid*, at p 21.

framework that underpins them. Considering implications of your decisions for the QMS is a factor the Courts have considered relevant to your decision.

133 Commercial stakeholders in particular have raised the importance of certainty in allocation decisions as a key underpinning of the QMS. Certainty is one of the elements that provide the basis on which investment decisions are made and incentives created to manage the long term future of the resource. They suggest certainty is provided by taking a consistent approach to allocation (i.e. basing any future allocation decisions on the existing proportions of the TAC).

134 MPI support the concept of certainty in decision making around allocation and agree that incentives for future management and investment are generated around understanding when and how existing rights will be impacted on by Government. As noted, you have considerable discretion around the factors you can take into account. However, certainty is not only provided by following a “proportional approach” to allocation decisions. In some cases taking the same approach may not achieve your desired objectives.

135 Certainty can also be provided through making it clear prior to, or as part of, your decisions how you intend to approach allocation in certain fisheries or generically, such as signalling a long term objective for a particular fishery. For example, in snapper you might signal a desire to change the proportions of the TAC to favour recreational fishers to better reflect the growing population adjacent to SNA 1 and the high economic, social and cultural value place on snapper by recreational fishers.

136 Secondly, signalling how that objective might be given effect over time would provide further certainty. For SNA 1 this could include signalling that you want to provide a preference to recreational fishers when future increases are made to the TAC until your objective is met. This does not fetter your discretion in terms of future decisions if new information is available or a different approach is required. However, like decision rules around TAC decisions in place for some inshore fisheries (such as rock lobster), developing such an approach would provide some certainty around future decision making and reduce debate about future decisions. There is no legal obligation to provide such an understanding to stakeholders.

137 Specifically in relation to SNA 1 submitters have raised a number of points around proportional and non-proportional allocation. In reality these are simply reflections on the weight you give the existing proportions of the TAC in your allocation decision relative to the other factors you consider relevant.

138 Proportionality also reflects the notion of “shared pain, shared gain”. It reflects that SNA 1 is an important shared fishery where all interests should be recognised – especially in

circumstances where there is limited information about the relative value of the catch to one or other sector.

139 A proportional approach locks in the current settings. This raises concerns about equity and fairness and leads to debates about the merits of historical decisions (including the accuracy of the information used to inform those decisions). It is also important to note that the Fisheries Act does not provide for shares in the TAC (fixed or otherwise). A proportional approach may over time, ignore the growing demand for catch or changes in the relative value of the catch between the sectors.

140 Greater demand by one sector over time can be reflected in terms of an increased allocation. There are risks associated with creating incentives for a sector to overcatch the allocation provided. However, given that information about recreational catch is obtained on a periodic basis and the recreational allowance (as with the TACC) does not act as an absolute limit on catch, it is inevitable that that information will provide an indication of current and likely future demand. You may determine that existing allocations do not adequately provide for that demand.

141 In the case of SNA 1 there is information which clearly signals that recreational catch on average has exceeded the recreational allowance. Recognition of increased recreational catch should occur in the form of the allowance made for recreational interests rather than by means of a de facto reallocation of proportions of catch. In situations where the TAC is increased the allowance can be increased without any re-allocation (i.e. decrease) in the catch allocated to other interests.

142 SNA 1 is a fully utilised stock. The collective demands on the resource exceed the current TAC. This means that the allocation of the TAC requires consideration of the competing demands on the resource. Once allocations are determined there is a need to impose measures which ensure the allowances are not, on average, exceeded.

143 However, increased catch or demand for increased catch from one or more sector does not need to be met in full or at all. Simply providing for an increased allowance to meet catch demands may not meet your objectives for the fishery or you may give greater weight to other factors you may consider reasonable, for example getting the best value for New Zealand from the harvest of the resource.

144 There are differing views expressed about the relative value of SNA 1 to the recreational and commercial sectors. The value placed on recreational fishing and commercial fishing referred in submissions and in the consultation document cannot be easily compared. The consultation document referred to a 1998 report (scaled to 2013) that used contingent valuation methodologies to place a value on of each kilogram of fish caught by

recreational fishers and the value of the fishing experience. No new survey has been undertaken to update the 1998 study. While the results from the 1998 report are generally considered to be plausible, they do carry some uncertainty. The value of commercial fishing has been calculated using market data (for quota and ACE) as well as export data and port price data which is collected by government agencies. This data captures the market value created by utilising the fishery which is very different from capturing non-market values around the recreational fishing experience. Therefore, it is not appropriate to compare the values directly as they capture different value sets using totally different methodologies.

145 No quantitative assessment of the downstream economic consequences of changes to the TACC and recreational allowance has been undertaken.

146 There is uncertainty as to the future yield that may be available in SNA 1. This will largely be a factor of the long term biomass target which is adopted for SNA 1 and better information about the level of overall mortality to the stock from fishing activity. As a consequence, future yield should not be a consideration in terms of your current allocation decision.

147 MPI does not consider that your decision regarding the allocation of the TAC is for SNA 1 is the best means of addressing the environmental effects of different fishing methods. Allocation of the TAC sits outside of Part III of the Fisheries Act; hence is not deemed to be a sustainability measure (and thus you are not required to take into account any effects of fishing as part of your allocation decision). Appropriate management controls are best considered in the context of a particular method or area rather than in terms of setting the TACC for any one fishstock.

148 It is important to recognise that the TACC and allowances made under section 21 of the Fisheries Act do not act as an absolute limit on catch (i.e. the fishery is closed when the limit is reached). It is not unlawful for a sector to exceed the collective allowance or the TACC. For commercial fishers, catch in excess of ACE holdings held by the individual fisher (not the TACC) incurs a civil sanction – a payment of a deemed value. Relevant management controls, including size limits, bag limits and deemed values, are used as a means of minimising the extent to which the allowance or TACC is exceeded to ensure that overall mortality remains within the TAC.

Maori Customary Allowance

149 The existing provision for a customary catch of 300 tonnes within the combined non-commercial allowance of 2600 tonnes is likely to be significantly undercaught. The best available information on levels of Maori customary harvest estimates the take to be of the order of 50 tonnes.

150 The customary allowance does not have the same characteristics as the recreational allowance. The allowance for Maori customary fishing interests does not act as a constraint on customary catch. Instead, the customary allowance reflects the amount that customary fishers are likely to harvest from the fishery. As noted earlier in the paper, customary fishing regulations do not provide for the Crown to place limitations on customary fishing. Customary take is regulated through the authorisation system in the customary regulations, which requires that all customary fishing is to be undertaken in accordance with tikanga and the overall sustainability of the fishery.

151 There is very little information on customary fishing harvest, although this will improve as customary regulations take effect (tangata whenua groups still operating under the Fisheries (Amateur Fishing) Regulations 1986 are not required to report catch) and better reporting processes are implemented. Where new information suggests that customary take is significantly below or above the level previously allocated, customary allowances will be amended accordingly.

152 As a consequence, MPI does not regard the proposed allowance of 50 tonnes as “interim”. The customary allowance will be amended as required. Advice from the Iwi Collective Partnership about a scheme in the Bay of Plenty to allow for customary harvest by commercial fishers does not alter this view as the extent of such catch is not clear.

Other Sources of Fishing Related Mortality

153 The current allowance for other sources of fishing related mortality for SNA 1 is 450 tonnes. The allowance includes mortality arising from illegal catch, discards, and incidental mortality from fishing gear.

154 There are MLS restrictions which apply to both commercial and recreational fishers in SNA 1. Fish caught below the MLS must be returned to the sea. Anecdotal information suggests that mortality of fish below the MLS is a significant component of commercial other sources of fishing related mortality. MPI anticipates that advances in fishing gear technology will assist with reducing the level of discarding of undersized fish.

155 Under the QMS it is illegal for commercial fishers to return fish to the sea except under a very limited set of circumstances. The failure of commercial fishers to hold sufficient ACE to cover the catch of snapper can lead to discards in order to avoid payment of deemed values. The relationship between the deemed value rate and the price of ACE is acknowledged; that the deemed value rate in effect sets the ACE price. MPI pays careful attention to this factor when proposing changes to deemed value rates.

156 Submissions raised concerns that the 450 tonne allowance may significantly understate the level of mortality. The stock assessment for SNA 1 provides a summary of research regarding various other sources of fishing related mortality (including by sector and method). The stock projections assumed an allowance of 450 tonnes for all short term projections. The sensitivity of the projections to changes in the allowance of other sources of fishing related mortality is dependent largely on whether the level has remained constant over time or has increased. The best available estimates of other sources of mortality suggest that the current 450 tonne allowance lies within the range of possible estimates (see Part B of this final advice for further information).

157 MPI acknowledge the estimate of other sources of fishing related mortality is uncertain. Mortality as a result of illegal activity as well as mortality incurred by all fishing interests as a result of complying with existing management controls is difficult to estimate. MPI is working with the commercial sector on a programme to increase monitoring in the SNA 1 fishery. This will assist with providing a more contemporary estimate of commercial discards.

158 Other sources of fishing related mortality is likely to be affected by changes made to the TAC, TACC, allowances and associated management controls set for SNA 1. The magnitude of these changes will be determined over time. Despite limitations concerning the estimate of other sources of fishing related mortality, MPI regards the estimate as the best available information at the present time and that the use of any other figure would be arbitrary.

Recreational Allowance

159 The current combined allowance for non-commercial fishing interests for SNA 1 is 2600 tonnes. At the time this allowance was made in 1997, the recreational component of the allowance was 2300 tonnes and the Maori customary component was 300 tonnes.

160 MPI consulted on the basis that the best estimate of current Maori customary catch was 50 tonnes and as a consequence within the existing combined non-commercial allowance the recreational component was 2550 tonnes.

161 Recreational fishing interests essentially operate in an open access fishery – there is no limit on the number of people that can go recreational fishing. There are also no fixed proportions in terms of how the TAC is allocated. There is no legal basis for recreational fishers to claim priority in terms of allocation of the TAC (i.e. that the demand of recreational fishing interests must be met in full). The Minister decides on the level of recreational allowance he considers reasonable (having regard to those factors he considers relevant). The Minister is then required to impose measures to ensure that the allowance is credible – the

expectation is that the measures would have the effect of maintaining recreational catch levels at or around the allowance at the time it is made. This is crucial to ensuring the legal obligations in the Fisheries Act are complied with.

162 The key measures are the recreational daily bag limit and minimum legal size. Depending on the allowance chosen these could vary significantly and it is at this level that the impact will be felt by recreational fishers.

163 The recreational sector is not homogenous. It consists of a range of interests including shore based fishers, fishers off a range of vessels and the recreational charter industry. However, the majority of catch is taken from smaller trailer boats, with the highest levels of catch in the Hauraki Gulf region.

164 Best information estimates recreational catch in 2011-12 at approximately 3950 tonnes, which includes an estimate of amateur charter boat catch. A number of methods are used to monitor recreational catch (information about the recreational fishery is obtained from a combination of periodic panel surveys, boat ramp surveys and aerial overflight surveys.) The 2011-12 results from these methods closely align. A trend of increased average bag size and fish length is evident. While some fluctuation is expected, it appears that recreational catch has increased in the years 2004-5 to 2011-12. (Further details about recreational catch is outlined in Part B).

165 MPI does not manage recreational catch on an annual basis. The allowance reflects that recreational catch can vary from year-to-year largely in response to a combination of factors, including changes in the availability and abundance of snapper and the fishing effort of the recreational sector.

166 There is the potential that in years of poor availability management controls may constrain recreational catch below the recreational allowance. The converse may also result; in years of good availability, the existing recreational management controls may not constrain catch within the recreational allowance. Consideration of the overall trend will be important in determining whether there is a need to change existing management settings.

167 The 2011-12 estimate of recreational catch (3950 tonnes), an estimate of average catch over the last five years (3366 tonnes), or the eight year average proposed by NZSFC (3100 tonnes) all exceed the current allowance.

168 The issue is whether recreational catch levels should be allowed for in full or in part; and, based on the available information what is a reasonable allowance for recreational fishing interests.

169 Within the parameters of the three TAC options consulted on ranging from 7050 to 8050 tonnes, the proposed continuum for the recreational allowance spanned from 2050 to 3050 tonnes. In effect the three TAC options consulted on proposed a reduction in recreational catch. These options reflected that a 500 tonne decrease to the TAC or a 500 tonnes increase in the TAC could lead to a corresponding 500 tonne adjustment to the recreational allowance (i.e. non-proportional allocation). If a proportional adjustment was made – under a 500 tonnes TAC decrease the recreational allowance would be 2370 tonnes; under a 500 tonne TAC increase the recreational allowance would be 2730 tonnes. The consultation documented noted that other allocation options could be taken.

170 When assessing the competing interests in SNA 1 it is important to understand the value placed on snapper by recreational fishers. MPI has not undertaken any quantitative research; a more qualitative assessment is provided.

171 SNA 1 is the largest and most valuable recreational fishery in New Zealand. The importance of snapper from a recreational perspective means that there may be merit in considering moving the ratio between recreational and commercial allocation closer to an equal basis over time (consistent with any long term objective you have in mind or as part of any paradigm shift that you may wish to signal). Your current decision presents an opportunity to do so. Currently the ratio of catch allocated between the two sectors is commercial 64%: recreational fishers 36%.

172 The economic implications of changes to the recreational allowance can be calculated on the basis of a gain/loss of the marginal value of a tonne of SNA 1. (Further explanation of this approach is outlined in part B).

Table 3: Economic implications of changes to recreational allowance

Increase/Decrease (tonnes)	MWTP ³⁴ (\$/tonne)	Marginal Value
180	\$9020	\$1,623,600
500	\$9020	\$4,510,000

173 The figures indicate with a recreational allowance of 2370 tonnes or 2730 tonnes, the marginal value to recreational fishers increases or decreases by \$1.6m (as the case may be). For a recreational allowance of 2050 or 3100 tonnes, the marginal value to recreational fishers increases or decreases by \$4.5m. The reduction of recreational catch from 3950 tonnes to 3100 tonnes results in a decrease in marginal value of \$7.7m. (It is noted, however, that recreational catch for 2011-12 was estimated to be well in excess of the proposed

³⁴ Marginal Willingness to Pay: The maximum amount a person is willing to pay for each extra good or service (in this case, each extra snapper)

allowances; in effect the proposed options will result in a reduction of marginal value to recreational fishers.)

174 The estimate of recreational catch from 1991 to 2012 indicates that there has been greater recreational demand for snapper. Recreational fishing is a major leisure time activity; a portion of recreational fishers are reliant on fishing for sustenance. Some 18% of New Zealanders participate in some form of recreational fishing every year. Some two million New Zealanders live in the vicinity of the marine area encapsulated in the SNA 1 fishery – the most popular area being the Hauraki Gulf. Aerial overflight information from 2011-12 reported some 1860 vessels at a single point in time present in the Hauraki Gulf fishing (this does not account for the number of boats who fished earlier or later in the day).

175 It is anticipated that the number of recreational fishers will grow as the population in Auckland and surrounding environs increase. A recreational survey suggests that across the wider Hauraki Gulf Marine Park boundary 218,300 fishers participated through the 2011-12 year, and 178,100 participated within the inner Hauraki Gulf. By 2031 it is estimated that Auckland City will have a population of up to 2m people, with over 3m people living within surrounding regions (Northland, Auckland, Waikato, Bay of Plenty) with access to the SNA 1 fishery. Over time ever greater pressure will be placed on the resource by recreational fishers. The continued ability to access a healthy fishery on the doorstep of New Zealand's most populous city is an important aspect of what makes Auckland an attractive place to reside.

176 The upper east coast of the North Island is also an important tourist destination. Although no estimate is available of the number of tourists who fish while on holiday in the area, it is safe to assume a large number do so.

177 Recreational fishing interests are recognised not just by the recreational allowance or the daily bag limit. Recreational fishing interests also benefit from a range of method and area based controls that apply to commercial fishing, in particular in the Hauraki Gulf.

178 The recreational fishery supports a large number of related economic enterprises including boat builders and associated businesses, stockists of fishing gear, bait suppliers, and fuel suppliers. In the 2011-12 fishing year 152 charter boats operated in fisheries management area 1 (the area of SNA 1). A reduction of recreational catch levels and recreational fishing controls will have flow-on effects for these businesses, subject to recreational participation rates and fishing effort overall (i.e. not just for snapper).

179 Snapper is a popular target species for recreational fishers. It is accessible to fishers from both the shoreline and boats. It is an integral element of the recreational fishery in quota management area 1 and accounts for the majority of the catch. However, it is not the

only species of importance. Recreational surveys indicate that fishers catch a range of species, including tarakihi, gurnard, kingfish and kahawai.

180 Given the importance of snapper to recreational fishers and after consideration of the relevant information you could decide to provide for the demand of recreational fishers in full. This would lead to a recreational allowance of 3950 tonnes (depending on the period considered representative of current demand; 3950 tonnes is the estimate of recreational catch in the 2011-12 fishing year). To accommodate an allowance of 3950 tonnes: within a TAC of 7050 tonnes, the TACC would be reduced by 1900 tonnes; within a TAC of 7550 tonnes, the TACC would be reduced 1400 tonnes; and within a TAC of 8050 tonnes, the TACC would be reduced by 900 tonnes. The consultation document did not expressly refer to the potential for a reduction to the TACC of this magnitude. If you wished to proceed on this basis, MPI advise that you would need to reconsult.

181 The implication of continued greater recreational demand for snapper, however, may not necessarily mean that this should be addressed by an ever greater proportion of the TAC allocated to recreational fishers beyond that necessary to achieve your objective for management of SNA 1.

182 When determining the recreational allowance consideration should give to the impact on the total allowable commercial catch. Relevant considerations are set out in the next section. This may lead you to determine that the overall benefits to New Zealand would be increased by reducing the recreational allowance in order to provide for commercial fishing interests.

Total Allowable Commercial Catch

183 The current TACC is 4500 tonnes. Within the range of the three TAC options consulted on, the proposed continuum for the TACC spanned from 4000 tonnes to 5000 tonnes. These options reflect that a 500 tonne decrease to the TAC or a 500 tonnes increase in the TAC could lead to a corresponding 500 tonne adjustment to the TACC (i.e. non-proportional allocation). If a proportional adjustment was made, then a TAC decrease of 5000 tonnes would lead to a TACC of 4180 tonnes and a TAC increase of 500 tonnes would lead to a TACC of 4820 tonnes. The consultation documented noted that other allocation options could be taken.

184 Submissions from commercial fishing interests highlighted the importance of maintaining the integrity of the QMS by maintaining a proportional approach to allocation of the TAC. It is clear from the guidance provided by the Courts that commercial interests (including iwi) can have no expectation that allocation of the TAC will be made on a proportional basis. Commercial fishing rights, including quota owned by iwi, are not absolute. They are heavily dependent on the TACC. A decision as to the level at which the

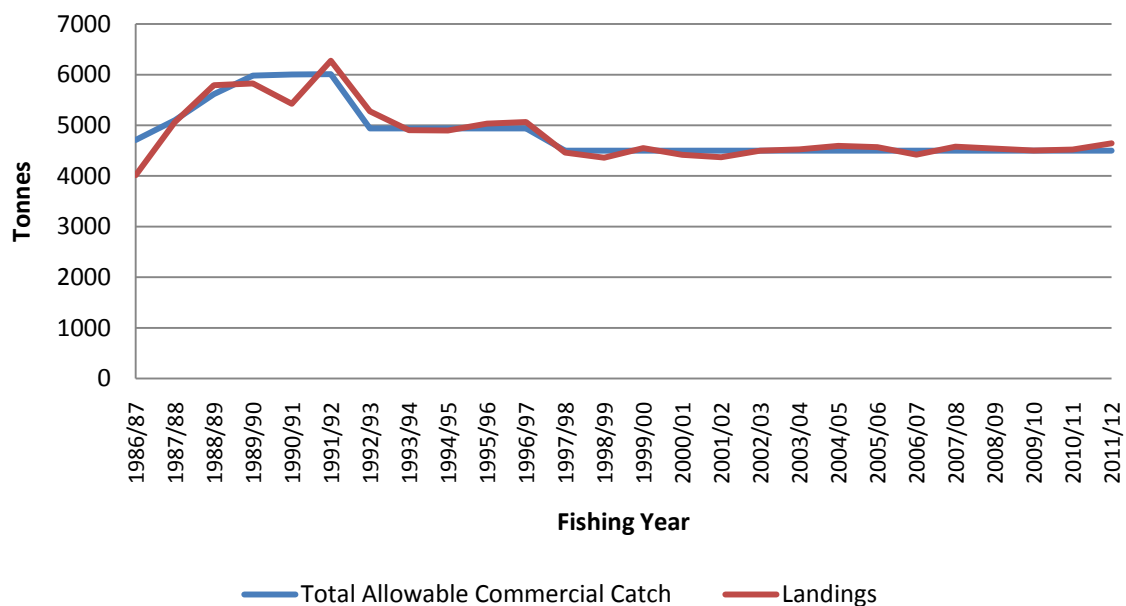
TACC is set rests with the Minister. While the QMS “is not a scheme set up to be dismantled or tinkered with by a Minister as a matter of whim”,³⁵ the Minister has discretion as how to allocate a TAC on each occasion the matter is revisited.

185 However, as noted, considering implications for the wider management framework and other shared inshore fisheries is a relevant consideration in determining allocations. Shifting away from a historic proportional approach will create uncertainty around allocation decisions. This can be mitigated by a statement of future policy, while noting that you are not legally bound by such a policy.

186 Commercial catch of SNA 1 has fluctuated since 1997. Catch in excess of ACE holdings incurs a deemed value payments. Ramping provisions apply – greater than 105% of ACE increased deemed value rates apply.

187 Figure 6 shows reported catch landings and the TACC for SNA 1 between 1986 and 2012.

Figure 6: Reported catch landings and TACC for SNA 1 from the advent of the QMS in 1986-87 to 2011-12



188 There are concerns about the level of commercial discarding of snapper, and that reported landings do not reflect actual catch. Discarding is driven by a combination of factors, mostly economic in nature – the cost of holding ACE in order to cover bycatch of snapper when targeting other species, the inability to source ACE, the low likelihood of being detected, and the requirement to discard undersized snapper. Discards are accounted for in

³⁵ *Sanford & Ors v Moyle* (HC Wellington, C3/89, 10 November 1989, McGechan J).

the allowance for other sources of fishing related mortality. It is acknowledged that the level of discarding is uncertain. The measures put forward by industry during the consultation period provide a significant opportunity to improve the monitoring of fishing practices in SNA 1. This will provide increased confidence as to the level of commercial catch.

189 The number of commercial vessels catching SNA 1 peaked at 800 in 1993. In 2011-12, only around 200 vessels reported a catch of SNA 1. Snapper is primarily taken by bottom long-line and bottom trawl methods.

190 The average ACE value (the earnings quota owners receive when selling their ACE) for the 2011-12 fishing year was \$4130 per tonne for SNA 1. The average port price (the gross price that fishers receive) for the 2012-13 fishing year is \$5770 per tonne for SNA 1.

191 The export value for all snapper exported in 2011/12 was \$36.8 million. The average unit export value for 2011/12 was \$8325 per tonne for snapper. While SNA 1 makes up 71% of the combined snapper TACCs, the proportion of export value that it contributes is uncertain. 98% of snapper is exported as chilled whole or frozen whole product. The two product forms command different prices, and the export value of the chilled product (\$10 500 per tonne) in comparison to the frozen product (\$7900 per tonne) is reflected by a range in export values.

192 The economic implication of proposed TACC changes are calculated on the basis of capitalised value (quota and downstream effects). Further information about this approach is outlined in Part B of this final advice.

Table 4: Economic implications of changes to the TACC

Increase/Decrease (tonnes)	Total Economic Impact
320	\$21 412 494
500	\$33 458 904

193 The figures indicate that for a TACC of 4820 tonnes or 4180 tonnes, the total economic impact is a \$21.4 million increase or decrease. For a TACC of 4000 tonnes or 5000 tonnes, the total economic impact is a \$33.4 million increase or decrease.

194 The total economic value indicated above is not directly comparable to the marginal willingness to pay by recreational fishers for snapper. The closest comparison (although there are high levels of uncertainty) is the use of average ACE price. Based on this methodology for a TACC of 4820 tonnes or 4180 tonnes, the value placed on the ability to harvest and land snapper is a \$1.3 million increase or decrease. For a TACC of 4000 tonnes

or 5000 tonnes, the total economic impact is a \$2 million increase or decrease. Given the uncertainty in the willingness to pay data the comparative value is in within orders of magnitude.

195 Commercial fishers also derive benefit from the snapper fishery that is not directly related to the value of the fish caught. The snapper fishery allows fishing vessels to continue operating throughout the year in other target fisheries. For the last ten fishing years, around 77% of SNA 1 catch was reported as being targeted, with less than a quarter reported as bycatch. Landings of trevally, gurnard, John dory and tarakihi are currently at levels well below their respective TACCs. The exact reasons for this situation are not known. The inability to fully utilise the TACCs could be driven by low biomass in these stocks. There is no certainty that the TAC and TACC levels for these stocks are sustainable, although there is insufficient information to trigger a management response at this time.

196 If commercial effort in these fisheries increase to catch a greater proportion of the respective TACCs, then a greater level of snapper bycatch could be expected. The failure (and/or inability due to the unavailability of ACE for SNA 1) to fully utilise these other TACCs can be considered as foregone value. A decrease in the TACC for SNA 1 or retaining the current TACC could well exacerbate this situation, especially in circumstances where the SNA 1 biomass is increasing. However, MPI is not aware that the reduction in the TACC for SNA 1 would lead to the exit of any commercial fishers from the fishery, although this could be a consequence.

197 The interests of the commercial sector are not just the economic interests of the proprietors of the fishing businesses, but also include those of employees, consumers who are able to purchase the fish as a result of the commercial catch being sold at retail, fish merchants, suppliers to the commercial fishers and others affected by any relevant downstream effects of the location of fishing businesses, such as processing businesses in particular geographical locations.

2.2.6 Conclusion

198 MPI recommend that an allowance of 50 tonnes is made for Maori customary fishing interests.

199 MPI recommend that an allowance of 450 tonnes is retained for other sources of fishing related mortality for SNA 1.

200 MPI recommend that if you consider that greater benefit can be gained by recreational interests compared to commercial interests then your decision regarding the recreational

allowance and the TACC should be made on a non-proportional basis. In terms of the options consulted on, this would result in:

- For a TAC of 7050 tonnes, a recreational allowance of 2550 tonnes and a TACC of 4000 tonnes;
- For a TAC of 7550 tonnes, a recreational allowance of between 2550 tonnes and 3050 tonnes and a TACC of between 4000 tonnes and 4500 tonnes (collectively not exceeding 7050 tonnes);
- For a TAC of 8050 tonnes, a recreational allowance of 3050 tonnes and a TACC of 4500 tonnes.

201 If you consider that recreational interests and commercial interests are best addressed by an approach of “shared gain, shared pain” then your decision regarding the recreational allowance and the TACC should be made on a proportional basis. In terms of the options consulted on, this would result in:

- For a TAC of 7050 tonnes, a recreational allowance of 2370 tonnes and a TACC of 4180 tonnes;
- For a TAC of 7550 tonnes, a recreational allowance of 2550 tonnes and a TACC of 4500 tonnes;
- For a TAC of 8050, a recreational allowance of 2730 tonnes and a TACC of 4820 tonnes.

202 If you consider that greater benefit can be gained by commercial fishing interests compared to recreational fishing interests then your decision regarding the recreational allowance and the TACC should be made on a non-proportional basis. In terms of the options consulted on, this would result in:

- For a TAC of 7050 tonnes, a recreational allowance of 2050 tonnes and a TACC of 4500 tonnes;
- For a TAC of 7550 tonnes, a recreational allowance of between 2050-2550 tonnes and a TACC of between 4500-5000 tonnes (collectively not exceeding 7050 tonnes);
- For a TAC of 8050 tonnes, a recreational allowance of 2550 tonnes and a TACC of 5000 tonnes.

2.3 OTHER MANAGEMENT CONTROLS

2.3.1 Current Settings

203 The consultation document contained proposals on the daily bag limit and MLS applicable to the catch of snapper by recreational fishers. The daily bag limit and the MLS are designed to work in tandem to constrain on average the level of recreational catch within the recreational allowance (allowing for some fluctuation of catch from year to year).

204 For recreational fishers the current daily bag limit for snapper in SNA 1 is nine fish. The daily bag limit for snapper is separate from the combined daily bag limit for other species of 20 fish. The minimum legal size for snapper caught by recreational fishers is 27 centimetres.

205 The commercial MLS is 25 cm. MPI has not proposed changes to the commercial MLS.

206 Deemed value rates determine the payment incurred by commercial fishers for catch in excess of ACE holdings. An interim deemed value rate applies to catch not balanced against ACE on a monthly basis. The full deemed value rate applies to catch not balanced against ACE at the conclusion of the fishing year. Ramping provisions apply in excess of 105% of ACE holdings. No changes to deemed value rates for SNA 1 were proposed in the consultation document.

2.3.2 Submissions

Daily Bag Limit and Recreational MLS

207 A number of submissions raised concerns about changes to the daily bag limit and the recreational minimum legal size :

- A sudden spike in catches in a small area, mainly the inner Hauraki Gulf, is not justification for attacking recreational entitlements throughout SNA 1, where catches remain flat. Around 50% of fishers in East Northland and Bay of Plenty return with zero catch. (*NZ Sports Fishing Council*)
- A 30cm MLS will remove 60% of take home fish from most recreational fishers. A 35cm MLS will see 80% of current take home catch going over the side alive or probably dead (*Maritime Transport Association*)
- In near-shore or harbour areas some fishers will be unable to land any fish at the larger size limits proposed – they will be denied access to sufficient snapper to fulfil their needs. (*NZ Sports Fishing Council*)

- No cuts to the daily bag limit or increase to the MLS is supported without an agreed strategy in place. Lowering bag limits will incentivise high grading and raising the MLS will increase mortality (*Form submissions*)
- A range of economic benefits were identified as being at risk if changes to bag / size limits were implemented - charter boat industry, marine industry; tackle / bait shops, fuel, boat clubs, etc; flow on effects to the economy; overseas tourism for fishing in SNA 1
- A reduction in the daily bag limit would increase safety risks in that it will encourage an overloading of boats. Similarly, a reduction in the daily bag limit could see a shift in fishing effort to the West Coast, increasing the safety risk due to the riskier weather and sea conditions in the area (compared to the East Coast).
- Any changes would result in displacement of fishing effort to other locations (including the West Coast) and to other species.
- Recreational fishers consider that adjustments to commercial controls ought to occur prior to adjusting recreational fishing controls.
- Reference was made to Horizon Research (2013) which indicated that, for those who fish in the SNA 1 area, if the snapper bag limit was dropped to three or four per person:
 - 18% said they would ignore the new limit,
 - 38% would fish for other species,
 - 4% would stop fishing for snapper, and
 - 5% would stop fishing in the sea altogether. (*NZ Sports Fishing Council*)

208 Key issues raised in relation to proposed changes to bag and size limits:

- The overwhelming majority of submitters disagreed with proposals to cut the daily bag limit or increase the MLS for SNA 1 without an agreed strategy in place (*Form submissions*)
- Three fish per person is “ridiculous and a knee jerk reaction to the situation”.
- 27% of individual submitters and 21% of amended LegaSea form submitters support changes to the daily bag limit of three to eight fish (there is greatest support for bag limit of six)
- 29% of individual submitters and 21% of amended LegaSea form submitters support changes to the MLS of 30 centimetres to 33 centimetres (there is greatest support for a MLS of 30 centimetres)

- For many of the submitters who supported changes to the daily bag limit and/or the MLS, the support was conditional on TACC and commercial fishing practices being treated in a similar manner.
- Commercial fishing interests submit that meaningful bag limit reductions/ and or other management controls are needed to constrain recreational catch within the relevant allowance
- The Minister is obliged to manage the catch of a sector to their allowance (this is also applicable to commercial fishers) (*Forest & Bird*)
- Changes to controls will be ineffective in constraining catch or protecting the stock; have negligible effect on the status of the stock; some would ignore the rules

Other Matters

209 Submissions suggested the implementation of a range of additional management measures for SNA 1.

210 Suggestions regarding the sustainability of the stock include:

- SNA 1 is a prime candidate for a catch splitting regime (*NZ Recreational Fishing Council*). The benefits and costs of splitting SNA 1 into sub-stocks for management purposes should be looked at and management of each snapper fishery should be combined with management of its associated stocks (*Aotearoa Fisheries Ltd*)
- Area closures during spawning season, with closures generally between October and February. They could apply to commercial or both recreational and commercial; and reduced catch limits during these times.
- Consideration of alternative or additional options for improving the rate of recovery of snapper populations, such as increasing the number of marine reserves and an upper size limit.

211 Suggestions regarding management of recreational fishing include:

- The establishment of recreational only fishing areas to eliminate spatial conflict
- The introduction of a maximum legal size to protect the breeding stock. A wide range of sizes were suggested, with most suggestions in the range of 40 centimetres to 75 centimetres
- Controls on methods (number, size, and type of hooks; ban on set netting)
- Daily bag limits for boats
- Aggregated snapper weight limits or size limits (for boats and / or persons)

- Increased education amongst recreational fishers, in order to reduce fishing related mortality
- Increasing the accountability of charter vessels, including:
 - Increased information
 - Payment of some sort of fee or a licence imposed so they contribute to science around the inshore fishery
 - Charter boats should be treated as commercial operators and required to obtain quota
- The introduction of licensing and/or reporting regimes for the recreational sector
- A ban on fishing competitions

212 Suggestions regarding management of commercial fishing include:

- Closed areas for commercial fishing in a range of areas for different purposes
- Changes should be made to mesh sizes
- Banning the use of set nets, bottom trawling or Danish seining
- Restrictions on the number of hooks / lengths of lines for long liners
- Increasing observer coverage
- Installing compulsory deck cameras and GPS transponders onboard all vessels fishing within New Zealand's territorial waters
- New catching methods which are being trialled should be introduced across the inshore trawl fleet immediately
- The current commercial MLS of 25 cm should be increased or removed.
- Discards should be deducted from the following year's ACE holdings
- Season effort restrictions for bottom long lining methods, including when black petrel and other species are breeding

2.3.3 Recreational Controls

213 There is some uncertainty about the level of future recreational catch. Despite the uncertainty, MPI considers it likely that potentially all proposed recreational allowances will be exceeded under existing controls that apply to the recreational fishery.

214 The importance of constraining catch to around the allowance (allowing for annual fluctuations) is a crucial element in ensuring the integrity of the TAC. Without adequate controls a de facto reallocation occurs and the effectiveness of any measures implemented to rebuild the fishery are eroded.

215 MPI has used a figure of approximately 3950 tonnes (from the aerial access 2011-12 harvest estimate, which included an additional 200 tonnes of charter vessel catch) in analysis of likely recreational catch under various scenarios of recreational controls on the basis that it is the most recent and most robust estimate of recreational catch available.

216 However, in recognition of the likely variability in SNA 1 catch from year to year an average of catch estimates over the last five years, 3366 tonnes, has also been analysed. This is higher than the eight year average of 3100 tonnes recommended by the NZ Sports Fishing Council.

217 MPI analysis has focused on adjustments to the two key controls for recreational fishing, recreational daily bag limits and the MLS. As noted in a number of submissions, there are a range of other options that could be explored such as spatial management, method restrictions or alternative approaches to a daily limit. Given the complexities in analysing the cost-benefits of these approaches MPI recommends that they are explored over the longer term. In the interim, the daily bag limit and MLS are well understood controls that can be given effect to within the next year.

218 The daily bag limit and MLS are considered together given that they work in combination to constrain recreational catch. These controls are not set on an annual basis and are not sufficiently nuanced to reflect annual changes in recreational catch. The daily bag limit and the MLS should be set at a level that attempts to ensure the average recreational catch will fluctuate around the allowance that has been made. The research report “Evaluation of combinations of minimum legal size and bag limits used to manage the recreational harvest from SNA 1 (Hartill and Bian 2013)” assesses the impact of differing combinations of recreational controls by adjusting observed fisher catch data in the 2011-12 and 2004-05 fishing years by region, by season. These estimates did not appear to be sensitive to alternative interpretations of whether or not fishers in the same boat pool their daily bag limits.

219 For the purposes of this advice, the 2011-12 simulations contained in the report have since been adjusted by providing an alternative estimated catch under current rules and scaling the impacts of recreational controls accordingly.

220 Two scenarios have been compiled to provide a range of combinations for various allowance options (Table 5).³⁶

Table 5: Combinations of daily bag limit and MLS (shown in centimetres) for SNA 1 for different recreational allowance levels

Allowance (tonnes)	Daily Bag Limit							
	5		6		7		8	
	Scenario 2	Scenario 1	Scenario 2	Scenario 1	Scenario 2	Scenario 1	Scenario 2	Scenario 1
2 050	36	38	36	38	36	38	36	38
2 230	35	37	35	37	35	37	35	37
2 300	34	36	35	37	35	37	35	37
2 370	34	36	34	36	35	37	35	37
2 550	32	35	33	35	34	36	34	36
2 730	29	34	32	34	32	35	33	35
2 800	27	33	31	34	32	34	32	35
2 870	27	33	30	34	31	34	32	35
3 050	27	32	27	32	29	33	31	34

221 Using only the daily bag limit as a means of constraining catch to around an allowance of 2050 tonnes to 3050 tonnes would require the bag limit to be reduced to between two and six fish. Conversely, using the MLS as the sole means of constraining catch to an allowance of 2050 tonnes to 3050 tonnes would require the MLS to be increased to between 31 centimetres and 38 centimetres.

222 A significant decrease in the daily bag limit or significant increase to the MLS is likely to increase handling mortality in the recreational fishery. There is the potential that recreational fishers will continue to fish despite catching the daily bag limit seeking to “high grade” by disposing of smaller sized fish when a larger fish is caught. Generally speaking, in order to land a fish over 35 centimetres fishers would need to catch and release a number of fish under a 35 centimetres MLS. Released fish would be subject to handling mortality. Earlier studies show this can be between 3% to 8% for smaller fish. The higher the MLS, the more fish that will be handled to catch a fish that can be kept. In extreme cases, the increased handling mortality and high grading could negate the potential positive effects of changes to the MLS and daily bag limit.

³⁶ The two scenarios represent a lower end where recreational catch would otherwise continue at the level of estimated average catch over the past five years, or at the higher end where recreational catch will otherwise continue at the level of harvest estimates (including for amateur charter vessels) for the 2011-12 fishing year.

223 One option is to employ a combination of a reduction in the bag limit with an increase in the MLS - the highest possible daily bag limit with the lowest possible MLS – given that recreational catch can fluctuate from year to year. Of the submitters who supported changes to existing measures – the vast majority supported a daily bag limit of 5-8 fish and a MLS of 30-33 centimetres.

224 Recent boat ramp surveys at a number of sites throughout SNA1 show the most commonly landed snapper to be around 30-32centimetres. An MLS increase above this size is likely to have significant impacts in relation to the number of fishers who will return without legal size snapper from a fishing trip and the number of fish that are being returned to sea.

225 There is the option of implementing changes to the daily bag limit and the MLS for SNA 1 as a whole or in part. The greatest proportion of recreational catch is taken in the Hauraki Gulf. Whereas the Bay of Plenty fishery is at a low ebb. The advantage of the uniform approach is that it avoids concerns about transference of effort and it makes understanding of the rules and enforcement of them simpler.

226 Concerns were raised in submissions about the effect on changes to the MLS would have on “take home catch” – both in terms of increased mortality and the impact on near shore and harbour based fishers. MPI acknowledges that the impacts of bag limits on the recreational fishery may not be uniform. The proportion of fishers currently catching their bag limit in the Hauraki Gulf area is higher than in the other two regions.

227 MPI acknowledges further work will be required to inform recreational fishers about any changes to the daily bag limit and MLS and to support education programmes about fishing practices, including handling of fish, in order to mitigate additional mortality to the stock as a consequence of these changes.

2.3.4 Other Controls

228 A range of additional measures were put forward in submissions. Many of the points raised are outside of the scope of the consultation document. Further consultation would be required should you wish to pursue any of the matters raised. Several of the matters identified will be progressed as part of the implementation of the initiative put forward by industry.

229 The development of a long term strategy for SNA1 would provide the opportunity for many of the matters raised to be considered. Of particular interest will be consideration of future management of the sub-areas – Northland, Hauraki Gulf and Bay of Plenty – either as separate stock or differential management controls.

2.3.5 Conclusions

230 MPI recommend that in respect of recreational fishing controls that:

- a) For a recreational allowance of 2370 tonnes that you set a daily bag limit of 5 and a MLS of 34-36 centimetres or a bag limit of 6 and MLS of 35-37centimetres
- b) For a recreational allowance of 2550 tonnes that you agree³⁷ to recommend a daily bag limit of 5 and a MLS of 32-35 centimetres or a bag limit of 6 and a MLS of 33-35centimetres
- c) For a recreational allowance of 2730 tonnes that you agree to recommend a daily bag limit of 6 and a MLS of 32-34 centimetres or a bag limit of 7 and a MLS of 32-35centimetres
- d) For a recreational allowance of 3050 tonnes that you agree to recommend a daily bag limit of 6 and a MLS of 27-32 centimetres, a bag limit of 7 and a MLS of 29-33centimetres or a bag limit of 8 and a MLS of 31-34centimetres

³⁷ Daily bag limits are set by regulations under s 197 and 298 of the Fisheries Act. They are made by the Governor-General by Order in Council and must be agreed to by Cabinet.

2.4 ONGOING ENGAGEMENT

231 MPI supports the desire of tangata whenua, commercial and recreational stakeholders to work alongside government to determine how best to maximise the benefits from the SNA 1 fishery. MPI's support for collaboration is independent of whether the stock is more or less actively managed and what options you may decide for the 2013-14 TAC and allocation for SNA 1. A determination of how to best maximise the benefits of the SNA 1 fishery will include consideration of the following:

- The most appropriate management target(s);
- The information needs to achieve the management target(s).
- The frequency and detail of future reviews of the SNA 1 fishery; and.
- The overall SNA 1 management framework, including measures to improve productivity (protection of areas of significance to fisheries management, areas of juvenile abundance, protection of spawning stocks), address the adverse effects of fishing on the aquatic environment, and reduce recreational fishing handling mortality.

232 MPI propose that a multi-sector working group is established by 15 December 2013 and is tasked with developing a management plan for SNA 1 by 1 October 2015.

233 Broad cross-sector support was voiced in support of this initiative:

- a) MPI should start a collaborative approach in agreeing targets and management settings for this fishery. MPI must invest in increasing the capacity of the recreational fishing sector to properly participate in all MPI fisheries management processes. (NZRFC; FishinFuture Search; Blue Oceans Charters Ltd;)
- b) The commercial and recreational sectors need to demonstrate a commitment to develop measures to manage their own harvesting and to work together in partnership with all stakeholders and MPI to develop a joint management strategy (TOKM).
- c) A consultation process to develop principles and agreed approaches to allocation between sectors in this shared fishery should be undertaken (ECO)
- d) The Minister should make an interim decision to provide clarity for the coming season, while encouraging further examination within the collaborative process established for the Hauraki Gulf marine spatial plan (chair, Hauraki Gulf Forum)
- e) Development of long term management strategy for SNA 1 is supported (Forest & Bird)
- f) The establishment of a management committee consisting of three representatives each from commercial, recreational and tangata whenua with an independent chair and MPI secretariat support, funded by Government to facilitate the planning process is recommended. The Committee would be tasked with presenting an agreed management plan for SNA 1 by 30 June 2015 (AFL)

234 In addition, commercial fishing interests have put forward a package of initiatives which will contribute to significantly improved information about the level of discards of snapper. More generally, MPI is undertaking the following initiatives in inshore fisheries which will support better monitoring and information about SNA 1.

- Condition on permit requiring vessels to be capable of carrying an observer from 1 October 2014
- Double the number of inshore observer days from 1000 to 2000 from 1 October 2013
- Trial use of cameras to record and measure fish returned to the sea.

2.4.1 Conclusions

235 MPI recommend that in respect of ongoing management of SNA 1 that a multi-sector working group is established by 15 December 2013 and that the working group is tasked with developing a management plan for SNA 1 by 1 October 2015.

2.5 RECOMMENDATIONS

Note that a range of possible Total Allowable Catch, Allocation and associated Other Management Controls are available to you;

Note that the Initial Position Paper outlined that a range of TAC settings between 3800 tonnes and 900 0 tonnes are possible;

Note that MPI recommends a TAC be set from within the range outlined in the tables below;

Table 6: Allocation and corresponding controls for a TAC of 8050 tonnes

Allocation	TAC and allowances (<i>figures are in tonnes</i>)					MLS under various daily bag limits (<i>figures are in centimetres</i>)		
	TAC	Customary	OSFRM	Recreational	TACC	6	7	8
Recreational allowance increases by 500 tonnes	8 050	50	450	3 050	4 500	27-32	29-33	31-34
Recreational allowance increases by 320 tonnes, TACC increases by 180 tonnes	8 050	50	450	2 870	4 680	30-34	31-34	32-35
Recreational allowance increases by 250 tonnes, TACC increases by 250 tonnes	8 050	50	450	2 800	4 750	31-34	32-34	32-35
TACC increases by 320 tonnes, recreational allowance increases by 180 tonnes	8 050	50	450	2 730	4 820	32-34	32-35	33-35
TACC increases by 500 tonnes	8 050	50	450	2 550	5 000	33-35	34-36	34-36

Table 7: Allocation and corresponding controls for a TAC of 7050 tonnes

Allocation	TAC and allowances <i>(figures are in tonnes)</i>					MLS under various daily bag limits <i>(figures are in centimetres)</i>		
	TAC	Customary	OSFRM	Recreational	TACC	5	6	7
	TACC decreases by 500 tonnes	7 050	50	450	2 550	4 000	32-35	33-35
TACC decreases by 320 tonnes, recreational allowance decreases by 180 tonnes	7 050	50	450	2 370	4 180	34-36	34-36	35-37
TACC decreases by 250 tonnes, recreational allowance decreases by 250 tonnes	7 050	50	450	2 300	4 250	34-36	35-37	35-37
Recreational allowance decreases by 320 tonnes, TACC decreases by 180 tonnes	7 050	50	450	2 230	4 320	35-37	35-37	35-37
Recreational allowance decreases by 500 tonnes	7 050	50	450	2 050	4 500	36-38	36-38	36-38

Table 8: Allocation and corresponding controls for a TAC of 7550 tonnes (current TAC)

Allocation	TAC and allowances <i>(figures are in tonnes)</i>					MLS under various daily bag limits <i>(figures are in centimetres)</i>		
	TAC	Customary	OSFRM	Recreational	TACC	6	7	8
	Recreational allowance increases by 500 tonnes, TACC decreases by 500 tonnes	7 550	50	450	3 050	4 000	27-32	29-33
Current allocation remains unchanged	7 550	50	450	2 550	4 500	33-35	34-36	34-36
TACC increases by 500 tonnes, recreational allowance decreases by 500 tonnes	7 550	50	450	2 050	5 000	36-38	36-38	36-38

Specify the TAC, Allowances and TACC (in tonnes):

- a TAC _____
- b Customary Allowance _____
- c Other Sources of Fishing Related Mortality _____
- d Recreational Allowance _____
- e Total Allowable Commercial Catch _____

Other Management Controls

Agree to recommend the making of regulations setting a:

- a. Daily bag for recreational fishers of _____
- b. Minimum Legal Size for recreational fishers of _____

Ongoing Management

Agree that a multi-sector working group is established by 15 December 2013 and that the working group is tasked with developing a management plan for SNA 1 by 1 October 2015

Andrew Doube
Manager Inshore Fisheries
Ministry for Primary Industries

APPROVED

NOT APPROVED

APPROVED AS AMENDED

Hon Nathan Guy
Minister for Primary Industries

3 PART B: SUPPORTING INFORMATION

3.1 OTHER STATUTORY CONSIDERATIONS

236 This section provides additional guidance on legal obligations under the Fisheries Act relating to your decisions about management of the SNA 1 fishery. Relevant judicial findings, which provide guidance on interpretation and application of the Fisheries Act, are provided.

3.1.1 Purpose of the Fisheries Act 1996 (section 8)

237 The purpose of the Fisheries Act is to provide for the utilisation of fisheries resources while ensuring sustainability. The purpose statement incorporates “the two competing social policies reflected in the Act”.³⁸ “Ensuring sustainability” is defined as: “maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations; and avoiding, remedying, or mitigating any adverse effects of fishing on the aquatic environment”. “Utilisation” of fisheries resources is defined as “conserving, using, enhancing, and developing fisheries resources to enable people to provide for their social, economic, and cultural wellbeing.”

238 The Supreme Court stated that “both policies are to be accommodated as far as is practicable in the administration of fisheries under the quota management system. ...[I]n the attribution of due weight to each policy that given to utilisation must not be such as to jeopardise sustainability”.³⁹

239 Utilisation may be provided for at different levels, and the extent of such use should be considered on a case-by-case basis. Where there is a significant threat to the sustainability of a fishstock, the measures adopted to achieve sustainability are likely to be more stringent than where there is a lesser threat.

240 Consideration of social, economic, and cultural wellbeing (in conjunction with other considerations consistent with the purpose and principles of the Fisheries Act) may influence how measures to ensure sustainability are implemented. Hence, providing for utilisation while ensuring sustainability may be achieved in different ways and the objective may be reached over time.

³⁸ New Zealand Recreational Fishing Council Inc v Sanford Limited and Ors (Supreme Court, SC 40/2008, 29 May 2009), at para 39.

³⁹ Ibid.

3.1.2 Environmental Principles (section 9)

241 The Fisheries Act prescribes three environmental principles that you must take into account when exercising powers in relation to utilising fisheries resources and ensuring sustainability.

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

242 The Fisheries Act defines “associated or dependent species” as any non-harvested species taken or otherwise affected by the taking of a harvested species. An example is a protected seabird impacted by trawl gear. The term “long-term viability” (in relation to a biomass level of a stock or species) is defined in the Fisheries Act as a low risk of collapse of the stock or species, and the stock or species has the potential to recover to a higher biomass level. This principle therefore requires the continuing existence of species by maintaining populations in a condition that ensures a particular level of reproductive success.

243 Where fishing is affecting the viability of one or more associated or dependent species, Principle 1 implies that appropriate measures should be taken. For example method restrictions, area closures, and potentially adjustments to the TAC of the target stock. MPI uses a range of approaches, including National Plans of Action and Threat Management Plans to manage impacts on associated or dependent species.

3.1.2.2 Principle Two: Biological diversity of the aquatic environment should be maintained

244 “Biological diversity” means the variability among living organisms, including diversity within species, between species, and of ecosystems.

245 Determining the level of fishing or the impacts of fishing that can occur requires an assessment of the risk that fishing might cause. This includes the risk of a decline in species abundance or the risk of biodiversity being reduced by an unacceptable amount.

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

246 Habitat of particular significance is not defined in the Fisheries Act. However, MPI is working towards a definition of a habitat of particular significance for fisheries management. The objective is to define a habitat that is of critical importance to the maintenance of an aquatic species’ or stock’s productivity at any point in its life cycle. Habitats of particular significance, such as those that assist in the reproductive and productive process of a fishery, should be protected. Adverse effects on such areas must be avoided, remedied, or mitigated.

247 An important contextual point is that the obligation discussed here is about protecting habitats of significance for fisheries, rather than any broader biodiversity protection principle which is covered by section 9(b). Also, the obligation under section 9(c) is not about

protecting or managing directly the sustainable use of aquatic species. Specific tools under section 11 of the Fisheries Act are applied for those purposes, including catch limits and method controls. However, those same tools may be applied to give effect to any identified need for protecting habitats of particular significance for fisheries management.

248 It is also important to note that, while the primary obligation under section 9(c) is for fisheries management decision makers to take into account the need to protect habitats from fishing effects, there are likely to be habitats and their attributes that could be threatened by activities and decisions unrelated to fisheries.

3.1.3 Information Principles (section 10)

249 The nature of the data and assumptions used to generate fisheries assessments and the results produced contain variation and uncertainty. The Fisheries Act specifies the information principles that must be taken in account when information is uncertain:

- a) Decisions should be based on the best available information – that is the best information that, in the particular circumstances, is available without incurring unreasonable cost, effort, or time;
- b) Decision makers should consider any uncertainty in the information available in any case;
- c) Decision makers should be cautious when information is uncertain, unreliable, or inadequate; and.
- d) The absence of, or any uncertainty in, any information should not be used as a reason for postponing or failing to take any measure to achieve the purpose of the Fisheries Act.

250 Less than full information suggests caution in decision-making, not deferral of a decision completely if information standards are not met. “The fact that a dispute exists as to the basic material upon which the decision must rest, does not mean that necessarily the most conservative approach must be adopted. The obligation is to consider the material and decide upon the weight which can be given it with such care as the situation requires.”⁴⁰

251 Both scientific and anecdotal information need to be considered and weighed accordingly when making management decisions. The weighting assigned to particular information is subject to the certainty, reliability, and adequacy of that information. As a general principle, information on stock status outlined in the MPI Fishery Assessment Plenary Report (the Report) is the best available information and should be given significant weighting. The information presented in the Report is subject to a robust process of scientific

⁴⁰ *Greenpeace NZ Inc v Minister of Fisheries* (HC, Wellington CP 492/93, 27/11/95, Gallen J) p 32.

peer review. Corroborated anecdotal information also has a useful role to play in the stock assessment process and in the management process.

3.1.4 International Obligations (section 5(a))

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

253 The two key pieces of international law relating to fishing, and to which New Zealand is a party, are the United Nations Convention on the Law of the Sea, 1982 (UNCLOS) and the United Nations Convention on Biological Diversity 1992 (the Biodiversity Convention). Section 13 of the Fisheries Act parallels wording in article 61 of UNCLOS, which refers to the setting of sustainable catch limits designed to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield, as qualified by relevant environmental and economic factors.

254 It is MPI's view that the the proposed exercise of powers under the Fisheries Act are consistent with New Zealand's international obligations.

3.1.5 Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 (section 5(b))

255 The Fisheries Act is to be interpreted, and all persons exercising or performing functions, duties, or powers under it are required to act, in a manner consistent with the provisions of the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 (section 5(b)). This requirement furthers the agreements expressed in the Deed of Settlement referred to in the Preamble to the Settlement Act. In particular, Māori non-commercial fishing rights continue to give rise to Treaty obligations on the Crown.

256 To give effect to the obligations arising from the Treaty, the Crown:

- a) Acknowledges it has an obligation to act in an informed manner when it forms policy or acts in a way that affects Maori interests;
- b) Acknowledges that it has a duty of active protection in relation to Maori rights and interests guaranteed pursuant to Article II of the Treaty subject to the Settlement Act;
- c) Recognises that the Crown and Maori both have an obligation to act in good faith, fairly, reasonably and honourably towards the other; and
- d) Recognises that central to the Treaty relationship and implementation of Treaty principles in respect of the rights of tangata whenua is a common understanding that

tangata whenua will have an important role in the development of policies and processes that affect their interests and rights.

257 It is MPI's view that the the proposed exercise of powers under the Fisheries Act are consistent with the provisions of the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992.

3.1.6 Consultation (section 12)

258 Before setting or varying any sustainability measure under the Fisheries Act you are required to consult with those classes of persons having an interest in the stock or the effects of fishing on the aquatic environment in the area concerned, including, but not limited to, Maori, environmental, commercial and recreational interests.

259 You are also required to provide for the input and participation of tangata whenua having a non-commercial interest in the stock concerned or an interest in the effects of fishing on the aquatic environment in the area concerned; and have particular regard to kaitiakitanga. This requirement reflects the provisions of the Settlement Act, and the Crown's commitment to its Treaty partner.

260 An expression of kaitiakitanga is contained in fisheries protocols entered into by MPI (and its predecessor the Ministry of Fisheries) as part of the individual iwi Treaty settlements with the following parties: Ngati Awa; Ngati Tuwharetoa; Te Arawa; Te Arawa Lakes; Te Uri o Hau, and Waikato-Tainui.

261 Statutory consultation occurs after policy options have been developed. The consultation document for SNA 1 set out options in respect of varying existing management controls – the TAC, the TACC and allowances, and related management controls. A consultation period of six weeks was provided for tangata whenua and stakeholders to comment on the various options. During this period MPI conducted four public meetings in Auckland, North Shore, Tauranga and Whangarei. MPI also supported the consultation process by engaging with print, radio and television media.

262 MPI also engaged with two iwi fisheries forums via forum meetings and written correspondence as to provide for input and participation about management proposals for SNA 1. The forums consist of iwi representatives from the Bay of Plenty (Mai i Nga Kuri a Whareki Tihirau Fisheries Forum) and Northland (Te Hiku o Te Ika Fisheries Forum). The forums have developed fisheries plans which set out values and objectives for iwi fisheries management. Both plans identify snapper as a taonga species. MPI considers the proposals are not inconsistent with the forum plans, and that input received has been incorporated into this paper.

263 This paper provides advice to you which includes the results of consultation involving stakeholders and engagement with tangata whenua.

264 Further information on the consultation process and feedback received from stakeholders is detailed in section 3.6 of this final advice

3.2 SNA 1: BIOLOGY

3.2.1 Populations within SNA 1

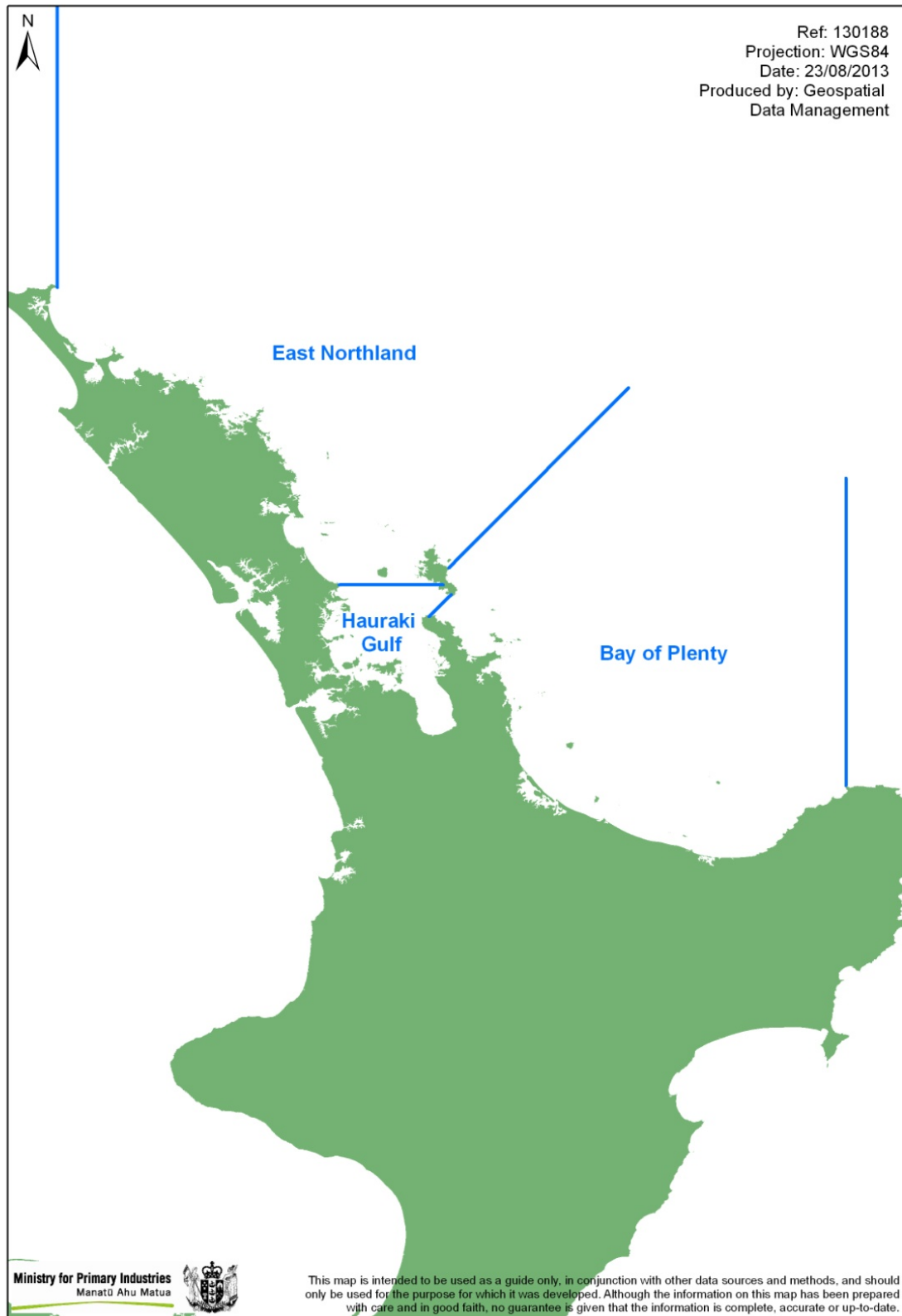
265 Snapper in New Zealand waters are thought to be made up of seven or eight biological populations (or biological stocks) based on the location of spawning and nursery grounds; differences in growth rates, age structure, and recruitment strength; and the results of tagging surveys which show how snapper move between areas.

266 Three populations (or sub-stocks) are thought to occur in SNA 1 (Figure 7). The East Northland sub-stock extends from North Cape southwards to the Bream Tail headland just south of Whangarei. The Hauraki Gulf extends from Bream Tail to include the inshore waters close to Auckland and inshore of Great Barrier Island, as well as the Firth of Thames to the west of the Coromandel Peninsula. Although the Hauraki Gulf covers the smallest spatial extent of the three areas, it has the largest biomass of snapper. The Bay of Plenty sub-stock extends from a line joining the southern tip of Barrier to the northern end of the Coromandel Peninsula and along the coast of the Bay of Plenty to its eastward extremity at Cape Runaway. The Bay of Plenty has the smallest biomass of snapper.

267 Tagging studies have shown that limited mixing occurs between the populations within SNA 1, with the greatest exchange between the Hauraki Gulf and the Bay of Plenty. Although some fish move to adjacent areas, they generally return to their home areas to spawn.

268 The snapper growth rates, age structure, and recruitment strength differ between the areas sufficiently to support the discrimination between the sub-stocks. Snapper from the Bay of Plenty grow faster than those from the Hauraki Gulf and East Northland. The age structure of the snapper population in the areas is also informative and shows that East Northland has a greater proportion of older snapper (more than 20 years old) than in the Gulf or Bay of Plenty, where younger fish make up more of the population. In addition, the relative proportions of snapper born in different years (the strength of each year class or recruitment strength) can be tracked over several years and can support discrimination between sub-stocks. However, if wide areas are experiencing similar environmental conditions, the relative recruitment strength across those wider areas can be similar. Weak and strong recruitment coinciding with different years in the three regions supports the existence of multiple stocks.

Figure 7: Substock boundaries within SNA 1



3.2.2 Growth and spawning

269 Snapper is a long-lived species that may live up to 60 years or more and has a very low natural mortality.⁴¹ These biological characteristics (high longevity and low natural mortality) indicate that snapper is a low productivity stock.

270 The growth rate of snapper varies geographically and from year to year, however, snapper in SNA 1 grow the slowest of all the snapper stocks in New Zealand (and within SNA1, the Bay of Plenty snapper grow faster than those in the Hauraki Gulf or East Northland).

271 Male and female snapper are thought to reach sexual maturity at three to four years of age and lengths between 20 and 28 centimetres. At an age of 5 years, all snapper are considered to have recruited to the fishery, meaning that the commercial fishing gear can catch them. Snapper above the MLS are likely to be at least five years old, and a 40 centimetre snapper in the Hauraki Gulf could be 10 or more years old.

272 In the SNA1 area, spawning usually begins in November and December, and can extend through into January to March in some areas and years. Snapper are serial spawners, and each female can release many batches of eggs over the extended spring and summer season. Snapper females produce large quantities of eggs, with estimates suggesting each female can spawn an average of more than 60 000 eggs per day. Larger female snapper produce disproportionately more eggs (per kilogram of body weight) in a season than smaller females (with a 50centimetre female producing as many as six million eggs, while a 25 centimetres female produces up to 300 000 eggs per season). Water temperature plays a role in the timing of spawning and also appears to be important to the success of recruitment of young snapper to the population. Generally, strong recruitment corresponds to warm water temperatures, and weaker recruitment is associated with cooler temperatures.

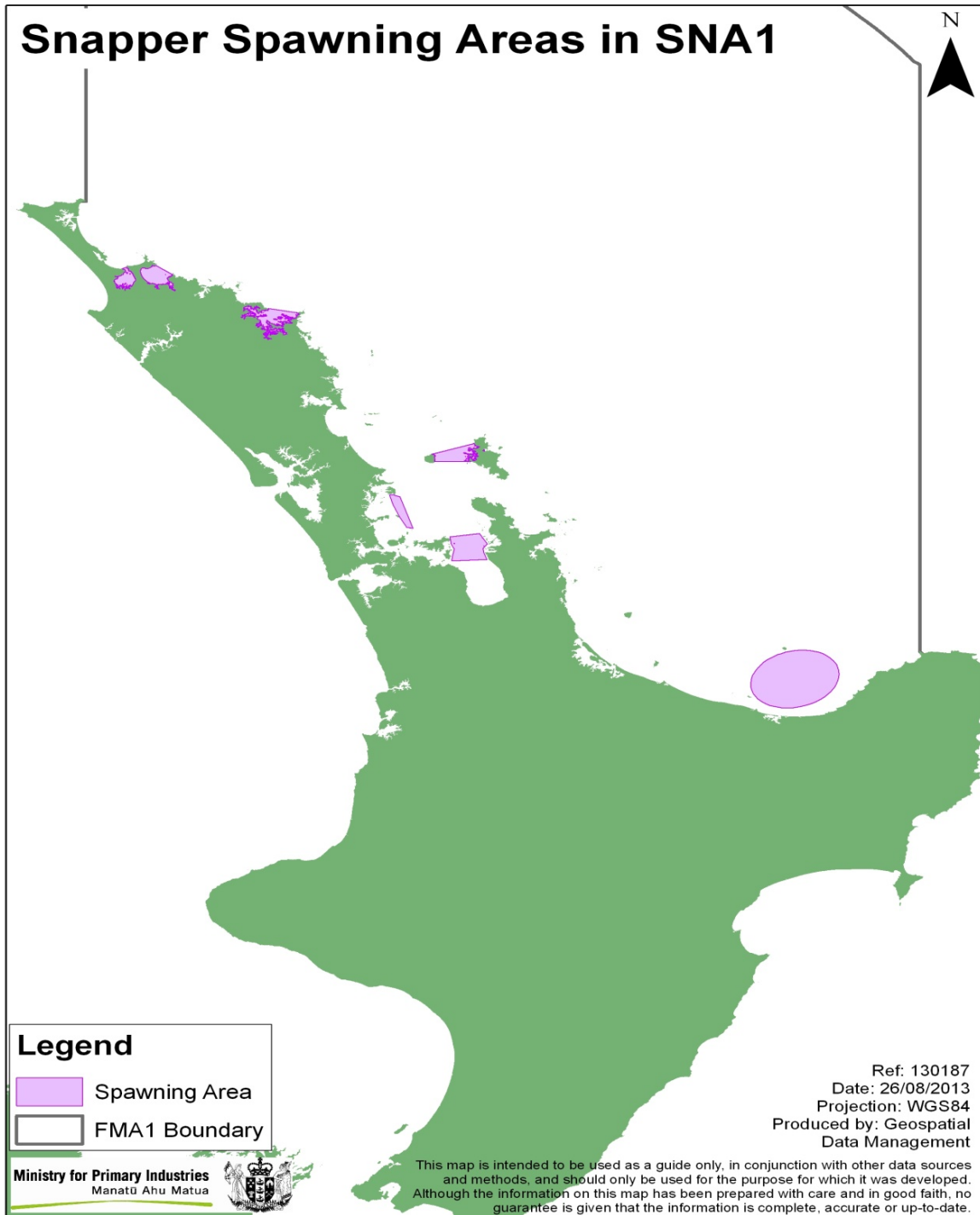
273 Snapper eggs drift as 'plankton' in the upper layers of the ocean and hatch into larvae which remain in the plankton for a relatively short time before settling to the ocean floor. This short larval phase means that spawning grounds correspond fairly closely with the nursery grounds for young snapper. Juvenile snapper have been found in high densities in many shallow estuaries, harbours, and inshore areas in SNA1. As the juveniles grow older, they disperse more widely into less sheltered coastal areas.

274 At spawning time, large schools of snapper congregate and move onto the spawning grounds. Areas within SNA 1 likely to be important for snapper spawning include the Hauraki Gulf (Cradock Channel, Coromandel Harbour to the Firth of Thames, and between the Noises, Tiritiri Matangi and Kawau Islands), Rangaunu, Doubtless Bay, and the Bay of

⁴¹ The Plenary considers natural mortality rate, M, is unlikely to be great than 0.1

Islands in East Northland, and the eastern Bay of Plenty (Figure 8). After spawning, the fish disperse, often inshore to feeding grounds. The winter grounds for snapper are thought to be in deeper waters and the fish more widespread.

Figure 8: Indicative main spawning sites for snapper in SNA 1



3.2.3 Trophic interactions

275 Snapper are able to thrive in a wide variety of environmental conditions; occupying nearly every coastal marine habitat less than 200 metres deep (the highest abundance occurs between 15 and 60 metres deep).

276 The diet of snapper is diverse and opportunistic; they largely feed on crustaceans, polychaetes, echinoderms, molluscs and other fish. As snapper increase in size, harder bodied and larger diet items increase in importance. There is some evidence to suggest a seasonal component to snapper diet, with high proportions of pelagic items.

277 There is some evidence to suggest that snapper have the ability to influence the environment that they occupy. On some rocky reefs, recovery of predators inside marine reserves (including snapper and rock lobster) has led to the recovery of algal beds through predation exerted on herbivorous urchins.

278 Snapper compete with other species, so overlap in diet is likely with a number of other demersal predators (e.g. tarakihi, red gurnard, trevally, rig, and eagle ray). The wide range of prey consumed by these species and differences in diet preference and habitat occupied is likely to reduce the amount of competition overall. The importance of snapper as a food source for other predators is poorly understood.

3.2.4 Role of snapper in the ecosystem

279 Snapper are one of the most abundant demersal generalist predators found in the inshore waters of northern New Zealand, and as such are likely to be an important part of the coastal marine ecosystem. Localised depletion of snapper probably occurs within key parts of the fishery; this has unknown consequences for ecosystem functioning in those areas.

3.2.5 Natural variability

280 Changes in environmental conditions can influence the timing and success of spawning and subsequent recruitment.

281 Water temperature appears to play an important part in the success of recruitment. Generally strong year classes in the population correspond to warm years and weak year classes correspond to cold years.

282 In unfished populations, snapper biomass is likely to be relatively stable, but the current stock status of SNA 1 (refer to 3.4.2 *Status of the SNA 1 stock*) suggests the biomass could be more variable in relation to variable recruitment because there are fewer age classes in the fished population.

3.3 SNA 1: FISHERY

283 SNA 1 is New Zealand’s most valuable inshore finfish fishery. It is also one of a small subset of “shared” fisheries that are of high importance and value to a range of interests including customary Māori, recreational and commercial fishers.

284 Current management settings for the SNA1 fishery are shown in Table 9.

Table 9: Total Allowable Catch, Allowances and Commercial Catch set for SNA 1 (1 October 1997)

Total Allowable Catch	7 550 tonnes
Combined Māori Customary and Recreational Allowance	2 600 tonnes
Allowance for Other Sources of Fishing-Related Mortality	450 tonnes
Total Allowable Commercial Catch	4 500 tonnes

285 Available information varies in certainty between sectors, but combined estimates suggest that the current Total Allowable Catch is being exceeded. In 2011-12 commercial landings were 4615 tonnes, and combined with a recreational catch estimate of 3950 tonnes (which includes 200 tonne from charter vessels) these two factors alone exceed the current Total Allowable Catch. With an allowance of 450 tonnes for other sources of fishing-related mortality and an allowance of 50 tonnes for Māori Customary fishing the combined total would be 9065 tonnes.

286 The area covered by SNA1 is accessible to a large proportion of New Zealand’s population. This includes the population dense Auckland region and other cities including Whangarei, Tauranga and Hamilton (Figure 9). Population estimates for the combined Northland/Auckland/Waikato/Bay of Plenty region are currently over 2 million and projected to increase to almost 3 million by 2031 (Figure 3.4).

Figure 9: New Zealand Population Density 2006 (Statistics New Zealand) and regional council boundaries for Northland, Auckland, Waikato and Bay of Plenty (Local Government New Zealand)

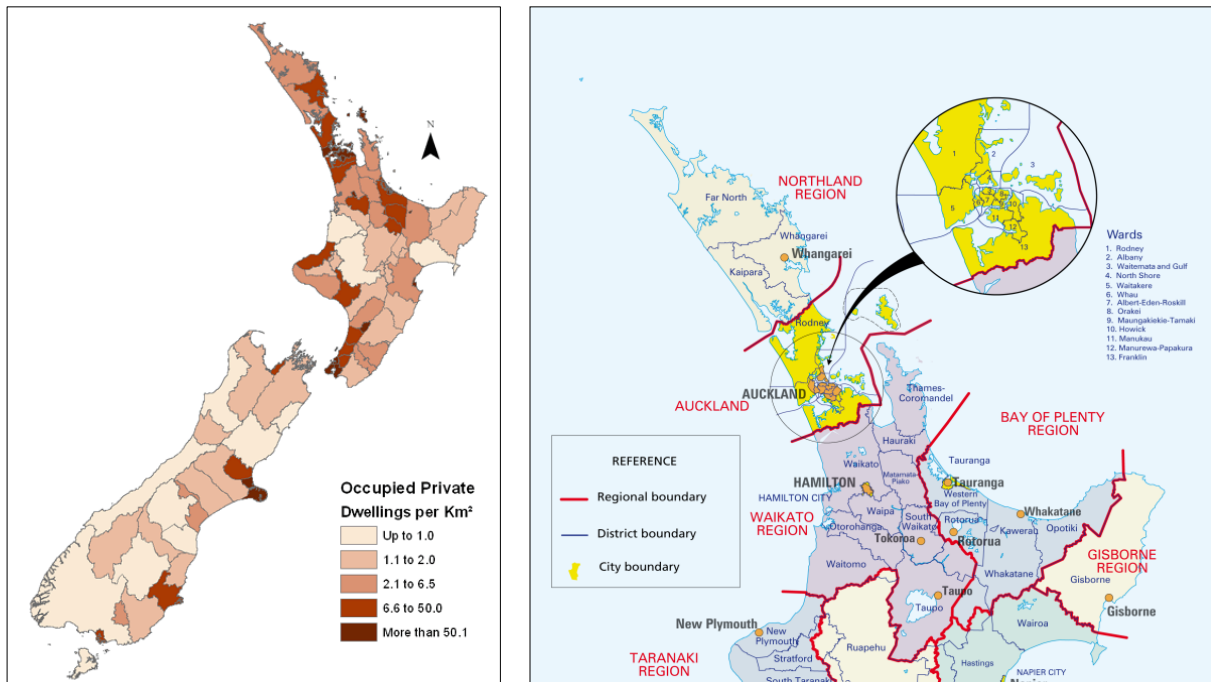
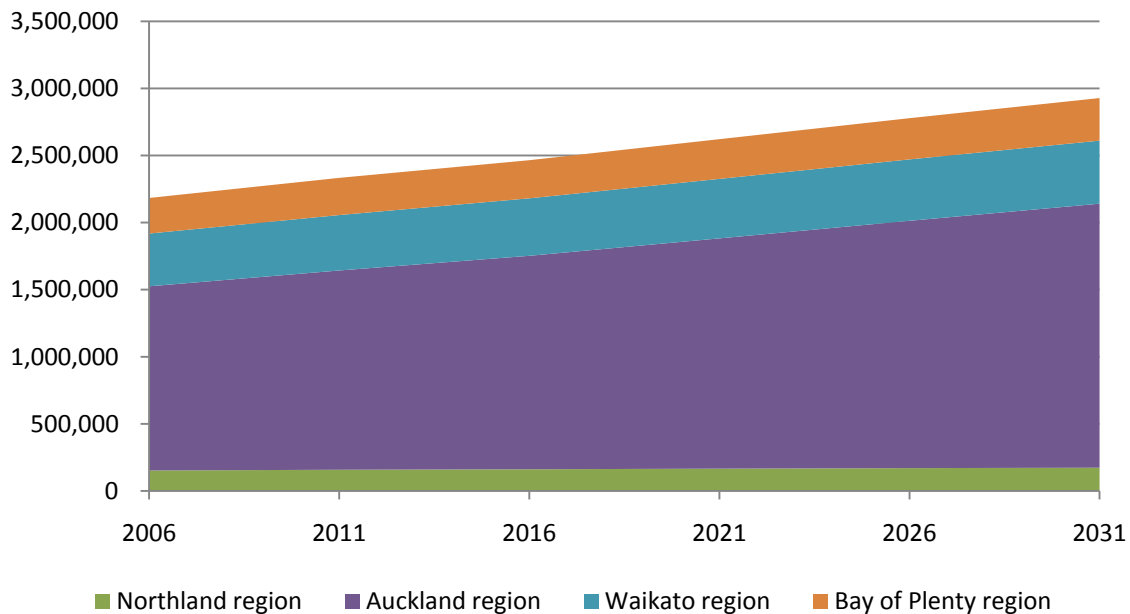
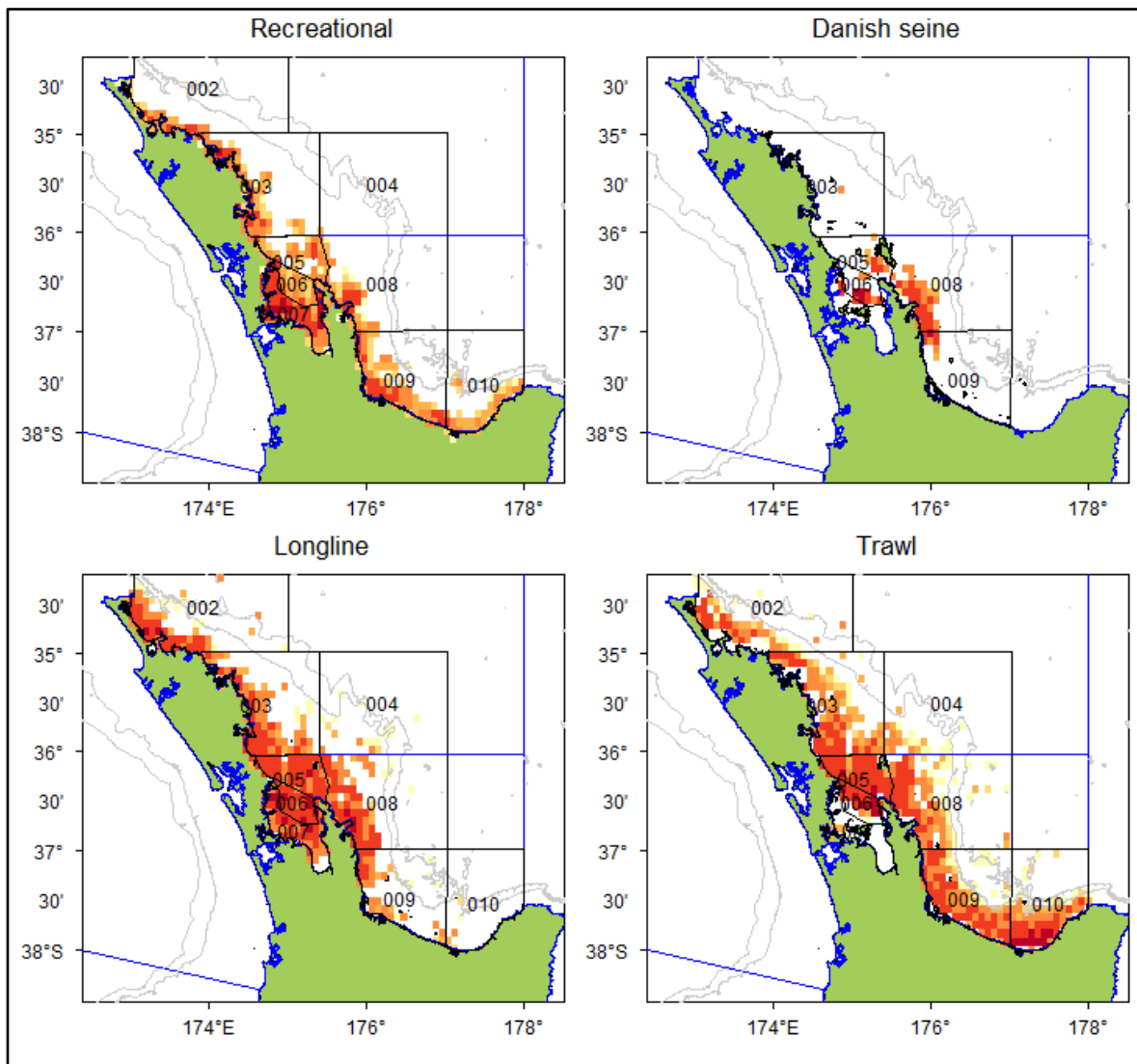


Figure 10: Regional population estimates and “medium” projections (Statistics New Zealand, updated October 2012).



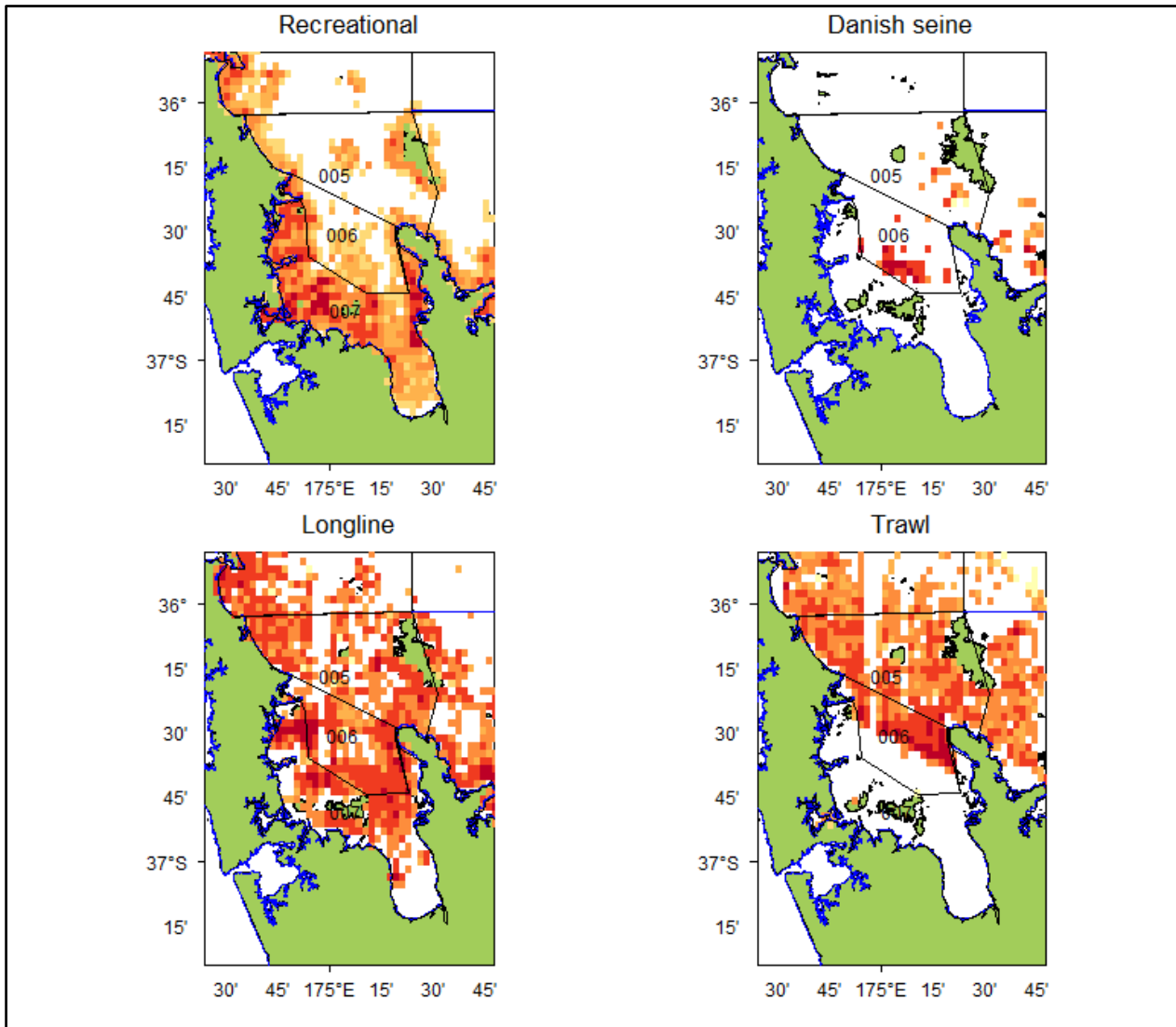
287 Recreational and commercial fishing occurs throughout SNA 1 (Figures 11 and 12). Under current management some spatial overlaps occur between the commercial and recreational sectors, particularly between commercial longlining and line fishing off recreational trailer boats in the Hauraki Gulf and East Northland regions. 2011-12 recreational catch estimates were slightly higher than reported commercial landings in the same year in the Hauraki Gulf and slightly lower than commercial landings in the East Northland region. In the Bay of Plenty reported commercial landings were significantly higher than recreational catch estimates (Figure 13).

Figure 11: The spatial distribution of recreational fishing boats observed in SNA 1 from the air in 2011-12 compared to the spatial distribution of snapper catches taken by three commercial fishing methods during the same fishing year.⁴²



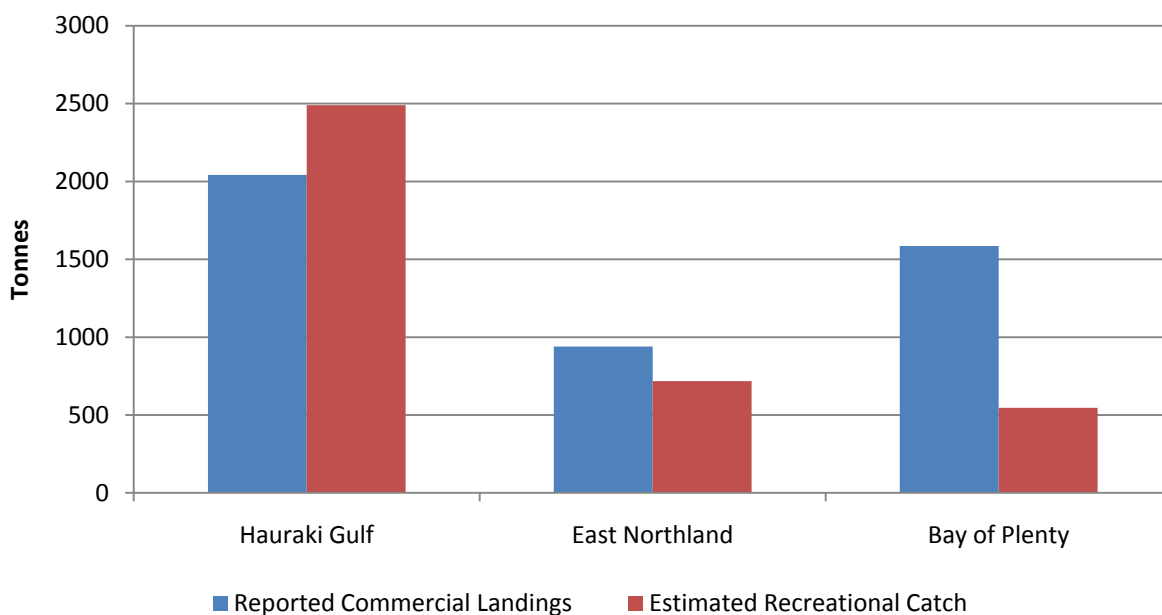
⁴² Yellow squares denote areas that are lightly fished, whereas dark red squares denote the areas that were most intensively fished by that method. The range of values associated with each colour differs by panel, as data ranges differ by fishing method. (Evaluation of combinations of minimum legal size and bag limits used to manage the recreational harvest from SNA1,2 Hartill and Brian 2013).

Figure 12: The spatial distribution of recreational fishing boats observed from the air in 2011–12 compared to the spatial distribution of snapper catches taken by three commercial fishing methods during the same fishing year. ⁴³



⁴³ Yellow squares denote areas that are lightly fished, whereas dark red squares denote the areas that were most intensively fished by that method. The range of values associated with each colour differs by panel, as data ranges differ by fishing method. (Evaluation of combinations of minimum legal size and bag limits used to manage the recreational harvest from SNA1,2 Hartill and Brian 2013).

Figure 13: Reported commercial landings and estimated recreational catch (from aerial access method) by region in the 2011/12 fishing year



3.3.1 COMMERCIAL FISHING

3.3.1.1 Deemed values

288 Under the Act, commercial overfishing is controlled in the first instance by the application of graduated monetary payments, known as interim and annual deemed values. The deemed value framework provides an incentive for fishers to acquire sufficient Annual Catch Entitlement (ACE) to balance against catch. Changes to the deemed value schedule for SNA 1 were made in 2012. The current and previous deemed values set for SNA 1 are shown in Table 10. Standard ramping provisions apply to all snapper stocks.

Table 10: Deemed value rates for SNA 1

Year	Interim	Annual							
		Differential							
2012-13	Overcatch	0-5%	5-10%	10%-20%	20%-30%	30%-40%	40%-50%	50-60%	60%+
		\$7.20	\$8.00	\$10.00	\$12.00	\$14.00	\$16.00	\$18.00	\$20.00
2001-02 to 2011-12	Overcatch	0 - 20%	20%-40%	40%-60%	60%-80%	80%-100%	100%+		
		\$6.50	\$13.00	\$15.60	\$18.20	\$20.80	\$23.40	\$26.00	

289 Table 11 shows the deemed value payments made, the catch as a proportion of the Total Allowable Commercial Catch (TACC), and the amount of ACE available at the end of the fishing year (30 September) for SNA 1.

Table 11: Deemed value payments and catch as a proportion of the TACC and available ACE for SNA 1

Year	2007-08	2008-09	2009-10	2010-11	2011-12
Deemed value payments	\$27 459	\$227 154	\$422 912	\$2 152 350	\$82 411
Catch as a proportion of the TACC	101.07%	100.96%	99.22%	100.36%	102.54%
Proportion of ACE available on 30 September	1.94%	1.07%	1.83%	1.88%	1.33%

290 Table 11 shows deemed value payments are incurred despite there being ACE available for commercial fishers. MPI considers that if ACE were more effectively distributed the deemed value amounts would be substantially less. MPI considers the 2010-11 year is an outlier⁴⁴.

3.3.1.2 Area, method, and other controls on commercial fishing

291 A range of commercial fishing restrictions apply over large areas of the inshore zone within SNA 1, as shown in Table 12. These restrictions generally have been in place for more than 20 years. Most measures seek to protect juvenile snapper, their main habitat areas, and key spawning areas from the impacts of some commercial fishing methods. Restrictions of bulk fishing methods in confined waters such as harbours and bays also serve to reduce the potential for localised depletion of snapper. Other controls on netting methods include restrictions on the size of nets and the length of rope used in Danish seining. Those controls are aimed at reducing the potential waste of fish that could result from fishing power exceeding the processing capacity of vessels. Several restrictions were also introduced in part to reduce inter-sector conflict. A map showing commercial fishing method restrictions in SNA 1 is shown in Figure 14.

⁴⁴ The deemed value amount for the 2010-11 year was inflated significantly because of the ACE trading practice of a single fisher. MPI has since taken steps to reduce the risk of the fisher behaviour occurring again.

Table 12: Summary list of commercial fishing restrictions in SNA 1

Area	Restriction
All Areas	MLS of 25 centimetres
All Areas (Harbours and estuaries)	Closure of all harbours to bulk fishing methods
Hauraki Gulf	Trawl and Danish seine restrictions within the Hauraki Gulf
Inner Hauraki Gulf	Seasonal closures that prohibit most commercial fishing within the Inner Hauraki Gulf from 1 October to 31 March the following year
Mayor (Tuhua) Island	Prohibitions on the use of commercial set nets and long lines within one nautical mile of Mayor (Tuhua) Island
Bay of Plenty	One nautical mile trawl closure around the coastline
Motu river	Seasonal closure
Mimiwhangata Marine Park	All commercial fishing excluded
All Areas	Restrictions on anchoring and fishing over marine cables
All Areas	Restrictions over the size, placement and mesh size of nets
All Areas	Trawl mesh has a minimum size of 125 millimetres
Bay of Islands	Prohibitions on the use of commercial set nets from specified areas. Depending on the location, this restriction may be seasonal

292 Some area closures to trawling and Danish seining have been in place for several decades, and serve to protect many of the areas known to be important for juvenile snapper (estuaries, harbours, and shallow near-shore areas). Excluding bottom-contact and bulk commercial fishing methods from these areas not only reduces the potential loss of juvenile snapper through incidental fishing-related mortality, but also protects the habitat (including important sea grass beds) from being damaged by the fishing gear. Some seasonal closures to commercial fishing near the Bay of Islands and the Motu River mouth (in the eastern Bay of Plenty) also provide protection for juvenile and spawning snapper. Table 13 shows the percentage of SNA 1 that is closed to trawling and Danish seining.

293 Through the 1990s, research was done to ascertain the size selectivity of trawl gear with a view to making fishing more efficient (essentially minimising the catch on non-marketable snapper) and reducing incidental mortality. That led to the regulation, in 1995, of a minimum mesh size of 125 mm for trawl nets if fishing shallower than the 100 m depth contour throughout the SNA 1 area. Prior to 1995, the 125 mm mesh restriction applied only during the October through to March period. The minimum mesh for Danish seine has been

125 mm since well before the QMS. Snapper targeting by set or drag nets also requires a net mesh of 125 mm.

Table 13: Areas within SNA 1 closed to trawling and Danish seining

	Closed to trawling	Closed to Danish Seining
Hauraki Gulf ⁴⁵	50 %** ⁴⁶	39%
Hauraki Gulf and remainder of the SNA 1 coastline out to 5 nautical miles	42%	37%
Hauraki Gulf and remainder of the SNA 1 coastline out to 10 nautical miles	29%	26%

294 The 25 centimetres MLS for commercially caught snapper has been in place since well before the QMS. The size allows for most snapper to reach the size of maturity, and spawn at least once, before being available to the fishery. This is a common “rough and ready” management measure in many fisheries and is designed to help reduce the risk of reducing the spawning potential of a stock.

295 The combination of the commercial MLS and 125 mm mesh size was thought to provide a reasonable balance between minimising the capture of snapper below the MLS and enabling an efficient fishery to capture marketable fish without wasting an inordinate amount of fish. Most snapper caught by trawl nets will die if returned to the water.

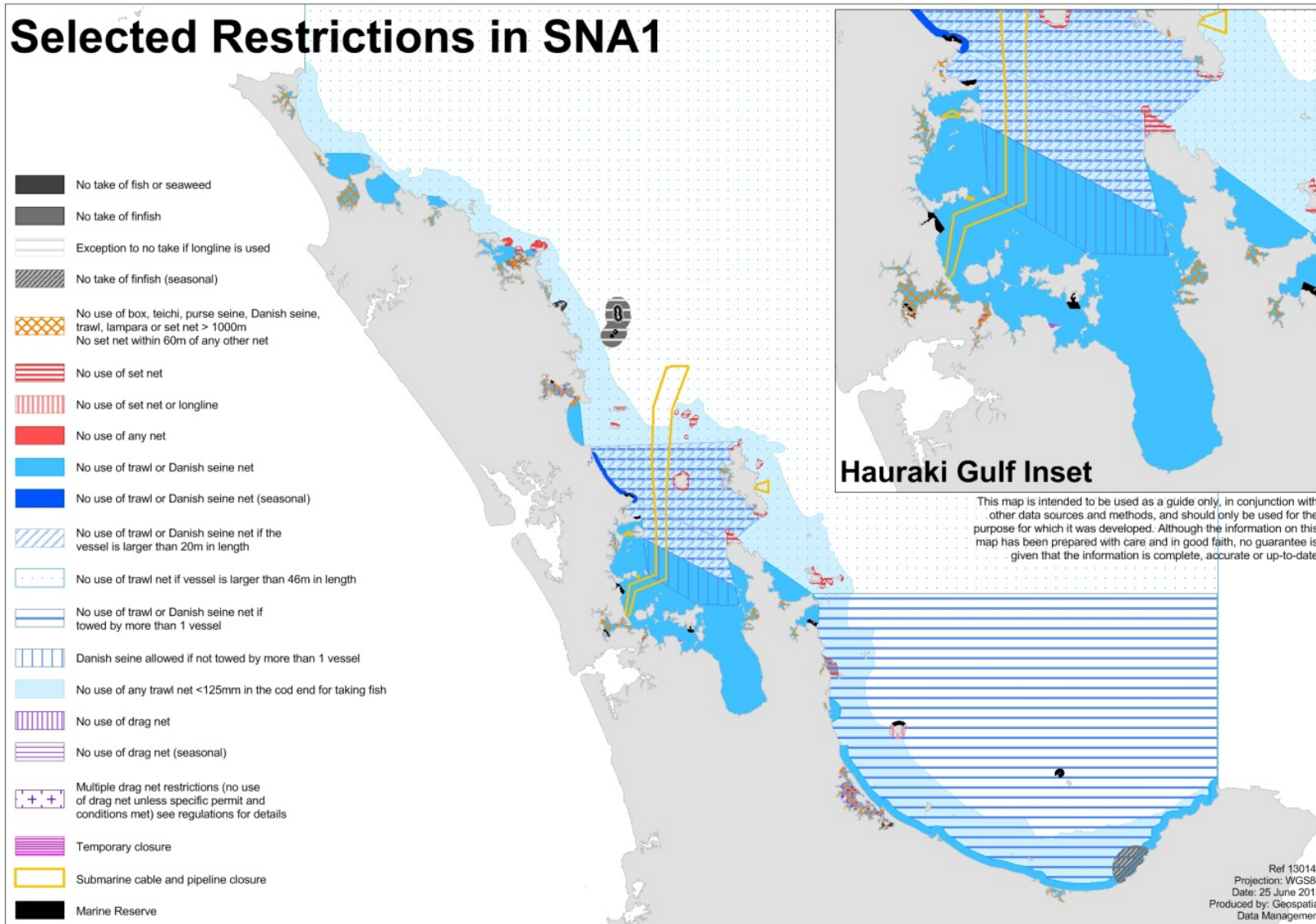
296 In 1995, an area of the inner Hauraki Gulf adjacent to Auckland was closed to commercial bottom longline fishing between October and April each fishing year. This closure sought to reduce the mortality of snapper below the MLS by reducing commercial fishing in areas of high juvenile snapper abundance during the spring and summer. The measure also serves to reduce conflict between commercial and amateur fishers within an area easily accessible to recreational fishers during the popular spring and summer period.

297 Some spatial controls on the use of commercial set nets were introduced after a review of set net fishing in the 1980s and 1990s. While these measures were largely intended to protect vulnerable reef fish species, it is likely that the measures also served to reduce the commercial catch of snapper by set net.

⁴⁵ The Hauraki Gulf has been defined as Inshore Statistical Areas 005,006,007 for these calculations. This is a slightly larger area than the substock boundaries defined for the stock assessment model.

⁴⁶ The remainder of the Hauraki Gulf is closed to trawling by vessels greater than 20 metres in length.

Figure 14: Commercial fishing method restrictions in SNA 1



3.3.1.3 Commercial Catch

298 The commercial fishing sector harvests the greatest proportion of the SNA 1 catch. Prior to the QMS, commercial landings of SNA 1 had varied substantially in response to market demands and fishery management changes. The promotion of policies to encourage investment and expansion of the New Zealand fishing industry through the 1960s and 1970s, the development of highly efficient bulk fishing techniques such as pair trawling, together with foreign fishing, saw substantial increases in landings over that period. Concerns about inshore fisheries generally, and the SNA 1 stock in particular, lead to management interventions in the early 1980s. Snapper was introduced into the QMS in 1986.

299 Quota was allocated on the basis of commitment and dependence on the fishery. The process for determining quota allocations had a number of steps over a period of a few years. Firstly provisional minimum individual transferable quota (PMITQ) was calculated from the best fishing year of those reported during 1981-84. Once PMITQ were identified the level of harvest allowed needed to be adjusted down to the newly proposed level of allowable catch.

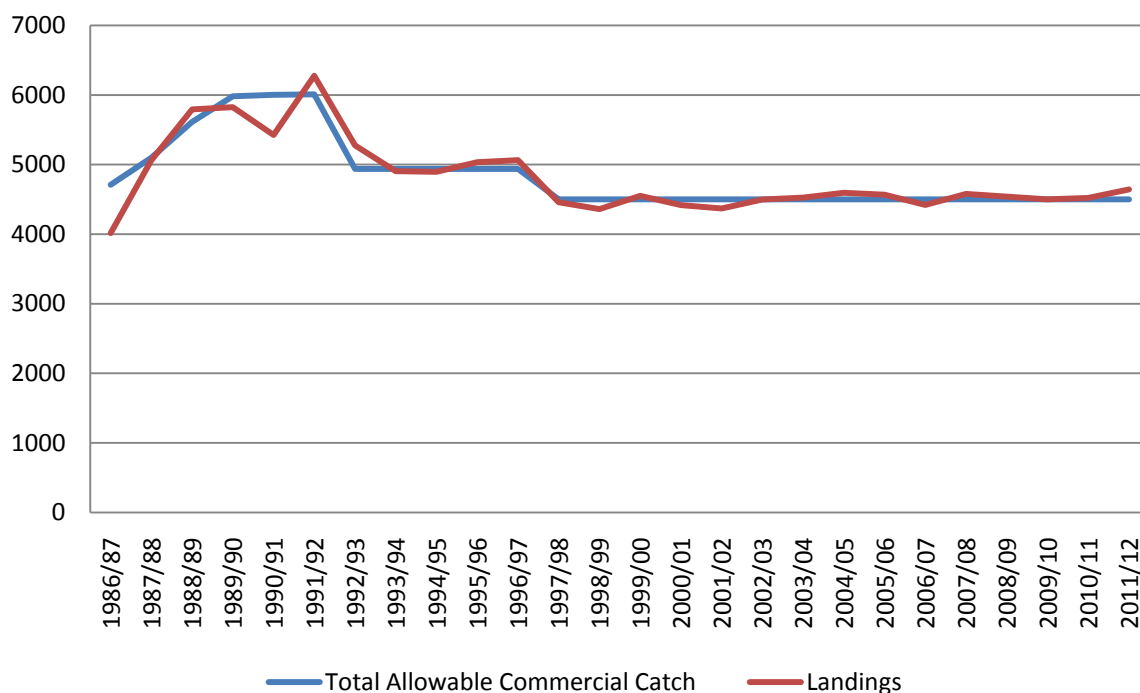
300 The necessary level of reduction was partly achieved by two rounds of buy back where fishers submitted bids that they would be willing to accept in return for giving up a specified amount of PMITQ. Despite the incentive to receive compensation the reductions achieved did not reduce the amount of PMITQ sufficiently.

301 The remaining cuts required were applied to PMITQ on a pro rata basis. While these latter cuts were carried out without compensation, those who had PMITQ reduced were granted preferential rights of a quota increase when the TACC is increased at no cost. These preferential rights (known as section 28N rights in reference to section 28N of the Fisheries Act 1983) remain unfulfilled with 53 (of the 153 current quota holders) holding 482.635 tonnes.

302 MPI considers that 28N rights is not a matter relevant to varying the TACC of SNA 1. Further, the incentives of fishers to conserve snapper are governed by a wider range of factors than expectations of acquiring additional quota. SNA 1 ACE is available already (from the 75% of quota currently devoted to the snapper target fishery) to redistribute into more appropriate quota mixes when and if necessary to avoid constraining the catch of other fish stocks.

303 Since the introduction of the QMS catches have tracked limits closely (Figure 15). The initial TACC was set at 4,710 tonnes and was progressively increased under authority of the Quota Appeal Authority. The TACC was reduced by 4% in 1992 and again by 4.5% in 1997 to the current level of 4,500 tonnes.

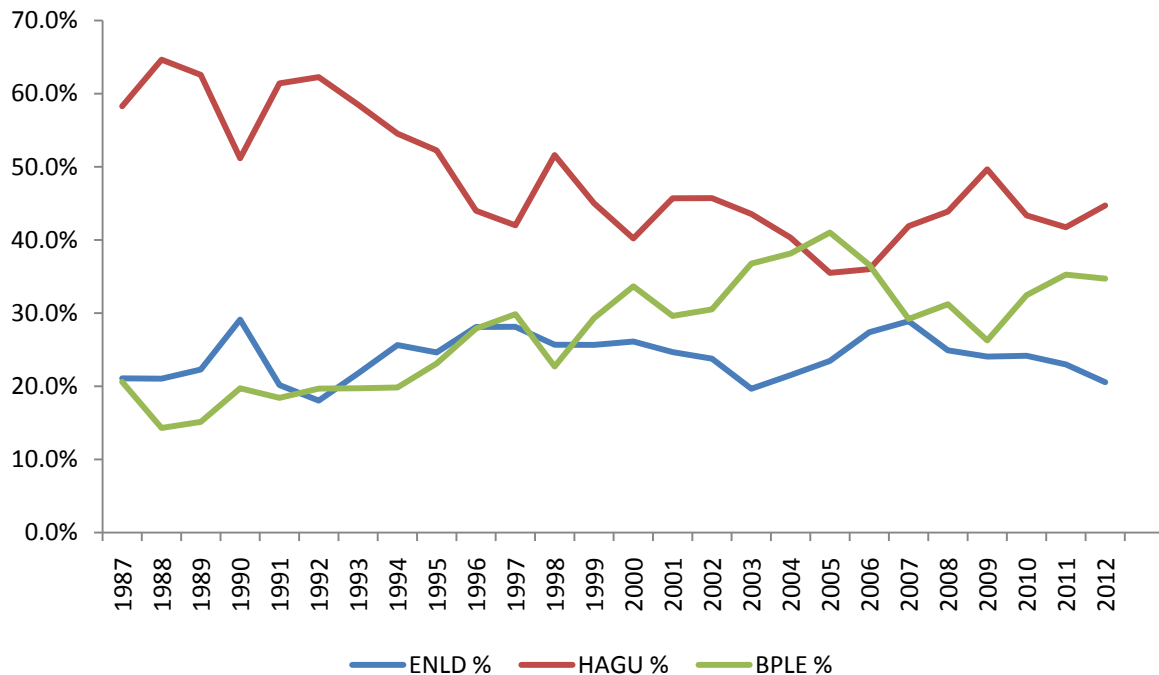
Figure 15: Reported catch landings and TACC for SNA 1 from the advent of the QMS in 1986/87 to 2011/12



304 However, within sub areas catch levels⁴⁷ are less stable apart from in East Northland (ENLD) (see Figure 16). The proportion of the total catch in East Northland has fluctuated around 20%. The proportion of the catch in the Hauraki Gulf (HAGU) has declined from approximately 60% to 45% in recent years while the proportion of the catch has increased from 20% to 35% in the Bay of Plenty (BPLE). A large section of the east west boundary between the Hauraki Gulf and Bay of Plenty is separated by small distances and is fished on both sides by the same fleet. Therefore, any apparent trends in catches involving the Hauraki Gulf and Bay of Plenty should be treated with caution.

⁴⁷ Data from the catch history used in the stock assessment has been used in this analysis. These data have been prorated to include the allowance for fishing related incidental mortality.

Figure 16: Proportional catch history for SNA 1 used in the stock assessment model for each sub area (ENLD East Northland, HAGU Hauraki Gulf and BPLE Bay of Plenty) from the advent of the QMS in 1986/87 to 2011/12



305 The patterns of fishing by the various fishing methods are shown in Figure 3.10. Until 2002-03 bottom long line dominated the catch in response to niche markets based on high quality fish. Since the demise of those markets in the 1990s, along with reductions in quota holdings, the economic viability of small long-line vessels diminished and many dropped out of the fleet. Since introduction of SNA 1 to the QMS catches by long line have halved.

306 This change prompted an increase of the catch of snapper by trawlers and Danish seiners. These vessels sought the efficiency of larger landings since the price advantage of higher quality fish was reduced. In recent years there has been a trend towards Danish seining so that recent landings are of the same magnitude as by trawling. This is thought to indicate a response to changing market forces and efficiency advantages offered by the method that can catch substantial volumes while maintaining a quality that is generally better than trawling, and requiring less power.

307 Catches by fishing methods for sub areas are shown in Figures 18-20. Patterns of fishing noted above for the SNA 1 fishery in general are reflected in the fishing patterns for the Hauraki Gulf and East Northland. The Bay of Plenty fishery differs as trawling (and more recently) Danish seine are the dominant commercial fishing methods.

Figure 17: Catch history for SNA 1 used in the stock assessment model for each fishing method from the advent of the QMS in 1986/87 to 2011/12

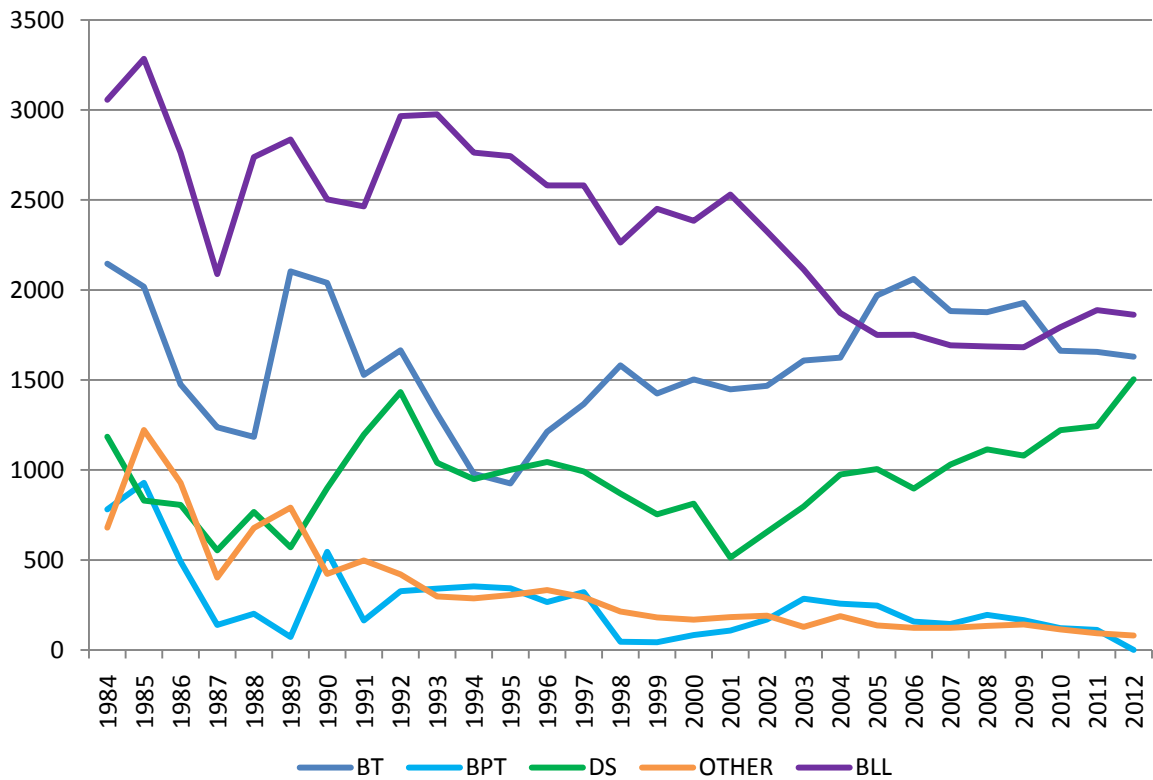


Figure 18: Catch history for SNA 1 used in the stock assessment model by fishing method and for the sub area ENLD East Northland, from the advent of the QMS in 1986/87 to 2011/12. Total catch (dots) are depicted on the secondary axis.

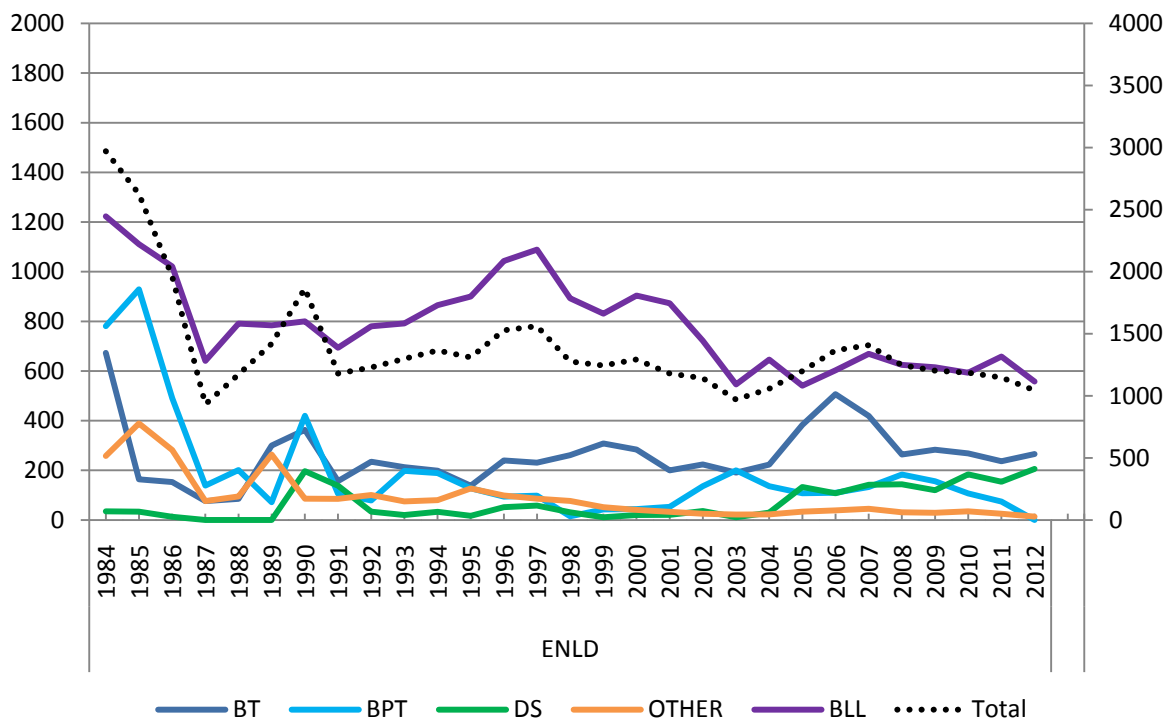


Figure 19: Catch history for SNA 1 used in the stock assessment model by fishing method and for the sub area HAGU Hauraki Gulf from the advent of the QMS in 1986/87 to 2011/12. Total catch (dots) are depicted on the secondary axis.

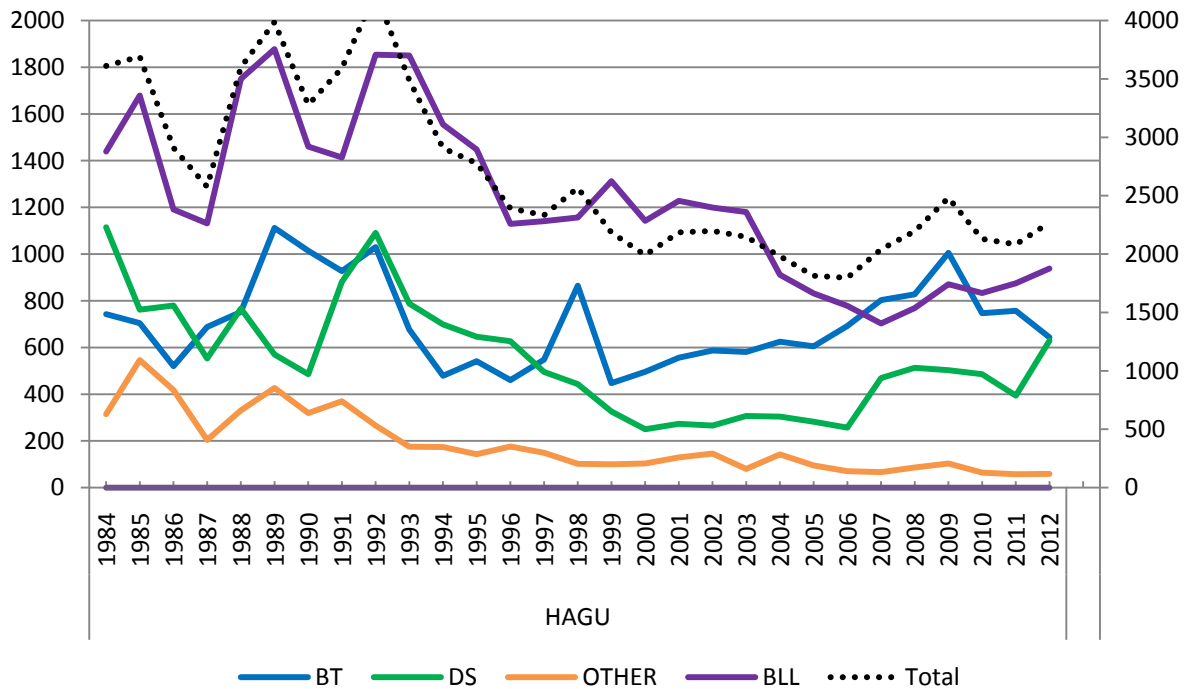
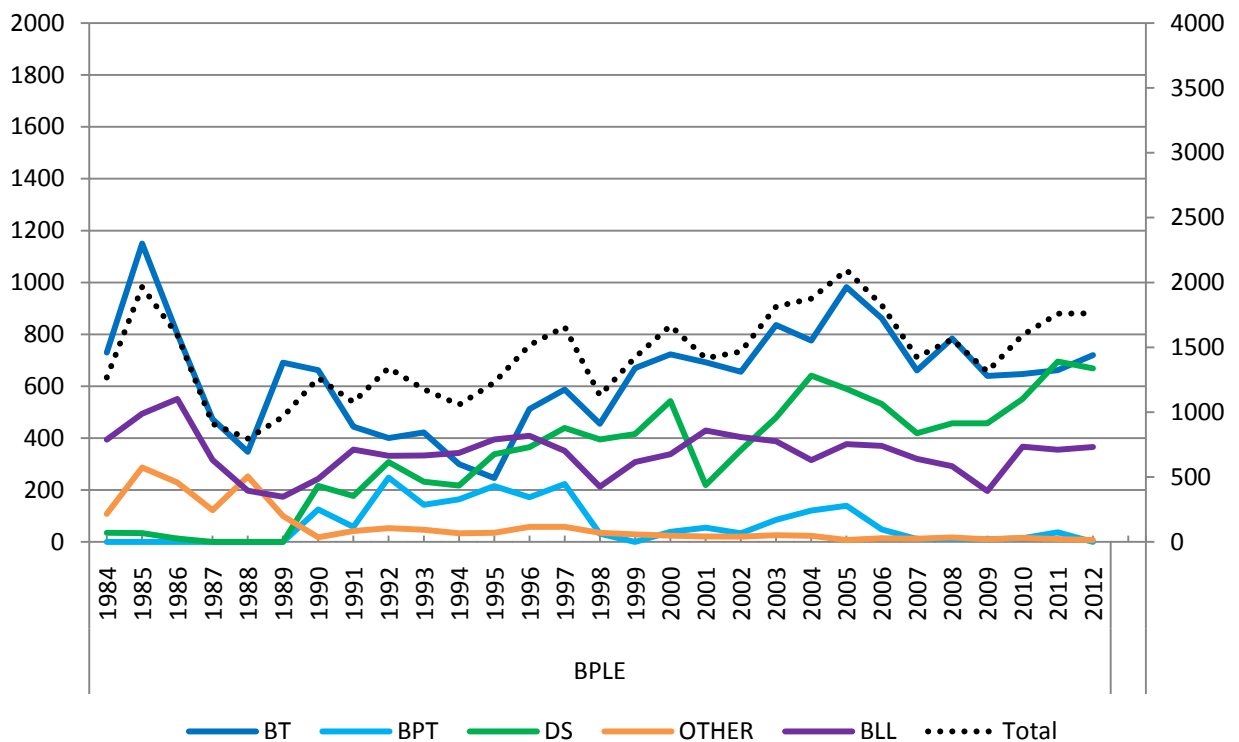


Figure 20: Catch history for SNA 1 used in the stock assessment model by fishing method and for the sub area BPLE Bay of Plenty from the advent of the QMS in 1986/87 to 2011/12. Total catch (dots) are depicted on the secondary axis.



308 **Keith Ingram** notes that the SNA 1 problem impacts mostly in the Bay of Plenty area. He submits that commercial vessels should carry a balanced quota portfolio and 100% observer / cameras until new trawl methods are adopted to address this issue.

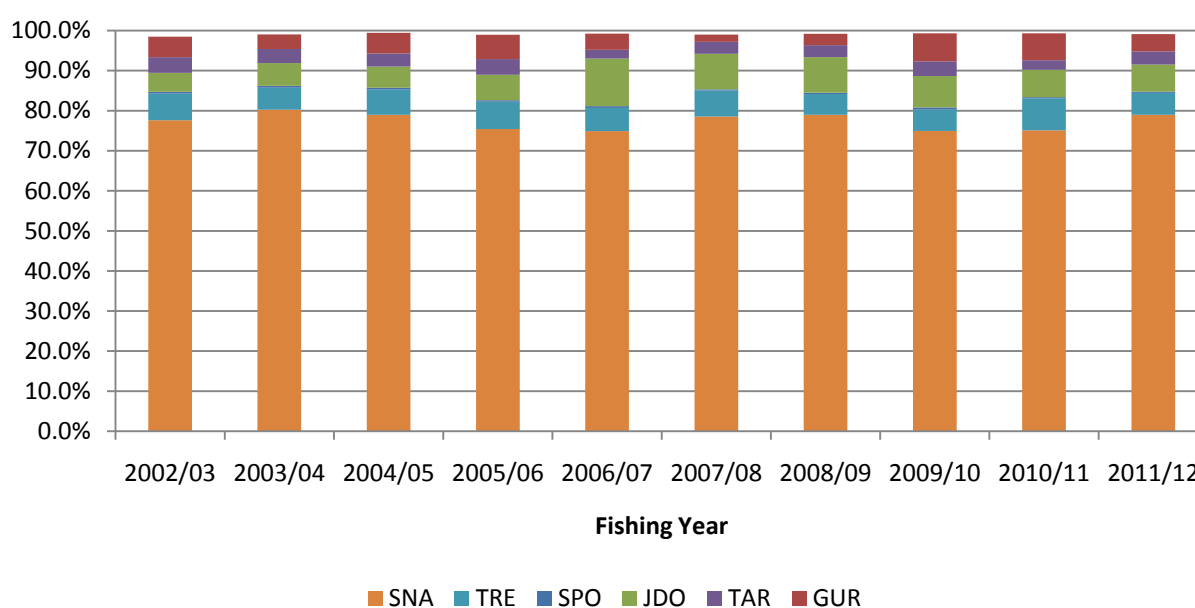
309 MPI notes that **SNA 1 Commercial** have committed to adopting:

- a ‘move on rule’;
- to voluntarily record and report all snapper caught sub Minimum Legal Size;
- to invest \$600,000 across the SNA 1 commercial fleet to install VMS;
- investigate the practicality of electronic monitoring on vessels.

310 These measures will impact all areas of SNA 1 and all commercial fishing methods. However, trawl and seine nets are the methods assessed as having the highest juvenile mortality and potential waste. The benefits of new trawl methods and other Industry initiatives are likely to have most impact on the Bay of Plenty area because trawling and Danish seine are the dominant commercial fishing methods.

311 While reported levels of bycatch are variable from year to year, there has been an increasing trend in reported levels of snapper bycatch in other target fisheries since the 1990s. Bycatch levels of SNA 1 in trevally, gurnard, John dory, tarakihi and rig fisheries ranged from 0.2% to 3.4% of catch volume between 1991 and 1996. The bycatch levels increased to range from 18.7% to 24.3% of catch volume between 2002 and 2012. Figure 21 shows the snapper catch as proportions of target fisheries from 2002/03 to 2011/12. This is largely due to the increase in the proportion of the SNA 1 catch taken by bottom trawl and Danish Seine.

Figure 21: SNA 1 landings separated into reported target and bycatch, 2002/03 to 2011/12



312 **Seafood NZ** submits that where access to a particular fish-stock is limited by the TACC or natural abundance, there will be constraints imposed on the catch of other fish-stocks caught in conjunction with that limiting stock. Any decrease in the availability of SNA 1 ACE would lead to decreased commercial catches of gurnard, kahawai, mackerel, John dory, barracouta, flats, rig, spiny dogfish and trevally. The value for SNA 1 in any analysis of value needs to import some value for the externality impact of catches of other stocks.

313 MPI agrees that because SNA 1 is the dominant stock in the coastal ecosystem the availability of ACE is a potentially important constraint on the catch of other fish stocks. However, the availability of snapper ACE is governed by a wider range of factors than the overall catch limit. Commercial factors such as the appropriateness of quota/ACE portfolios or the willingness to comply with the catch balancing regime also affects these metrics. MPI agrees that the value for SNA 1 should reflect better the externality of catches of the other stocks to ensure ACE flows to those that value it most and hence into more appropriate quota mixes. For the last ten fishing years, around 77% of SNA 1 catch has been reported as target caught, with less than a quarter reported as bycatch. Therefore, SNA 1 ACE is available (from the 75% of quota currently devoted to the snapper target fishery) to redistribute into other ACE portfolios when and if necessary to avoid constraining the catch of other fish stocks.

314 A number of recreational submissions state that the main reason we have discarding of snapper is because fishers are trying to catch their excessive gurnard, trevally, tarakihi and john dory quotas and that for these stocks quotas are set too high.

315 MPI is aware that SNA 1 is the dominant species in the coastal ecosystem and occupies the same habitats as gurnard, trevally, tarakihi and John Dory. This is reflected in a large level of snapper bycatch when targeting these species. When bottom trawling and Danish seine fishing for John Dory and Gurnard MPI assesses that that more than 3 kilograms of snapper may be taken for each kilogram of the target species. When fishing for trevally by bottom trawl and Danish seine slightly less than an equivalent amount of snapper bycatch is taken for each kilogram of trevally. Nevertheless, while bycatch levels of SNA 1 in trevally, gurnard, John Dory, tarakihi and rig target fisheries have increased from levels reported in the early 1990s, recent bycatch levels of snapper remain well within available catch limits- ranging from 18.7% to 24.3% of the available levels of SNA 1 ACE.

316 MPI is aware that ACE is easily obtainable for the target species associated with unavoidable snapper bycatch such as trevally, John Dory and gurnard because quotas are well under caught. TAC and TACC levels for these stocks are not based on assessments and have been in place for more than 20 years (an assessment for trevally is planned for 2014). There is no certainty that TAC/TACCs for these stocks are unsustainable and at the moment, there is

insufficient information to trigger a management response. Stocks are reviewed on an annual basis through the fishery plan review process.

3.3.1.4 Value of the commercial fishery

317 Snapper is a high value commercial fishery. MPI estimates the asset value of SNA 1 to be \$212 million based on the 2011-12 quota price.

318 **SNA 1 Commercial** submit that the SNA 1 fishery represents about 85% of the value of commercial fisheries in the Hauraki Gulf. They estimate that there are about 820 full time jobs in Auckland and a further 360 jobs in the Waikato that result from direct employment due to commercial fishing, of which SNA 1 is a critical component.

319 The average quota value for the 2011-12 fishing year was \$47 049 per tonne for SNA 1. The average ACE value (the earnings quota owners receive when selling their ACE) for the 2011-12 fishing year was \$4130 per tonne for SNA 1. The average port price (the gross price that fishers receive) for the 2011-12 fishing year is \$5770 per tonne for SNA 1.

320 The export value for all snapper exported in 2011-12 was about \$36 million. The average unit export value for 2011-12 was \$8325 per tonne for snapper. While SNA 1 makes up 71% of the combined snapper TACCs, the proportion of export value that it contributes is uncertain. 98% of snapper is exported as chilled whole or frozen whole. The two product forms command different prices, and the export value of the chilled product (\$10 500 per tonne) in comparison to the frozen product (\$7900 per tonne) is reflected by a range in export values.

321 The possible effects of a growing SNA 1 stock size, the potential for greater effort in other target fisheries, and the ability of fishers to avoid SNA 1 is unknown. However, many commercial operators hold the view that managing bycatch of SNA 1 using ACE made available for that purpose is becoming increasingly difficult.

322 There are currently 151 quota holders in SNA 1, however, the majority of the quota is held by a few quota holders. The top 3 quota holders account for 62% of the TACC. The top 10 quota holders account for 78.7% of the TACC.

323 That means the remaining 141 quota holders only account for 21.3% of the TACC. There are a large number of quota holders who hold rather small amounts of quota (there are 12 quota owners who hold less than 1000 quota shares) that may not be able to sell their quota or ACE due to its small size. The transaction costs involved in acquiring the ACE generated by these small quota holders will likely be higher than the value of ACE itself. This ACE is likely to remain unused at the end of the fishing year despite being needed by

independent fishers to cover unintended catch of SNA 1 when targeting other inshore finfish species.

324 Increasing the TACC will enable these small quota holdings to generate more ACE and hopefully make these small packages of ACE more attractive to fishers to incur the transactions in acquiring them.

3.3.1.5 Economic impacts of changes to the TACC

325 The economic impacts of proposed TACC changes have been calculated on the basis of capitalised value (quota and downstream effects). The Total Economic Impact estimates provided in Part A take into a number of considerations.

Total Revenue Loss/ Gain Estimates

326 Direct revenue losses and gains are estimated by multiplying the change in the TACC by the landed price. MPI compared port price and export price to various recent data on landed fish prices to determine the best estimate to use for this calculation. MPI noted that port prices tended to be below landed prices. However, export prices relate to only a portion of the catch and also include the value of services that occur after harvesting, such as unloading fees, auction commissions, expenses for processing and freezing, and transportation. On balance, MPI chose an estimate of \$6.00 per kilogram for this analysis.

Estimates of Income Impacts (Annual Value)

327 Estimates of lost income have been developed using an input-output model of the economy. Value added is the difference between the value of output and cost of goods and services purchased from other sectors. Note that value added includes income earned by labour (as wages and salaries) and by capital (as profits). MPI estimated lost value added into four categories:

- Value added lost in the harvesting sector (direct harvesting income);
- Value added lost in the processing sector (direct processing income);
- Value added lost in sectors that supply harvesting and processing (indirect income); and
- Value added lost in the broader economy as the three types of income above are spent and generate income for suppliers of a wide array of goods (induced income).

328 Table 14 presents the ratios derived from the Market Economics model to estimate each of the value added components above. These ratios represent separate impacts; double-counting that would occur because of economic interrelationships has been removed.

Table 14: Estimates of value added impacts from Market Economics model

Value added impact	Ratio of value added to harvesting sector total output
Direct harvesting value added	.25
Processing value added	.46
Indirect value added	.56
Induced value added	.41

329 Table 14 can be interpreted as follows. A \$1 million reduction in landings would reduce annual value added in harvesting by \$250 000, in processing by \$460 000, in industries that supply harvesting and processing by \$560 000, and in the broader economy through flow-on effects by \$410 000.

330 Note that the methodology estimates all income earned by the harvesting sector and the processing sector under national income accounting definitions of value added. Because harvesters and processors own a substantial majority of the quota, the national accounts definition of value added would include income from quota holdings by processors and harvesters. The value added from quota could include either ACE sales or the increased income earned by a harvester who does not have to purchase ACE.

Estimates of Long-term Impacts (Capitalised Value)

331 Loss or gain of quota value is also calculated in the overall impacts. Quota value is already a capitalised value therefore it does not need to be discounted further. Quota value represents the net present value that quota owners can make in the future from either selling Annual Catch Entitlement (ACE) or utilising the ACE themselves.

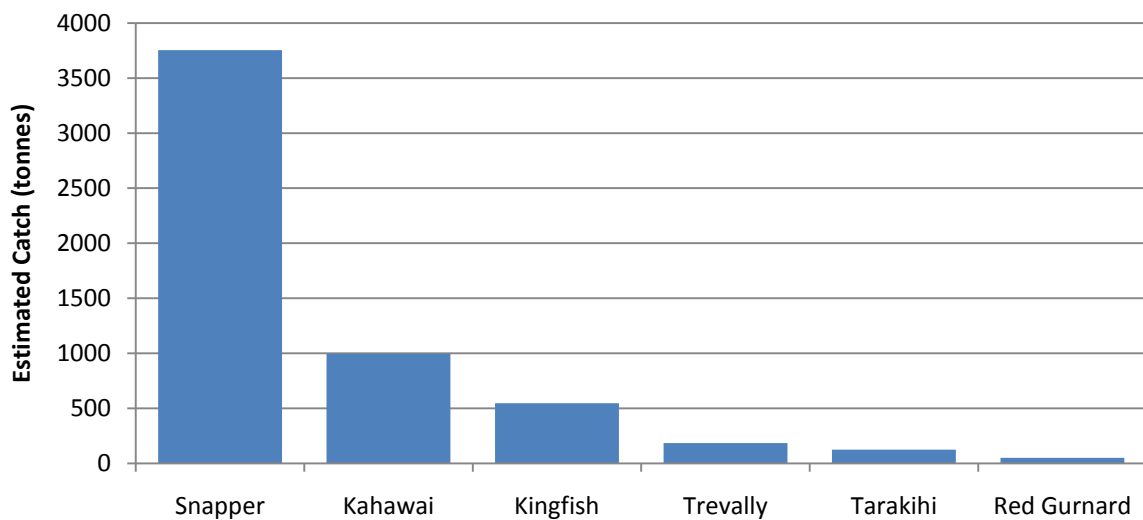
332 For the purposes of approximating the capitalised value (net present value) of economic losses/gains, the MPI methodology examined each category of loss and used MPI's best judgment on how best to approximate the relation of the first-year loss/gains to the capitalised value of all future losses/gains. These impacts were estimated to be:

- Direct income in harvesting: A loss or gain of 5 times the initial lost or gained annual income is used in calculations.
- Direct income in processing: A loss or gain of 2.5 times the initial lost or gained annual income is used in calculations.
- Indirect income in supply sectors: A loss or gain of 1.5 times the initial lost or gained annual income is used in calculations.
- Induced income in broader economy: A loss or gain of one year of induced income is an appropriate estimate of total losses or gains.

3.3.2 Recreational Fishing

333 Snapper is the predominant species taken by recreational fishers in the SNA 1 management area. The SNA 1 stock supports the largest recreational fishery in New Zealand. To provide context, KAH 1 is estimated to support the second highest amount of catch by the recreational sector nationally.

Figure 22: Preliminary estimates (from the National Panel Survey conducted by National Research Bureau) of recreational catch of key species in the SNA 1 area in the 2011-12 fishing year (excludes charter vessel catch).



334 While the number of recreational fishers targeting snapper is not known, preliminary estimates from the National Panel Survey 2011-12 (National Research Bureau Ltd for Ministry for Primary Industries, 2013) are in the order of 280,000 recreational fishers within the SNA 1 area in 2011/12, and that about half of these fished within the Hauraki Gulf.

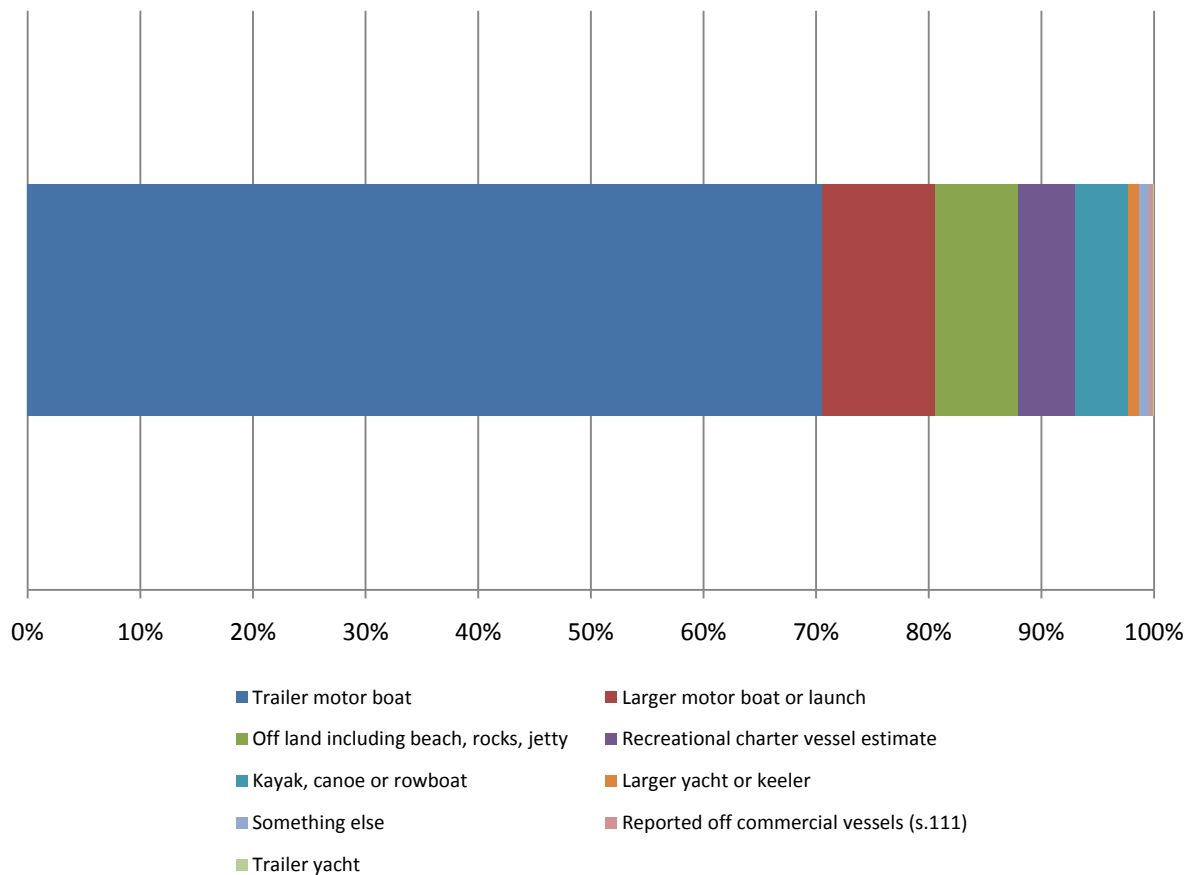
335 Fishing participation rates for recreational fishing more generally are available from a number of sources.

- The Active New Zealand 2007-08 Survey estimated that 16.6% of New Zealand adults over 16 years fished at least once in the year preceding the survey (Sport and Recreation New Zealand, 2009).
- The NZ Recreational Fishing Council cites a recent University of Auckland Business School survey that found 26% of New Zealanders fish at least three times a year.
- The NZ Sports Fishing Council provided a report from Rob Greenaway that cites a number of surveys, and concludes that fishing is the most popular form of outdoor recreation in New Zealand requiring access to natural environments and to which codified management controls apply.

336 The recreational fishing sector is diverse, ranging from those that take snapper in order to feed their family/guests through to fishing enthusiasts that release larger fish.

337 Fishing occurs from the beach, rocks or jetties, but most catch occurs off vessels. Vessels include kayaks, yachts, authorised commercial vessels and recreational charter vessels. However, the vast majority is estimated to be taken from trailer boats with motors.

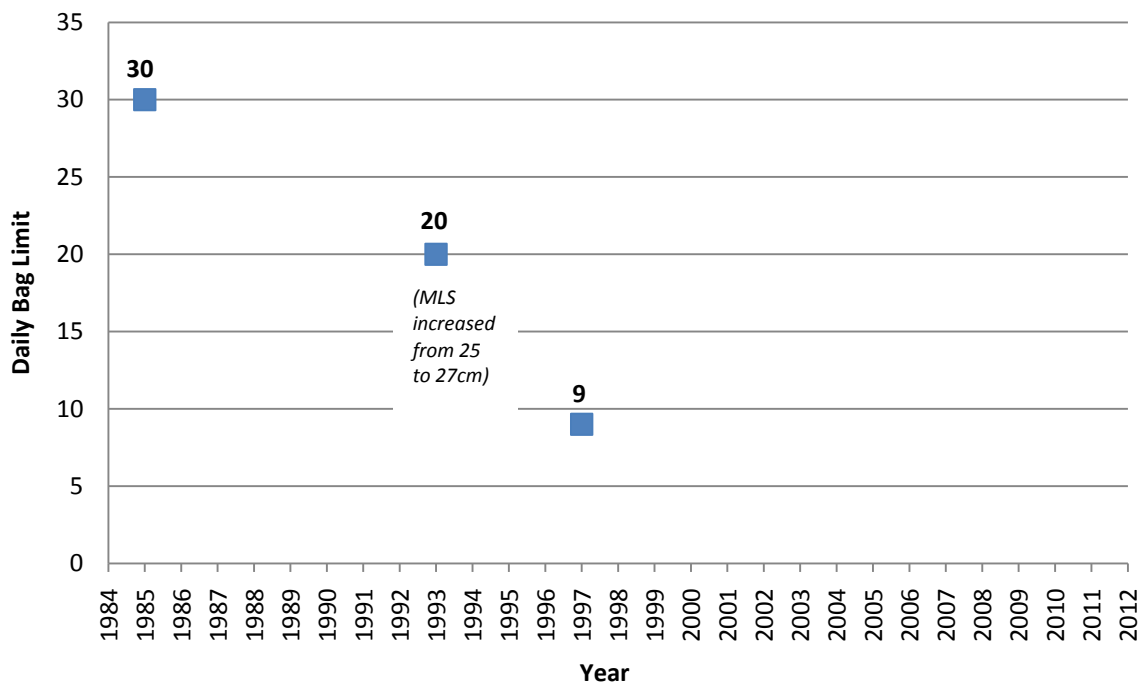
Figure 23: Preliminary estimates (from the National Panel Survey conducted by National Research Bureau) of recreational catch of SNA1 by platform in the 2011/12 fishing year



3.3.2.1 Management controls on recreational fishing

338 The key management controls for the recreational sector are the daily bag limit and the minimum legal size (MLS). The current daily bag limit of nine snapper has been in place since 1997 and the MLS has been in place since 1994.

Figure 24: Changes to the daily recreational daily bag limit for snapper in SNA1 since introduced in 1985



339 The 1997 reduction was assessed by the snapper stock assessment working group in 1998 to have reduced the recreational catch by about 8% for one year.

340 Other recreational fishing controls in this area that impact on snapper include:

- One longline per person and two per boat (with no more than 25 per line)
- One net per person
- Restrictions over the size, placement and mesh size of nets
- A minimum net mesh size of 125 mm for set net and 100 mm for drag net applies in SNA 1 (for both commercial and recreational fishers).

341 A large number of submissions were received from recreational fishers who supported no change to existing controls. On the other hand submissions including **SNA1 Commercial, AFL** and **Te Aupouri Fisheries Management Limited** submitted concerns that current recreational controls are failing to constrain catch.

342 A smaller number of recreational fishers expressed that they were open to some change in response to the information presented in the consultation document. A variety of recommendations were provided on the individual daily bag limit and minimum legal size. Several alternative management controls were also raised.

Different approaches to daily recreational limits

343 A number of submissions suggest consideration of a limit by vessel or group of fishers rather than for an individual. This may have benefits for limiting effort and/or addressing disadvantages of an otherwise reduced daily bag limit on an individual fisher that is getting a feed for the family.

344 There are a number of factors that would need to be considered in determining such an approach and comparing the costs/ benefits to a standard daily bag limit.

Maximum Legal Size

345 A significant amount of submitters indicated support for a maximum size limit to protect larger breeding stock.

346 MPI notes that snapper fecundity does increase with age (a 3 year old fish will produce 250,000 eggs while a 10 year old fish will release 5 million eggs), however as snapper produce millions of eggs over a protracted period of time protection of spawning stock is an added benefit, rather than a key management issue.

Daily Bag Limits and Minimum Legal Size

347 A key concern was that the mortality of undersized fish caused by increased MLS and high-grading under reduced bag limits would undermine the effectiveness of these measures.

348 The current level of release mortality attributable to the recreational fishery is likely to be relatively low. Estimates of the additional mortality associated with released snapper in 2006-07 ranged from 2.7% by weight to 8.2%. If significant increases in the return of snapper did occur under adjusted bag limits and/or MLS this could provide some impacts on the effectiveness of these limits. These impacts are likely to be relatively minor under moderate adjustments to recreational controls.

3.3.2.2 Recreational catch

349 Recreational fishers are not required to report their fishing effort or catch. Surveys have therefore been used to provide information for management.

350 A number of submissions including **Te Aupouri Fisheries Management Limited, PIC, NZ RLIC** and **Te Ohu Kaimoana** put forward the need for reporting of recreational catch to provide better information.

351 A number of submissions also raise concerns about the level of information available for the recreational fishery, uncertainties in estimates of recreational catch and the need for further investment in obtaining better quality information. Some submissions also note that industries that benefit from recreational fishing are not contributing toward management costs including the gathering of information.

352 Methods for monitoring and estimating recreational catch have been progressively developed since the early 1990s. The design and progress of surveys, analyses, and the estimates they produce are routinely reviewed by MPI's Marine Amateur Fisheries Working Group involving Ministry and independent scientists. The most recent harvest estimates and the survey methods used to generate them were also independently reviewed in March 2013 by two overseas experts in recreational harvest estimation techniques.

353 Information has been collected on the SNA 1 recreational fishery since 1990, but the most robust information is available from an integrated series of surveys conducted throughout the 2011-12 year. The quality of information overall is a lot higher than what was available last time the management of SNA 1 was reviewed. **NZSFC** emphasise this point in their submission.

354 Although the 2011-12 harvest estimates are indicative of catches expected in the near future, levels of recreational harvesting in the coming years will be influenced by several factors which are hard to predict. These are primarily the extent to which prevailing weather conditions influence levels of recreational fishing effort, and the localised availability of snapper in areas commonly fished by recreational fishers (especially in the inner Hauraki Gulf).

355 Although projections of future recreational harvesting are uncertain, the best available information suggests an increasing trend in recreational catch, given the expected gradual rebuilding of the SNA 1 stock, and increased population growth in northern New Zealand.

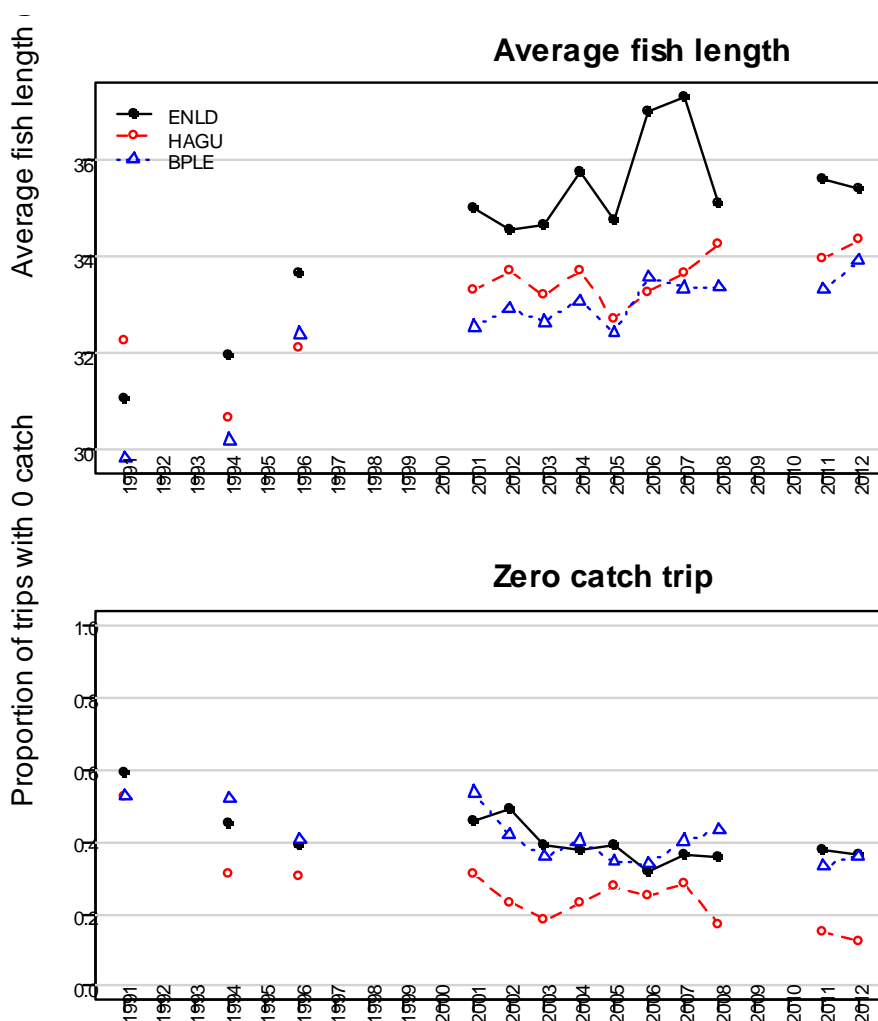
Number and size of snapper per trip

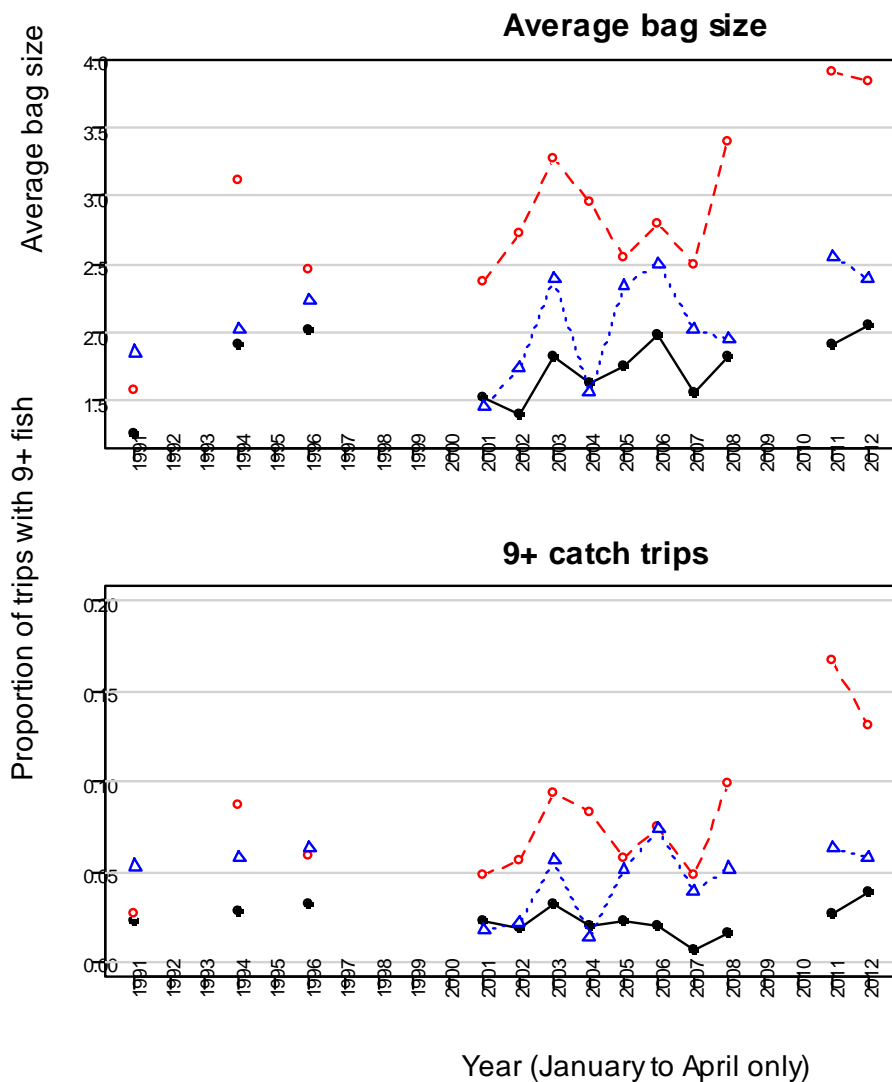
356 Surveys at boat ramps throughout the SNA 1 management area have been conducted intermittently since 1990 using consistent interview methodology. The timing of these surveys has varied but data are available for the period January to April in several years. This information has been used to describe long term trends in the number of snapper taken per trip and the sizes of those snapper.

357 The average size of snapper landed has increased in each region (Figure 25). While this trend was initially influenced by regulatory change (the minimum legal size was changed by regulation from 25centimetres to 27centimetres in 1994) there has been a gradual increase in the size of snapper commonly landed by recreational fishers in most areas over the past 20 years.

358 The average number of fish landed per trip has also gradually increased in the Hauraki Gulf, but to a lesser extent in East Northland and the Bay of Plenty. Increased fisher success has been most evident in the Hauraki Gulf where there were almost as many fishers taking their daily bag limit of 9 fish as those landing no snapper in 2010-11 and 2011-12. In the other two regions there has also been a reduction in the proportion of trips with zero snapper landed and a more modest increase in the proportion of fishers who landed their limit of 9 snapper in recent years.

Figure 25: Trends in length and bag size composition based on summary statistics for three sub-areas of SNA1, by fishing year (Evaluation of combinations of minimum legal size and bag limits used to manage the recreational harvest from SNA 1, Hartill and Brian 2013).





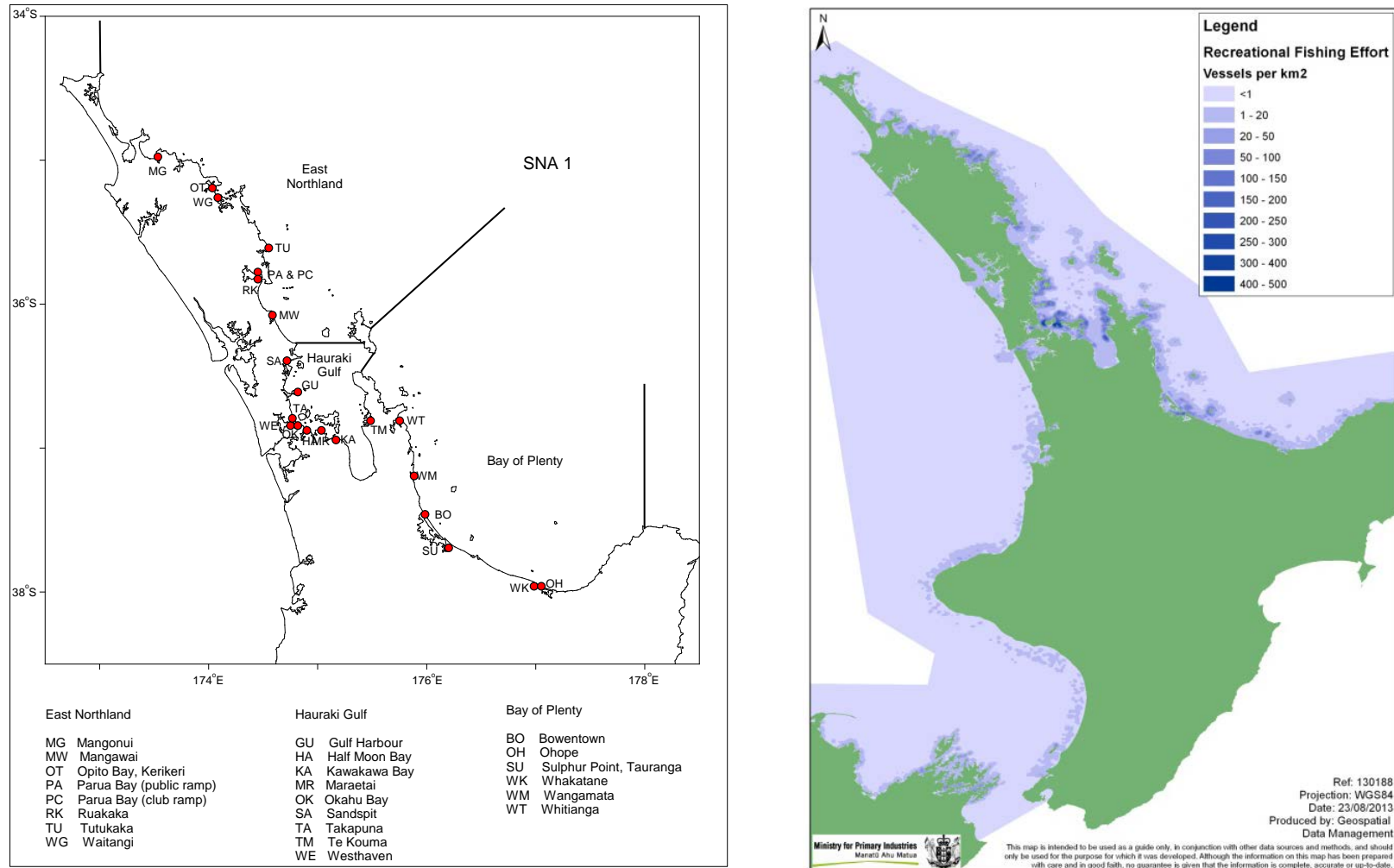
Estimates of recreational catch

359 Direct estimates of annual recreational catch are available from “aerial-access” surveys. The aerial access survey method combines data collected concurrently at a subset of boat ramps (between dawn and dusk) with an aerial count of all vessels observed to be fishing on the same day at the peak of fishing effort. These surveys were conducted in 2004-05 (estimate of 2419 tonnes) and 2011-12 (estimate of 3754 tonnes).

360 The methodology used for these surveys has been published in international peer-reviewed literature and presented to several international science conferences. NZSFC agrees that the method has been well reviewed and works in principle. However they note that many fishers find the 2011-12 results for the Hauraki Gulf area hard to believe. Further details about the aerial-access method is provided in Appendix 1.

361 Preliminary analyses suggest that distribution of fishing effort has been relatively consistent between the aerial access surveys in 2004-05 and 2011-12 (Figure 26). Hotspots exist near major urban centres, particularly near central Auckland and off Tauranga, and to a lesser extent, to the Northern parts of Auckland (Omaha/ Kawau Island), in mussel farms in the Firth of Thames, in the Bay of Islands, off Coromandel, and Whakatane.

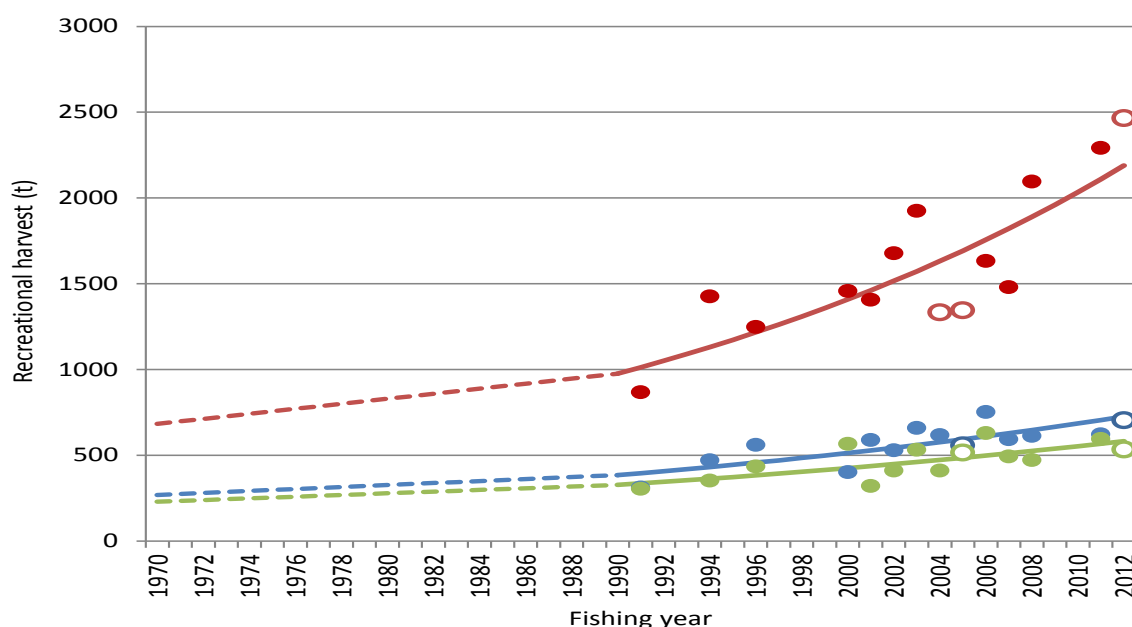
Figure 26: Boat ramp survey sites (left, from Evaluation of combinations of minimum legal size and bag limits used to manage the recreational harvest from SNA 1, Hartill and Brian 2013) and relative density of recreational fishing vessels from the 2004-05 aerial access survey (right).



362 The aerial-access surveys provide harvest estimates for only two years but these can be combined with catch rate indices, to estimate likely levels of harvest in years without overflights. Catch trip data from fishers using rod and reel (excluding events using soft plastics) collected from boat ramps in the January to April period have been used to generate recreational catch rate indices from 1991. These have been scaled using the aerial access estimates (Figure 27).

363 NZSFC submit that there is considerable uncertainty around these “fill-in” estimates but that they were adequate for use in the stock assessment model.

Figure 27: Regional recreational catch histories used in the 2013 assessment of the SNA 1 stock (Hauraki Gulf in red, East Northland in blue, and the Bay of Plenty in green).⁴⁸



364 National “offsite” surveys have also been undertaken, in which fisher catches are self-reported rather than directly observed. Early studies (1993-94, 1996, 2000 and 2001) used telephone surveys to find participants who were asked to keep diaries of their fishing activity. Harvest estimates based on these early surveys have since been deemed unreliable, leading to the development of the aerial-access method. In 2011-12 fishing a new improved offsite survey method was used. Face-to-face interviews were conducted at approximately 30,000 randomly selected dwellings, and were used to recruit a panel of 7000 participants who were

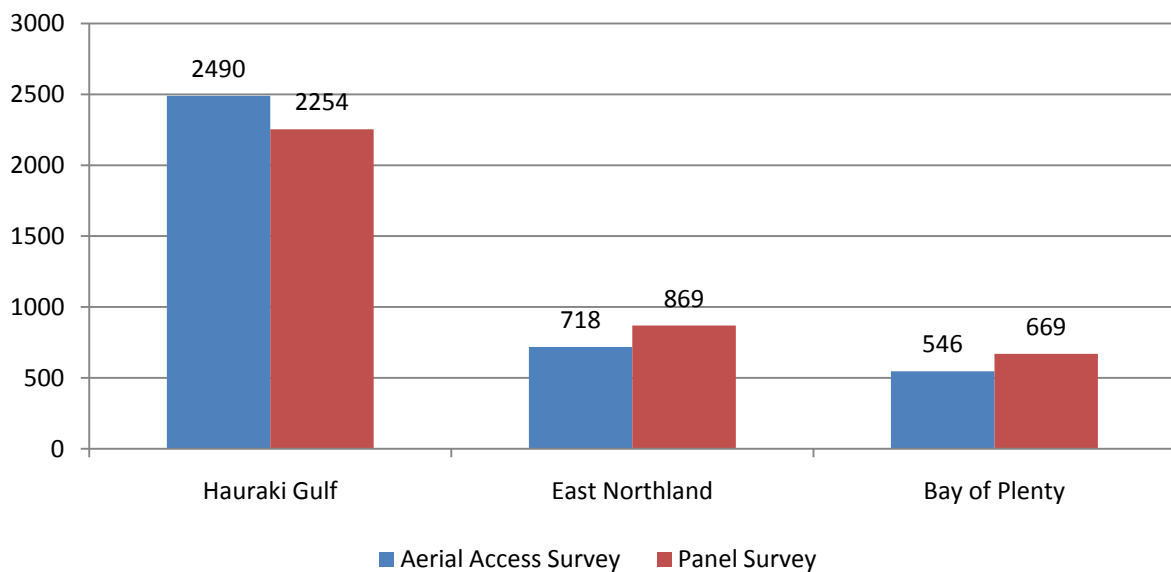
⁴⁸ Open circles denote aerial-access survey estimates, closed circles denote recreational kg per trip indices scaled to the geometric mean of the aerial-access estimates, solid curved lines denote exponential fits to the scaled kg per trip indices which were used to predict harvests for those years for which boat ramp survey data were not available, and dashed lines denote linear interpolations between 1990 and 1970 (when harvests were assumed to be at 70% of that predicted for 1990).

frequently interviewed by text and phone over a 12 month period. Panellists reported their harvests in terms of numbers of fish caught, and on-site measurement of snapper at boat ramps were used to generate mean weight estimates which were used to convert harvest estimates into tonnage estimates. Further details about the panel survey method are provided in Appendix 1.

365 The results of this 2011-12 “panel survey” align closely with the aerial access survey of the same year (Figure 28), providing greater assurance in the aerial access survey method results. The 2011-12 panel survey and aerial-access survey harvest estimates for all three regions of SNA 1 combined are within 1.5% of each other.

366 The panel survey has the added advantage of providing more information about the broader types of recreational fishing (e.g shore-based), but is not considered to provide a robust estimate of fishing from aboard fishing “charter” vessels.

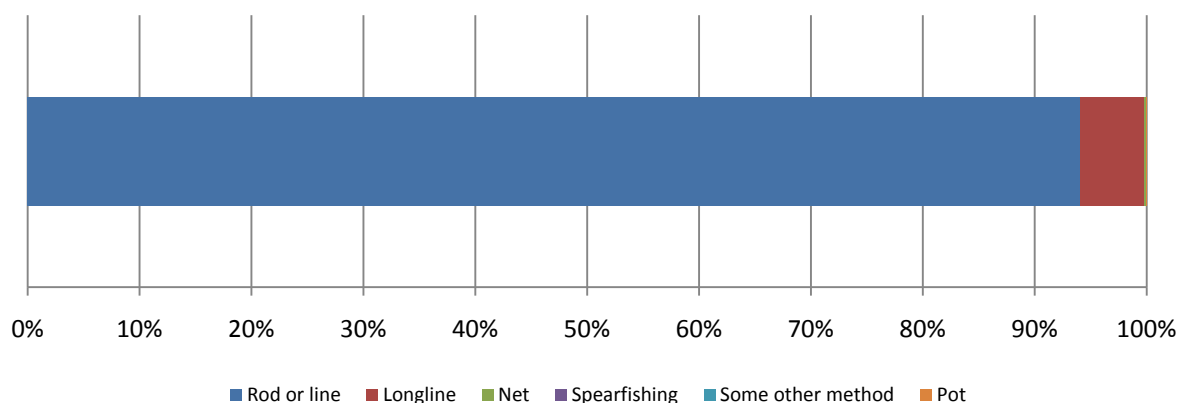
Figure 28: Estimates of recreational catch for SNA1 in the 2011/12 fishing year (excluding recreational charter vessel catch).⁴⁹



⁴⁹ These estimates do not include charter vessel catch or recreational catch taken from aboard commercial vessels under section 111 of the Act.

367 The panel survey also provided information on methods used, with the use of rod and reel (including handline) accounting for most catch (Figure 29).

Figure 29: Preliminary estimates (from the National Panel Survey conducted by National Research Bureau) of methods used to take recreational catch of SNA1 in 2011-12



Recreational charter vessels

368 Recreational charter fishing vessels are required to register with MPI and report snapper fishing activity, but are currently not required to report on the amount of snapper caught. Proposals to introduce this requirement are currently being considered.

369 152 recreational charter vessels reported fishing for snapper in 2011-12. Information collected during the national panel survey suggests the catch on charter vessels could have been of the order of 200 tonnes in 2011-12 (although the survey was not designed to provide a robust estimate of charter vessel catch). This estimate has been incorporated into estimates of recreational catch for 2011-12, but is very uncertain.

370 **SNA 1 Commercial** submitted concerns that 200 tonnes is an under-estimate. **Te Ohu Kai Moana Trustee Ltd** also submitted concerns the estimate is conservative. Submissions providing information on local areas indicate that overall figures could be higher. **Leigh Fisheries Ltd** submit that there are several charter vessels operating out of Leigh and that the operators have told them that they estimate their catch to be 100-150 tonnes a year. **Coromandel Town Business Association Inc** submit that charter vessels out of Coromandel were estimated to have taken 35,000 passengers in 2012. **SNA 1 Commercial** used this figure (publicised in media) to roughly estimate 150 tonnes from the Coromandel area in 2012. They emphasise the importance in obtaining better information about the level of recreational charter fishing.

Recreational catch off commercial vessels

371 Recreational catch using amateur-fishing methods is allowed under certain circumstances on commercial vessels (if an authorisation under s 111 of the Act is held). The catch must be reported. In 2011-12, 13.2 tonnes of SNA 1 was reported as being caught on commercial vessels under the recreational allowance.

3.3.3 Recent catch

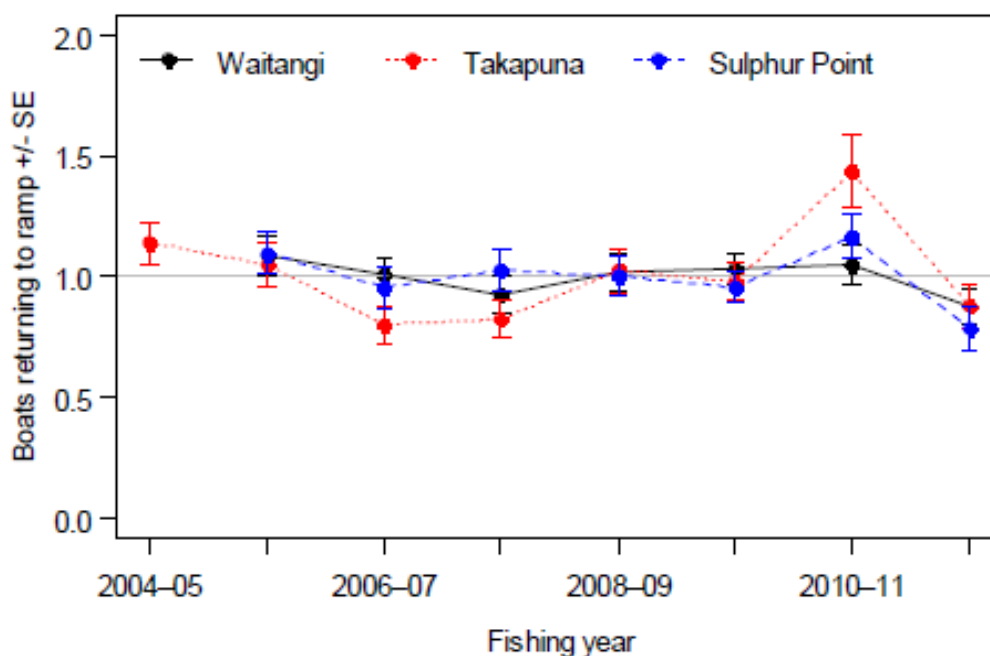
372 In the absence of projections of future catch estimates of recent levels of catch are used to inform the setting of management measures.

373 **NZSFC** submits that there is evidence that snapper harvest in 2011 and 2012 was significantly higher than previous years. They note a suggestion that water temperatures stayed in the preferred range for adult snapper much longer in the head of the Hauraki Gulf (a hotspot for catch) in 2011 and 2012, that this has not been repeated, and that amateur harvest in 2013 is unlikely to reach the “2011-12 peak”. They also note that many fishers find the estimates for 2011-12 very hard to believe, and that if they are accurate they must come from an “exceptional” year. However, **NZRFC** submits that their own survey figures align with the MPI estimates of catch levels.

374 **NZSFC** submit that the average of estimated catches between 2004-05 and 2011-12 provide the best estimate of average recreational catch and that this should be used to inform analyses of likely recreational catch under various scenarios of recreational controls.

375 As previously discussed there are a number of indicators (average bag size, average fish length, harvest estimates) that indicate recreational catch has steadily increased over recent years. Boat traffic (note fishing will not occur off all boats) from web cameras at Waitangi (East Northland region), Takapuna (Hauraki Gulf region) and Sulphur Point (Bay of Plenty region) indicate that 2011-12 was not an “exceptional” year in terms of effort (Figure 30). While environmental factors such as water temperature may have influenced the availability of snapper to recreational fishers information has not been provided to quantify this effect. MPI considers the 2011-12 estimate to be robust but acknowledges that there is likely to be variability from year to year.

Figure 30: Annual index for the number of boats returning to boat ramps from web cameras at Waitangi, Takapuna and Sulphur Point 2004-05 to 2011-12 (preliminary results, provided by NIWA 2013)



376 Given it is not only the most recent but the most robust estimate of recreational catch available MPI has used a figure of approximately 3950 tonnes (the aerial access 2011-12 harvest estimate, plus an additional 200 tonnes of charter vessel catch) in analysis of likely recreational catch under various scenarios of recreational controls for this final advice paper.

377 However, in recognition of the likely variability in SNA 1 catch from year to year an average of catch estimates over the last five years, 3366 tonnes, has also been analysed. This is higher than the eight year average (3100 tonnes) recommended by NZSFC, who contend the 5 year average is an over-estimate.

3.3.4 Impacts of controls on recreational catch

378 The research report “Evaluation of combinations of minimum legal size and bag limits used to manage the recreational harvest from SNA 1 (Hartill and Bian 2013)” assesses the impact of differing combinations of recreational controls by adjusting observed fisher catch data in the 2011-12 and 2004-05 fishing years by region, by season. These estimates did not appear to be sensitive to alternative interpretations of whether or not fishers in the same boat pool their daily bag limits.

379 For the purposes of this advice, the 2011-12 simulations contained in the report have since been adjusted by providing an alternative estimated catch under current rules (daily bag

limit of 9 and a MLS of 27centimetres) and scaling the impacts of recreational controls accordingly. Two scenarios were simulated.

380 In “Scenario 1”, future recreational catch fluctuates around 2011-12 levels (3950 tonnes⁵⁰), under current controls, or is reduced to the amounts shown in Table 15 if changes were made to the daily bag limit and minimum legal size.

Table 15: Estimates of recreational catch (tonnes), given alternative minimum legal size limits (31 centimetres to 38 centimetres) and daily bag limits ranging from 5 to 8 fish, if catch under the current limits (9 and 27centimetres) was 3950 tonnes. (Yellow shading indicates the ranged of proposed allowances.)

Bag limit	Minimum Legal Size (centimetres)							
	31	32	33	34	35	36	37	38
5	3092	2995	2858	2724	2558	2390	2212	2052
6	3279	3157	2989	2829	2639	2453	2260	2089
7	3411	3268	3075	2895	2688	2489	2287	2110
8	3499	3337	3125	2932	2714	2508	2301	2119

381 In “Scenario 2”, future recreational catch fluctuates around the 2007-08 and 2011-12 average (3366 tonnes) under current controls, or is reduced to the amounts shown in Table 16 if changes were made to the daily bag limit and minimum legal size.

Table 16: Estimates of recreational catch (t) , given alternative minimum legal size limits (27centimetres to 36cm) and daily bag limits ranging from 5 to 8 fish, if catch under the current limits (9 and 27cm) was 3366t. (Yellow shading indicates the ranged of proposed allowances.)

Bag limit	Minimum Legal Size (centimetres)									
	27	28	29	30	31	32	33	34	35	36
5	2797	2784	2753	2708	2635	2552	2435	2321	2179	2036
6	3000	2985	2944	2886	2794	2690	2547	2411	2249	2090
7	3158	3139	3090	3019	2907	2784	2620	2467	2291	2121
8	3278	3256	3198	3112	2982	2844	2663	2499	2313	2137

⁵⁰ This estimate of 2011/12 recreational incorporates an approximate estimate of recreational charter boat harvest of 200 tonnes.

382 While the analysis is uncertain and cannot anticipate all changes in behaviour, it does provide a best estimate of likely recreational harvest under different bag and MLS controls.

383 The two scenarios have been compiled to provide a range of combinations for various allowance options (Table 17).

Table 17: Estimates of recreational catch, given alternative minimum legal size limits (27cm to 36cm) and daily bag limits ranging from 5 to 8 fish, if catch under the current limits (9 and 27cm) was 3366t.

Catch (tonnes)	Daily Bag Limit							
	5		6		7		8	
	Scenario 2	Scenario 1	Scenario 2	Scenario 1	Scenario 2	Scenario 1	Scenario 2	Scenario 1
2050	36	38	36	38	36	38	36	38
2230	35	37	35	37	35	37	35	37
2300	34	36	35	37	35	37	35	37
2370	34	36	34	36	35	37	35	37
2550	32	35	33	35	34	36	34	36
2730	29	34	32	34	32	35	33	35
2800	27	33	31	34	32	34	32	35
2870	27	33	30	34	31	34	32	35
3050	27	32	27	32	29	33	31	34

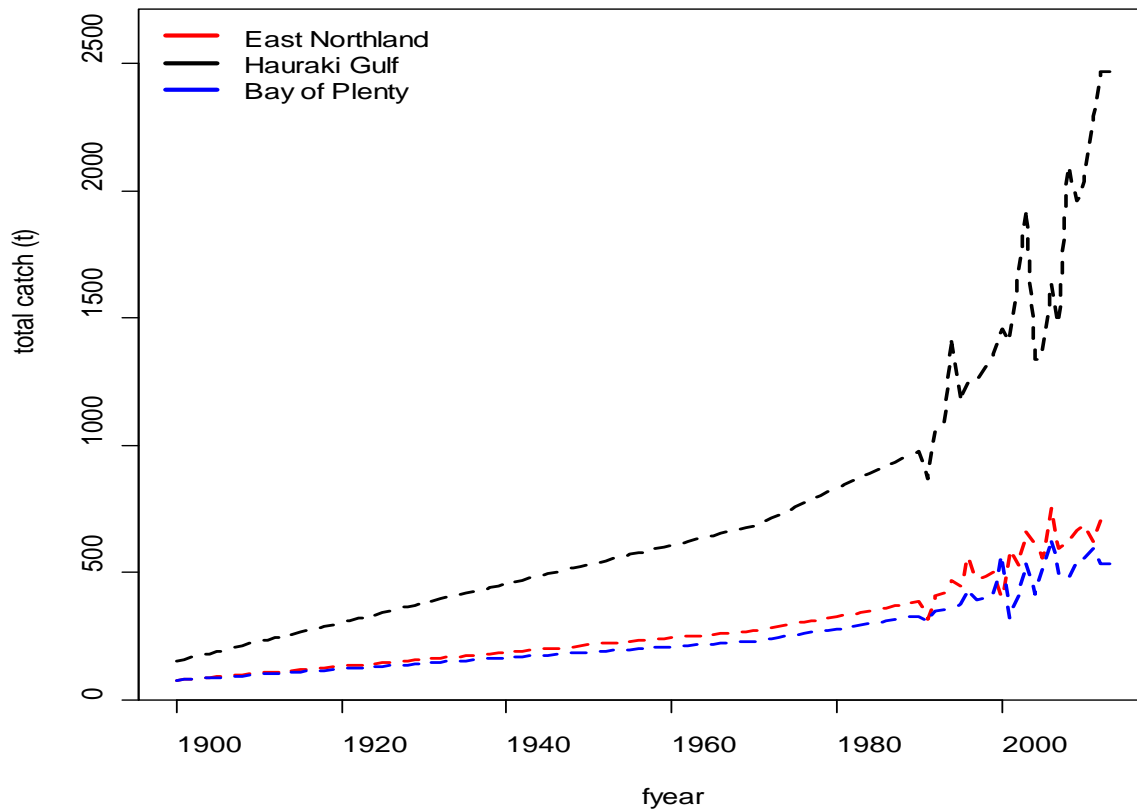
3.3.4.1 Recreational catch history for the stock assessment

384 Recreational catch history in SNA 1 is a necessary input for the stock assessment in order to include the best information about all sources of catch over the time period covered by the model.

385 Between 1990 and 1970, the recreational harvest was assumed to decline linearly to be 70% of the 1989-90 estimates in each area (east Northland, Hauraki Gulf, and Bay of Plenty).

386 After some deliberation an estimate of fishing at 1900 was used to generate a linearly increasing recreational catch history for the period 1900 to 1970, shown in Figure 31.

Figure 31: Assumed and derived recreational catch histories for the period 1900 to 2013, that were used in the 2013 SNA 1 assessment model.



3.3.5 Value of the recreational fishery

387 While it is clear that SNA 1 is highly valued by the recreational fishery there is limited information available to describe those values.

388 SNA 1 is one of only a few New Zealand finfish fisheries where recreational fishers account for a large proportion of the total catch. A 2000 survey indicated that snapper was the most important target species for finfish anglers caught in New Zealand.⁵¹

389 Snapper are fished mostly for the table although trophy sized fish are especially prized. A number of submissions cited recreationally caught fish, and in some cases snapper specifically, as an important source of food for many fishers and their families. This included fishers with marae/hapu/iwi affiliations who stated that they utilised recreational bag limits for these purposes as well as for the hospitality of others.

390 A number of submissions emphasise the value of snapper fishing to recreational fishers and the amount of money that is likely to be spent on fishing. The broader benefits of recreational fishing in society, for example the benefits of being active and outdoors, have also been raised. A report submitted by **NZSFC** submits concerns that these benefits could be overlooked if emphasis is placed on analysis of individual benefit.

391 Benefits can be interpreted as the value that recreational fishers get from fishing that exceeds what they spend on that fishing. This includes values from a fishing trip outside of just the fish caught.

392 Snapper was assessed as the most valuable of five key New Zealand recreational species evaluated by SACES in 1998⁵². The SACES assessment, based on non-market estimation techniques, remains the best available information of this type. However, there is considerable uncertainty in this information arising from the assumptions used to generate the value measure.

393 The SACES study estimated fishers willingness-to-pay per trip (average willingness to pay), and how much this increased when an additional kilo of the target fish was kept (marginal willingness to pay). For snapper, the willingness-to-pay was \$158.60 per trip and each extra kilogram of snapper increased that value by \$9.02 (all figures 2013 dollars). The significant difference between these values is thought to be explained in part by the range of other benefits associated with the fishing trip. It should be noted that these are average figures and some fishers may be willing to pay more.

⁵¹ Motivations and perceptions of seawater recreational fishers in New Zealand. Walshe, K, Ackroyd, J March 2000.

⁵² Value of New Zealand Recreational Fishing REC9801 The South Australian Centre for Economic Studies 1999.

394 MPI believes the options being proposed in this final advice paper will not cause recreational fishing trips to cease. Impacts from proposed changes to management controls are therefore likely to result in the loss of marginal value. There is also likely to be loss in relation to a broader downgrade of fishing experience but this is currently unable to be quantified.

395 The options will result in fewer snapper being caught as the bag limits are lowered. Information from boat ramp surveys shows average recreational landed catch to be below four in all three regions of SNA 1. However, the full bag limit of nine is landed for a number of trips, notably over 10% of trips in the Hauraki Gulf in recent years. Fishers that regularly land higher numbers will experience the greatest loss of marginal value and downgrade in experience.

396 There will be an opportunity for fishers to substitute the lost snapper catch with another finfish species but as outlined earlier, snapper is the main finfish species in the region; therefore there will still be a loss of marginal value and a downgrade in the fishing experience.

397 Fishers could also spend more time on the trip undertaking recreational activity on the water besides fishing, but this activity may be less valued than fishing. Overall there could still be a loss of value.

398 There will be downstream effects from the lower bag limits. Fishers that regularly catch snapper for food will need to spend money on a replacement if this catch is further limited by recreational controls. Lower limits are therefore expected to have the greatest impacts on these fishers and their families.

399 A number of submissions mention other types of “economic benefit” from recreational fishing, including the income earned by people who sell goods and services to recreational fishers and the potential for increased income from tourism.

400 There are a number of challenges with trying to identify figures specific to fishing. Commonly-collected economic data (such as sales data based on GST reports or income data from income tax information) is too aggregated to distinguish recreational fishing services. A large portion of the funds spent to go fishing are for fuel, lodging, and food and are therefore buried in data for those large sectors. One approach is to collect sales and income data from obvious fishing-related businesses, such as sporting goods stores and charter boat operators. But even for this subset, fishing is often only a fraction of the activities of any given firm. For example, even fishing charter operators often take non-fishing dive trips, provide sight-seeing tours, and run water taxi services.

401 It is also difficult to determine whether these types of incomes would decline if there was a reduction in fishing or if they would be transferred to other areas/ activities.

402 There are some people who earn more income by servicing recreational fishers than they would earn elsewhere. In principle, this additional income should be incorporated in the willingness-to-pay estimates but there have been significant changes in the fishery since the study was undertaken.

403 A number of submissions were received from recreational charter boat operators with concerns of significant impacts on their businesses if bag limits were severely reduced.

404 The **Coromandel Town Business Association Inc** submits that they have noticed a big rise in (visiting) recreational fishermen and charter boats in Coromandel town. They state that 20 years ago there were no charters but there are now 10 charter businesses involving 18 vessels, 45 owners, skippers and staff who in 2012 carried approximately 35,000 passengers. They estimate the direct benefit at \$4 million and a similar amount in indirect benefit.

405 **Keith Ingram** submits that a number of charter skippers that he has discussed potential impacts with consider that fishers would require at least six fish of a reasonable size to make a charter vessel trip economic.

406 Submitters including **the Chair of the Hauraki Gulf Forum** and **EDS** have identified Auckland Council's Total Economic Valuation Report (2012) (Towards an Economic Valuation of the Hauraki Gulf: A Stock-take of Activities and Opportunities, Technical Paper 2012/035) as showing that recreational fishing has a higher value than commercial fishing in the Hauraki Gulf. While assigning an economic value to the different uses of the Hauraki Gulf, the report is very clear that recreational and commercial fishing values are derived using different methodologies and should be "treated with extreme caution" (pg88).

407 The TEV report (pg88) outlines that "the main concerns about these values are that they:

- are not homogeneous market values
- were obtained by applying a number of assumptions that are difficult to verify, to different sets of data
- were not obtained through an acceptable economic impact assessment methodology; eg, commercial fishing does not include any economic impact assessment that considers the wider impact of that activity on the economy (the indirect and induced impacts)

- were estimated using different methodologies (eg, the value of recreational fishing captures a wider spectrum of values, not just those related to the use value of the catch).”

408 MPI believes that the TEV report is clear that the values for recreational and commercial fishing should not be compared as it is not an “apples with apples” comparison. The purpose of the TEV was done to calculate a number for all the economic value obtained from the use of the Hauraki Gulf and not for sector comparisons.

409 The report submitted by **NZSFC** proposes that average willingness to pay (AWTP), gives a better estimation of consumer surplus and value than Marginal Willingness to Pay (MWTP).

410 MPI has provided both figures, but believes using the MWTP figure is more appropriate to support analysis of the impacts of the proposed options. However MPI notes that there are broader considerations when assessing the impact on the fishing experience as a whole.

3.3.6 Māori Customary Fishing

411 Snapper in SNA 1 is important for customary fishing both now and historically.

412 **NZSFC** notes that Māori customary non-commercial fishing interests encompass broader aspects than catch, including the social and cultural wellbeing of the community that derives satisfaction from having access to an abundant fishery.

413 Iwi fisheries forums, and the plans they develop, provide for iwi input and participation into fisheries planning processes. The SNA 1 stock is a part of various iwi fisheries management plans as follows:

- The Te Hiku o Te Ika Fisheries Management Plan (the Te Hiku Plan). The Te Hiku Plan was ratified in March 2012 by iwi representatives of the Te Hiku Fisheries Forum⁵³. For Te Hiku o Te Ika, snapper is identified as a taonga species.
- The Mai i Nga Kuri a Whareki Tihirau Forum Fisheries Plan. The Mai i Nga Kuri a Whareki Tihirau Forum Fisheries Plan was ratified in 2012 by iwi representatives of the Mai i Nga Kuri a Whareki Tihirau Iwi Fisheries Forum. For Mai i Nga Kuri a Whareki Tihirau, snapper is identified as a taonga species.

⁵³ Te Hiku o Te Ika Fisheries Forum comprises mandated representatives from: Ngati Kuri Trust Board Inc., Te Urungi o Ngati Kuri Ltd, Te Runanga Nui o Te Aupouri Trust, Te Aupouri Fisheries Ltd, Nga Taonga o Ngai Takoto Trust, Ngai Takoto Holdings Ltd, Te Runanga o Te Rarawa and Te Waka Pupuri Putea Ltd.

3.3.6.1 Authorisations

414 Currently, Māori customary fishing is authorised under either the Fisheries (Kaimoana Customary Fishing) Regulations 1998, or regulations 27A of the Fisheries (Amateur Fishing) Regulations 1986. For those tangata whenua groups operating under the customary fishing regulations, Tangata Tiaki/Kaitiaki are required to provide MPI with information on customary harvest of fish. This includes information about customary fishing authorisations granted and the species/quantities of fisheries resources taken under those authorisations. However, for those tangata whenua groups still operating under regulation 27A of the Fisheries (Amateur Fishing) Regulations 1986, reporting is not mandatory.

415 **PIC** and the **NZ RLIC** submitted on the importance of obtaining information on customary fishing and recommends the full implementation of a reporting regime including for fishing occurring under regulation 27 and 27A.

3.3.6.2 Māori Customary Catch

416 Information on customary Māori catch of SNA 1 is incomplete and uncertain. There have been numerous permits issued for the harvest of snapper in SNA 1 since 2007. While this indicates that tangata whenua application of Māori customary harvesting rights is significant, some Māori representatives state that much customary take is taken under amateur fishing regulations rather than customary permits. An estimate of 50 tonnes was consulted on in the consultation document. **Te Ohu Kaimoana** submit that this estimate is unlikely to be accurate given that the Kaimoana Regulations are yet to be widely implemented. However, in the absence of alternative information this remains the best estimate.

3.3.6.3 Future catch

417 A number of submissions from representatives with marae/hapu/ iwi affiliations made it clear that there should be no measures to reduce customary catch and emphasised customary rights to kaimoana.

418 **Te Ohu Kaimoana** submits that customary rights are not being fully exercised at present and decisions on allowances prior to the full implementation of the Kaimoana regulations should be considered an interim.

419 The **Iwi Collective Partnership** submitted their intention to develop a system for taking customary catch off commercial vessels. MPI notes that the system would need to be approved, but that the concept has already been established in the Bay of Plenty.

420 **NZSFC** and **NZ RLIC** submit that reductions to the recreational bag limit could result in an increase in the use of customary authorisations to cover catch for customary

purposes. MPI consider that while information is not available to assess this impact, it is most likely to occur under significant changes to the daily bag limit or MLS.

3.3.7 Other Sources of Fishing Related Mortality

421 The TAC is intended to include all sources of mortality of the relevant stock. This includes both the direct harvest and utilised catch of the stock, and the other mortality associated with fishing activities. The allowance made for other sources of fishing-related mortality should include the mortality of fish that escape the gear, are discarded as required by law for fish below any applicable MLS, fish above the MLS that are discarded for purposes of ‘high grading’, and unlawful catch.

422 The current allowance for other sources of mortality accounts for assumed sources of the illegal commercial catch (unlawful discards, under-reporting, and snapper sold outside the commercial management system). Since 1997, the allowance has been estimated as 10% of the TACC (450 tonnes). The stock assessment assumed that prior to the QMS, an amount equivalent to 20% of the reported commercial catch had been taken.

423 The commercial fishery is also associated with fish mortality arising from the capture and lawful return of under-sized snapper and subsequent mortality of snapper that escape through net meshes. The levels of mortality from these sources have not been reliably quantified, but estimates are available from a modelling approach discussed below.

424 Incidental mortality in commercial and recreational fisheries (including losses arising from discarding, high grading, and injury from escaping trawl and seine gear) has been estimated through a modelling approach using data from long-line, trawl, seine, and recreational fisheries⁵⁴. In SNA 1, the estimates of incidental mortality from commercial bottom long-line fishing were less than 3% of the year 2000 catch. Based on the average catch by method since 2002, the annual incidental mortality from commercial snapper longline is approximately 50 tonnes. Equivalent estimates for trawl, seine and recreational fisheries were between 7% and 11%. These suggest that the annual incidental mortality from trawl and Danish seine snapper catches are between about 190 and 300 tonnes.

425 Recreational fishers release a high proportion of their snapper catch in SNA 1, most of which is less than the MLS of 27 cm for recreationally caught snapper. A 2004-2006 study^{55, 56} recorded snapper release rates of 54.2% of the catch by trailer boat fishers and

⁵⁴ Millar, A R, Akroyd, J M, and Walshe, K A R 2001, Incidental mortality of snapper in SNA 1 and SNA 8. New Zealand Fisheries Assessment Report 2001/78, Dec 2001.

⁵⁵ Holdsworth, J C and Boyd, R O 2008, Size, condition, and estimated release mortality of snapper (*Pagrus auratus*) caught in the SNA 1 recreational fishery, 2005-5 and 2005-06. New Zealand Fisheries Assessment Report 2008/45.

⁵⁶ Holdsworth, J C and Boyd, R O 2008, Size, condition, and estimated release mortality of snapper (*Pagrus auratus*) caught in the SNA 1 recreational fishery, 2006-07. New Zealand Fisheries Assessment Report 2008/53.

60.1% of the catch on charter boats. Incidental mortality estimated from the observed condition of snapper at the time of release was between about 10.6 % and 21.7% of the total number of snapper caught, and 3.6% and 7.5% (in 2004 to 2006; 2.7 to 8.2% in 2006-07) of the total recreational snapper catch by weight, depending on the assumptions used (and noting that some assumptions were untested). The higher estimates result from including unobserved post-release mortality arising from internal damage caused by handling or barotrauma (from a rapid change in pressure).

426 Applying those percentages to the aerial-access method estimate of recreational snapper catch from SNA1 in 2004-05 indicates that the incidental mortality in the SNA 1 recreational fishery could have been approximately 273 000 to 560 000 snapper, or by weight between about 87 and 182 tonnes (assuming that the 2004-05 catch estimate is a reasonable prediction of catch in 2005-06). It is important to note that these are estimates for the years sampled and that the incidental mortality in other years could change depending on the strength of different year/size classes in the population, and other factors.

427 Nevertheless, assuming that the recreational fishery characteristics were similar in more recent years, we can estimate the range of potential mortality from the 3 366 tonnes estimated average recreational catch over the last five years. That level of catch suggests that the recent incidental mortality in the SNA 1 recreational fishery could have been between approximately 121 and 252 tonnes.

428 These estimates of incidental mortality for commercial and recreational fisheries can be combined to suggest a total of between 361 and 602 tonnes. The current allowance of 450 tonnes falls within this range. These estimates do not include illegal commercial catch (including misreported catch). Although very difficult to quantify, the available information suggests that these sources are in the order of tens of tonnes per year.

429 Should the current allowance not include the full extent of mortality discussed above, it is important to recognise that the stock assessment results for stock status are not affected unless there have been major changes in other sources of mortality over time that are different to those assumed. The sensitivity of the stock assessment model to alternative historical catch substantially larger than that which could have not been accounted for in the other sources of mortality allowance was tested. Those larger catch levels had little impact on stock status in either East Northland or the Hauraki Gulf/ Bay of Plenty. Reducing actual incidental mortality would, however, enable the TAC to be increased by an equivalent amount without impacting the snapper population growth or stock status. Any increase in the allowance for Other Sources of Mortality would need to be in addition to the current TAC.

Submissions

430 A large number of submissions discussed the need to improve information and management of other sources of fishing related mortality.

431 **SNA 1 Commercial** submits a list of industry-agreed initiatives to reduce the mortality of juvenile snapper, report the release of undersized snapper, enhance the selectivity of trawl gear, improve information on catch and effort, provide for improved monitoring of fishing and on-board behaviours (using VMS and electronic monitoring technologies), and move from fishing locations in the event that undersized snapper make up a large proportion of catches. A commitment is also made to reporting of unlawful activity observed of and by commercial fishers.

432 **Patuharakeke Te Iwi Trust Board Inc** submitted the need to address the mortality from bulk harvesting methods by banning trawling and Danish seining from significant nursery and fragile benthic areas. The Trust Board also suggested increasing independent observing of commercial fishing to reliably measure and monitor discards and waste, as well as creating disincentives by deducting discards and waste from quota.

433 **NZSFC** submits that MPI has not adequately measured and monitored the incidental mortality associated with fishing in New Zealand, and so has failed to deliver the promised husbandry aspects by those exploiting natural resources. The NZSFC suggests that the rebuild of the SNA 1 stock has been retarded by unnecessary waste and discarded juveniles.

434 The NZSFC submits that the lack of information requires mortality to be estimated using information from similar fisheries in Australia. The Council submits that mortality rates could be as high as 30% of the landed catch, and that even at a conservative 24% of landed catch, the mortality could be more than 1 000 tonnes for every 4 500 tonnes of catch. The Council submits that the current allowance of 450 tonnes is clearly not enough, given the shift over time from bottom longline fishing for snapper to bulk fishing methods such as trawl and Danish seine, and also the prevalence of smaller fish in the catch. The Council suggests that 25 to 35% could be discarded by trawlers and that a further 5 to 10% could die through unseen mortality.

435 The NZSFC submits that MPI has not considered the mortality associated with the proposed MLS and bag limit changes. Many popular recreational fishing areas in the Gulf have high numbers of juvenile snapper so an increase to the MLS would result in more fish being returned and wasted. Another effect of an increase in MLS would be to prevent fishers who can only access these areas from a reasonable chance to catch a legal-sized fish. This effectively would shift access to those with large boats capable of fishing further from shore. In addition, the Council notes that a reduction to the bag limit would increase incentives to high grade and also increase mortality and waste.

436 The NZSFC suggests that MPI implements a formal reporting and monitoring scheme to track fish discarded or lost while being brought on board.

437 **NZRFC** submits that setting a MLS for commercial bulk harvesting methods is ridiculous as all undersized fish are discarded, not reported, and not accounted for in management measures. The Council proposes that there should be no MLS, and any waste should be deducted from the TACC to encourage fishers to avoid areas with small fish and to adopt more selective modern methods. The Council also proposes that more areas should be closed to commercial fishing to protect juvenile fish and their habitats.

438 The NZRFC recognises that recreational fishers also need to play their part in reducing waste by improving handling practices and using hook styles that enhance the chances of survival of released fish.

439 The NZRFC suggests that MPI should improve observing of commercial vessels to ensure the integrity of the management system and require the use of GPS transponders and deck cameras on all vessels fishing in Territorial waters.

440 **Keith Ingram** submits various bases for concluding that the current management system is the reason for discarding of commercial catch, and that the scale of discarding is substantial at perhaps 33% of a range of valuable inshore species, and perhaps as much as 1 000 tonnes of snapper annually in the Bay of Plenty. However, Mr Ingram acknowledges the difficulty in detecting and prosecuting illegal discarding. Mr Ingram submits that the only way to deter this practice is to place observers on boats or install cameras to record activity, with suitable penalties for tampering with cameras.

441 Mr Ingram acknowledges the trawl gear trials being done by industry and suggests that if successful, the gear should be introduced immediately across the inshore trawl fleet. He also suggests that the MLS could be removed for all commercial methods but longline, and then a compensatory part of the allowance for other mortality (say 25%) be added to the TACC.

442 Mr Ingram notes that the effect of changes to recreational size limits on mortality needs to be considered.

443 Mr Ingram submits the main problem is in the Bay of Plenty, and until new trawl fishing methods are adopted, all vessels must have a portfolio of quota (ACE) to cover the anticipated target and bycatch species. He also suggests that trawlers and Danish seiners operate on a 100% observer coverage, either in person or electronic.

444 **Outdoors NZ** submits that recreational and commercial fishers modify their methods and behaviour to stop dumping, juvenile mortality, and waste so that more fish can grow on to optimum size. Outdoors NZ also suggests that research and consultation is done to explore voluntary measures for reducing mortality and looking after the environment to accelerate the rebuild.

445 **ECO** submits MPI should adopt measures to reduce waste and eliminate dumping of catches, particularly in the commercial fishery.

MPI Response

446 MPI acknowledges that the information about levels of discarding and incidental mortality in SNA 1 is uncertain. MPI notes that work is planned on different projects to improve information about discarding, to improve the way it is accounted for, and also initiatives by commercial snapper fishers to modify trawl gear and practises to reduce bycatch and incidental mortality. Work on these projects has already begun and will continue.

447 MPI notes that, although uncertain, estimates of incidental mortality associated with the SNA 1 fishery, both recreational and commercial, are available and are discussed in the relevant section above. In summary, the estimates suggest that the incidental mortality associated with all sectors and methods ranges between 361 and 602 tonnes. The current allowance of 450 tonnes lies within that range. MPI notes that those estimates do not include catch taken outside the lawful commercial system (misreported or unreported catch).

448 MPI acknowledges that the measures proposed by industry will support the reduction of incidental mortality of snapper and enhance the efficiency of the commercial fishery. Reporting the release of undersized snapper will help to characterise the potential mortality and determine the need for further measures. Having VMS on all vessels catching 5 or more tonnes of snapper will improve MPI's ability to respond to reports of unlawful discarding and create stronger incentives to deter that activity. This would be further advanced by exploring and ultimately implementing on-board electronic monitoring. The commitment by industry to report observed illegal activity will provide further incentives to discourage unlawful discarding and work towards reducing incidental mortality.

449 The current commercial MLS for snapper and the net mesh sizes are set to allow most undersized snapper to escape. In addition, Figure 14 shows the range of closures to commercial fishing methods already in place, many of which are expressly aimed at protecting juvenile snapper and their habitats. Several areas known to be important habitat for juvenile snapper or particularly fragile habitats have been protected from trawling and Danish seining for many years.

450 MPI notes that the allowance for other sources of fishing-related mortality within the TAC already reduces the potential yield available to the fishery. MPI has programmed work with industry to reinforce this opportunity to minimise waste and enhance the SNA 1 fishery.

451 MPI acknowledges that increasing the MLS or decreasing the bag limit for recreational fishers could have an effect on mortality. However, recreational (and commercial) fishers need to assume responsibility for taking the best care of fish released, moving to another location if small snapper are prevalent in the catch, avoiding high grading to mitigate any effect on mortality and support the fishery to reach and maintain the quality desired. MPI commends the stance by recreational fishers to improve fish handling and hook

use to reduce mortality and waste. MPI can contribute to such steps via its website and engagement forums.

452 MPI acknowledges that the abundance of small snapper is generally higher in areas close to shore. However, recent years have seen the availability of snapper well above the current MLS in near-shore areas.

453 MPI does not have sufficient information to know whether measures applied specifically to the Bay of Plenty will have any effect given that a more approach is to apply management measures to the stock as a whole designed to improve the status of the fishery.

3.4 SNA 1: 2013 STOCK ASSESSMENT

454 A fully quantitative assessment of the SNA 1 sub-stocks was completed in 2013 and reviewed by the Fisheries Assessment Plenary. A quantitative assessment is the best way to include all the available data and the associated uncertainties (including biological and fishing-related information) in a cohesive understanding of the way a fish population has responded to fishing and natural variability. The assessment was given a high quality rating by the Plenary because of the inclusion of the best available information and the rigorous testing of assumptions. The high quality rating means that the assessment results are suitable as a basis for informing management.⁵⁷

455 This assessment of SNA1 sub-stocks provides estimates of the current spawning stock biomass (B_{2013}) in relation to the unfished biomass estimated in 1900 (B_0). In addition, the assessment model was run for 5 years into the future (called forward projections) to explore the way the snapper populations would perform under different levels of catch. The performance of the populations was also explored further into the future to estimate how long the populations would take to reach the interim management target of 40% of the unfished biomass under different catch scenarios.

456 The 2013 assessment approach differed from previous assessments in two key aspects: the inclusion of a stock-recruitment relationship, and the use of a model that allowed movement between biological populations. Both aspects were introduced to better replicate the dynamics of the snapper populations in SNA 1.

457 Previous SNA 1 stock assessments in 1996 and 2000 assumed that there was no relationship between the biomass of spawning fish and the number of juvenile snapper entering the population. As this is an erroneous assumption, the 2013 assessment included an appropriate relationship between spawner stock biomass and recruitment to the fishery.

⁵⁷ For more detail, refer to the Plenary ([available online here](#)).

458 In the previous stock assessment in 2000, SNA 1 was assessed using two separate models, one for east Northland, and the other for the combined Hauraki Gulf–Bay of Plenty sub-stock. A disadvantage of this approach is that it does not account for the movement of snapper between sub-stocks, and does not allow the use of key information on the stock status of fish in the Bay of Plenty (indices of abundance, the age composition of the catch, and growth rates).

459 The 2013 assessment was improved by using a single spatial model that allows for the movement of snapper between sub-stocks, and also the inclusion of information about snapper in the Bay of Plenty. However, owing to uncertainty in the relationship between the Hauraki Gulf and Bay of Plenty biological populations, the results for these areas are combined and reported as a single stock. While we have sufficient data to reliably estimate the biomass in the combined Hauraki Gulf/Bay of Plenty area, we do not have sufficient information about movement between the areas (information from tag returns) to reliably apportion this biomass to the stocks residing in each of the two sub-areas.

460 Based on the movement patterns of tagged fish, the spatial model assumes that while all fish spawn within their ‘home’ area (East Northland, Hauraki Gulf, or Bay of Plenty), some individuals move to adjacent areas outside of the spawning season. As a result, it is possible to report either the biomass of fish in an area during the spawning season (termed the ‘by stock’ model results) or the biomass in that area during the remainder of the year (the ‘by area’ results). MPI considers it more appropriate to base management decisions on the ‘by stock’ results as these are more consistent with stock assessment conventions.

461 The 2013 SNA 1 assessment provides results, such as stock status and yield, for two sub-stocks. Yield estimates (the level of catch that will achieve desired objectives) can be combined to form a total for the SNA 1 stock, assuming that the past spatial patterns of catch and effort continue. Current biomass and unfished biomass for the total SNA 1 stock are obtained by summing results for the individual sub-stocks. However, the assessment does not provide an estimate of stock status relative to B_0 for the overall SNA 1 stock, as it is comprised of more than one biological stock and these were assessed separately.

462 The four most important potential sources of uncertainty in the assessment results are:

- The stock structure and degree of exchange of snapper between the Bay of Plenty and the Hauraki Gulf. This uncertainty was addressed by combining the results for these two areas. Although we have sufficient data to reliably estimate the biomass in the combined Hauraki Gulf/Bay of Plenty area, we do not have sufficient information about movement (from tag returns) to reliably apportion this biomass to each of the two sub-areas.

- An apparent conflict between the information on snapper age structure collected from the fishery (catch-at-age) and the information about stock biomass from previous tagging surveys. The model tries to reconcile this conflict in fitting the data, and results suggest the tagging data was consistent with lower current biomass levels, while the age-structure information was consistent with higher biomass levels. Despite that uncertainty, the model biomass trajectory passes within the confidence bounds (i.e. CV of 30%) of the biomass estimates from the tagging surveys, and then increases in sympathy with the abundance index. This provides some confidence that the assessment estimates of current biomass are reasonable. The sensitivity of the model to variations in a range of assumptions was tested, and generally the conclusions about current stock size relative to the unfished stock size were robust.
- Whether or not the standardised long-line CPUE index reliably indicates the abundance of snapper in the Gulf, as the methodology may not account for perceived changes in fishing behaviour. In the working group process, representatives of the commercial sector asserted that some long-line fishers have been legitimately attempting to decrease their snapper catch rates and increase catch of bycatch species (particularly gurnard) because they do not have sufficient SNA 1 ACE. The effect of such behaviour would be to reduce the snapper CPUE and underestimate the relative abundance of snapper in recent years. The prevalence of such behaviour amongst vessels used to calculate CPUE was investigated by examining trends in the catch rate of gurnard. While some vessels did show an increase in the proportion of gurnard on long-line sets made in recent years, others did not. The slight differences observed suggest the change in behaviour demonstrated by some vessels is unlikely to have had a marked impact on standardised CPUE model outcomes. This conclusion is further supported by the fact that increasing the number of vessels and amount of data used in the CPUE standardisation had little influence on the CPUE trends in each of the three regions.
- Changes in the growth rate of snapper over time, which suggest a decline in growth rate over the last fifteen years. However, the catch sampling and age determination for snapper is considered to be reliable.

3.4.1 Interim Biomass Target

463 Determining a value for B_{MSY} depends on the biology of snapper and the management approach taken. Previous assessments of SNA 1 used a deterministic estimate that relies largely on the biological productivity of the species and relies on perfect information and management responses. The 1997 management review of the SNA 1 fishery used the deterministic estimate of B_{MSY} for the target biomass. The SNA 1 stock was assessed again in 2000, and deterministic B_{MSY} estimates of 21% B_0 for east Northland and 23% B_0 for Hauraki Gulf–Bay of Plenty were used. In 2000, the east Northland stock was assessed as being at

about the B_{MSY} level and expected to exceed it at the end of a 20 year projection period (i.e. by 2020). The Hauraki Gulf–Bay of Plenty stock was assessed as being below the B_{MSY} level, and expected to exceed that level by 2020.

464 As part of the 2013 assessment, the deterministic B_{MSY} (as % B_0) was calculated as 25-26% B_0 for east Northland and 30% B_0 for the combined Hauraki Gulf–Bay of Plenty. There are several reasons why B_{MSY} , as calculated in this way, is not a suitable target for management of the SNA 1 fishery. First, it assumes a harvest strategy that is unrealistic in that it involves perfect knowledge including perfect catch and biological information and perfect stock assessments (because current biomass must be known exactly in order to calculate target catch), a constant-exploitation management strategy with annual changes in TACs (which are unlikely to happen in New Zealand and not desirable for most stakeholders), and perfect management implementation of the TAC and catch splits with no under- or over-runs. Second, it assumes perfect knowledge of the stock-recruitment relationship, which is actually very poorly known. Third, it would be very difficult with such a low biomass target to avoid the biomass occasionally falling below 20% B_0 , the default soft limit according to the HSS.⁵⁸ Thus, the actual target needs to be above this theoretical optimum; but the extent to which it needs to be above has not been determined.

465 The HSS provides guidance on determining more realistic estimates of B_{MSY} that better align with the practical realities of fisheries management. For a stock such as SNA 1 (regarded as a low productivity stock), the HSS suggests a suitable analytical proxy for B_{MSY} is 40% B_0 . For the 2013 assessment, an interim target biomass of 40% B_0 was assumed.

466 Determining an appropriate target, which addresses both sustainability and utilisation objectives for SNA 1, is best done by working with stakeholders. MPI intends to collaborate with tangata whenua and stakeholders to develop a harvest strategy for SNA 1, including a management target and research and monitoring strategy. The aspects of determining a target are discussed in more detail in Part A.

⁵⁸ The Harvest Strategy Standard for New Zealand Fisheries is available online: <http://fs.fish.govt.nz/Doc/16543/harveststrategyfinal.pdf.ashx>.

3.4.2 Status of the SNA 1 stock

3.4.2.1 Biomass changes since 1900

467 The 2013 assessment model estimated spawning stock biomass (SSB) since 1900. The east Northland sub-stock biomass was estimated to have experienced a long steep decline from about 1960 to 1985, and has fluctuated without trend since then. The biomass in the Hauraki Gulf-Bay of Plenty sub-stock experienced a long steep decline from about 1960 to 1988, after which it gradually increased to 2010 and then declined slightly.

468 The biomass trajectories show substantial reductions from 1900 to the lowest levels in 1999 for east Northland, or about 1988 for other stocks, and then some increase in spawning biomass thereafter.

Figure 32: Historical stock status and current status. Dotted lines indicate interim target (40%B₀), soft limit (20%B₀) and hard limit (10%B₀).

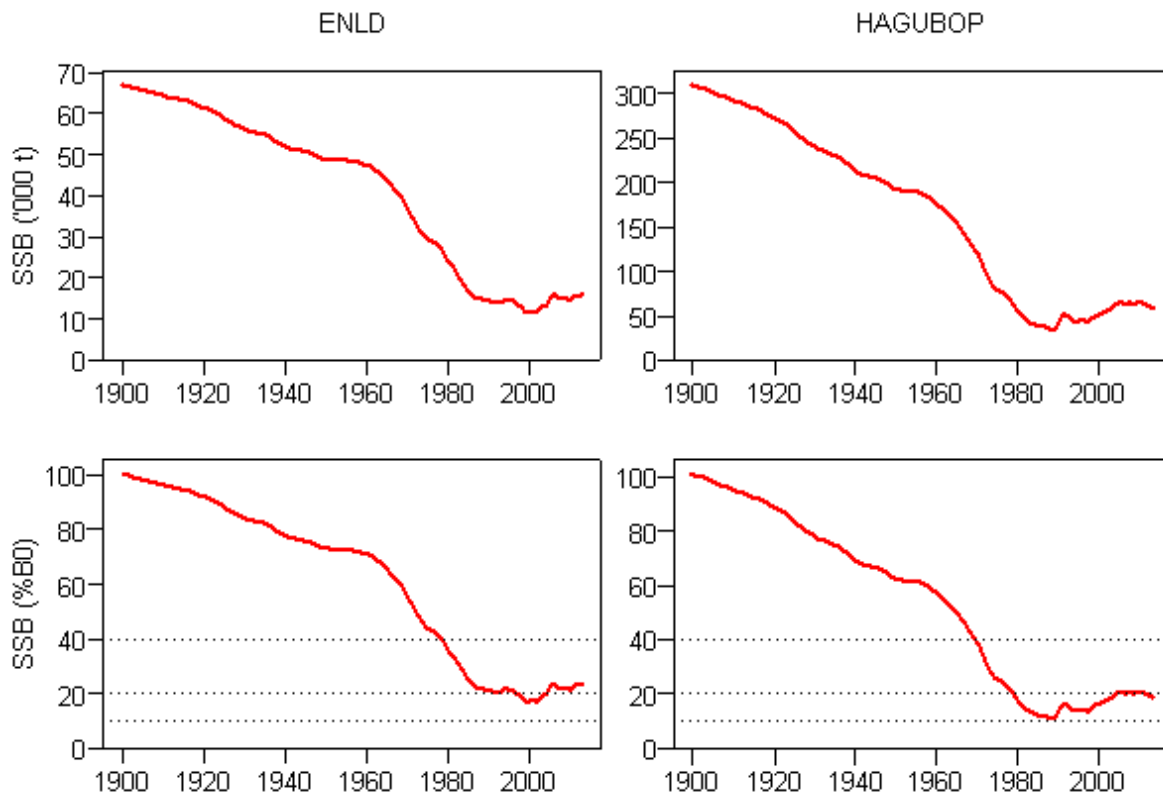
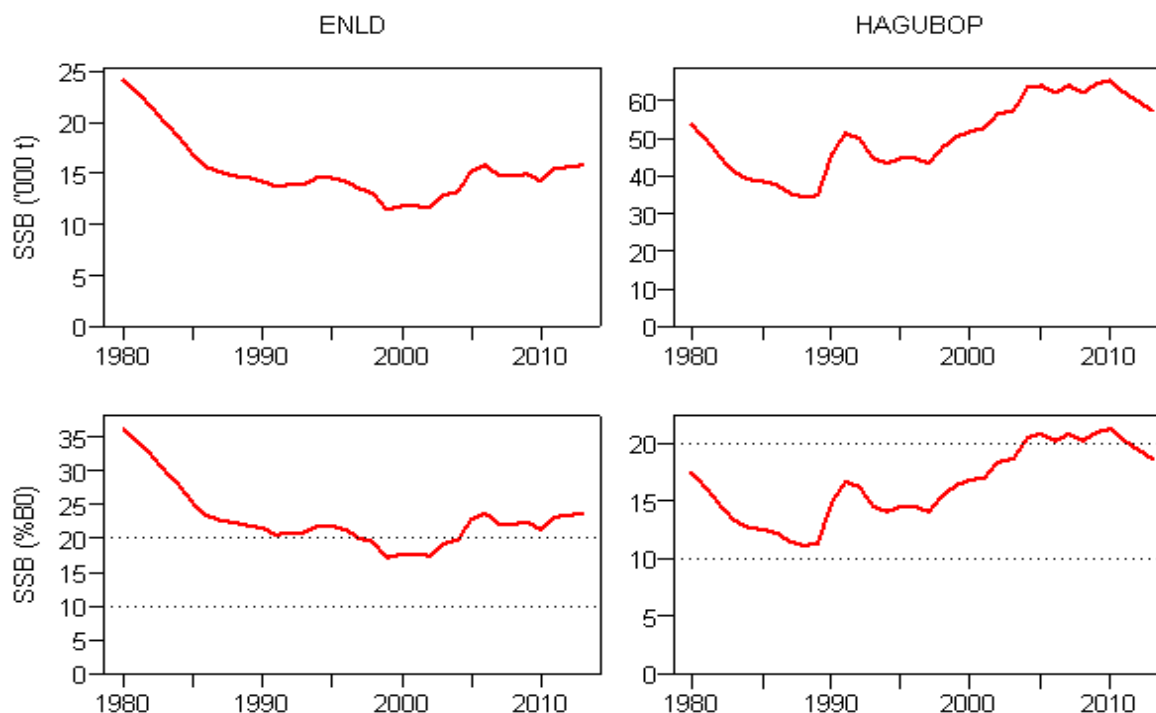


Figure 33: SSB by stock for the period since 1980. Dotted lines indicate soft limit (20%B₀) and hard limit (10%B₀)



3.4.2.2 Current stock status

469 Table 18 shows the estimated B₀, and the estimated biomass in 2013 as a proportion of B₀, for the east Northland and Hauraki Gulf–Bay of Plenty sub-stocks.

Table 18: Base model estimates of B₀ and current biomass (B₂₀₁₃ as % B₀). 95% confidence intervals are displayed in brackets.

Sub-stock	B ₀ (thousand tonnes)	B ₂₀₁₃ as % B ₀
East Northland	66 (53– 79)	24 (18 – 30)
Hauraki Gulf–Bay of Plenty	306 (288– 325)	19 (15 – 23)

470 Both sub-stocks are estimated as ‘Very Unlikely’ (less than 10% probability) to be at or above the interim 40% B₀ target; and ‘About as Likely as Not’ (40% to 60% probability) to be below the soft limit (20% B₀). The model probabilities relating biomass to the interim target and limits are set out in Table 19.

Table 19: Probabilities relating current biomass to the interim target and limits

	East Northland	Hauraki Gulf–Bay of Plenty
At or above target (40% B ₀)	0.00	0.00
Below soft limit (20% B ₀)	0.12	0.74
Below hard limit (10% B ₀)	0.00	0.00

471 The Plenary report defines ‘overfishing’ as a situation where the estimated fishing mortality or exploitation rates exceed the level required to maintain, or rebuild the stock to the target biomass level (in this case 40% B₀). The 2013 SNA 1 Plenary reports that overfishing is ‘likely’ (greater than 60% probability) to be occurring in both sub-stocks. This indicates that estimates of current exploitation rates (the proportion of the available biomass taken by fishing) exceed levels that would enable the stocks to reach and remain at or near the interim target biomass in the long term.

3.4.2.3 Biomass projections to 2018

472 The stock assessment model was used to explore how the SNA 1 stock would perform under a range of future catch scenarios.

473 Five-year biomass projections were examined under the catch scenarios shown in Table 20.

Table 20: Details of scenarios for which additional projections were requested

Scenario	TAC (tonnes)	Recreational and customary Māori catch ⁵⁹ (tonnes)	TACC (tonnes)	Other ⁶⁰ (tonnes)
1	7 866	3 366	4 500	450
2	7 550	2 600	4 500	450
3	8 050	2 780	4 820	450
4	7 050	2 420	4 180	450
5 ⁶¹	0	0	0	0

⁵⁹ In the model, customary catches were assumed to be included in catches from the recreational fisheries.

⁶⁰ This allowance for other sources of fishing mortality was pro-rated across the commercial fisheries.

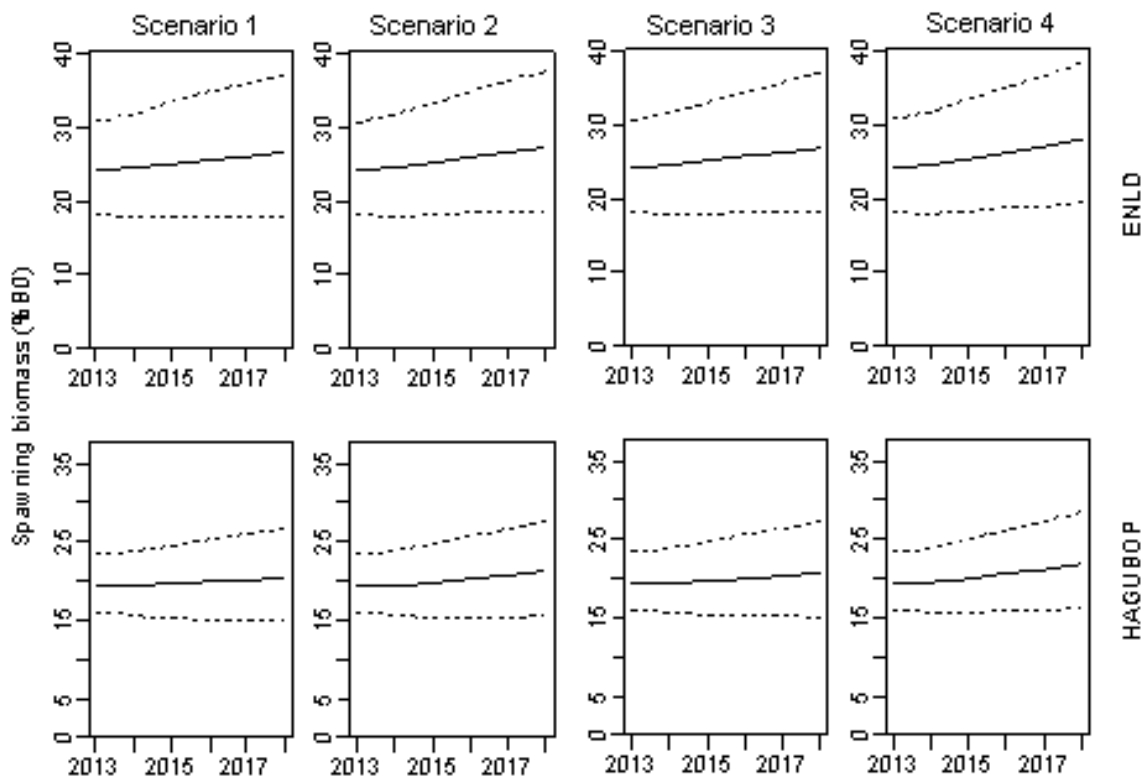
⁶¹ A period of twenty years was chosen to allow sufficient time for all stocks to rebuild to the interim target of 40%B₀.

474 Scenario 1 assumes that future commercial catch will be at the level it was in 2012 and 2013. Scenario 1 assumes that future recreational catch will be at the level of the average recreational catch from 2008 to 2012 (3365.8 tonnes).

475 Scenario 2 assumes that the catch of each sector will be constrained to the current limits and allowances. Scenario 3 provides for a 500 tonne increase to the TAC, with a proportional increase in allocation between the recreational and commercial sectors. Conversely, scenario 4 provides for a 500 tonne decrease to the TAC, with a proportional decrease in allocation between the recreational and commercial sectors. Scenario 5 assumes no fishing in order to estimate the minimum time to reach the interim target (T_{MIN}).

476 Figure 35 shows the estimated spawning stock biomass projections (mid points and 95% confidence intervals) until 2018 under the different catch scenarios.

Figure 35: Projected spawning biomass (as % B_0) for east Northland (ENLD) and Hauraki Gulf-Bay of Plenty (HAGUBOP). Broken lines are 95% confidence intervals.



477 Under all scenarios, the spawning biomass was projected to increase slowly over the next five years (between 1% and 4%) for both sub-stocks.

478 The five year projections were based on the assumption that recruitment over the next five years would be similar to recruitment observed over the most recent ten years for which

recruitment could be reliably estimated (i.e. 1994 to 2004). Based on the full series of recruitment observations, recruitment between 1994 and 2004 is well above average. Five year projections based on the full set of recruitment observations result in the east Northland sub-stock remaining stable and the Hauraki Gulf–Bay of Plenty sub-stock declining.

479 The probabilities relating the 2018 biomass to the target and limits vary little between the scenarios, as shown in Table 21. The lack of variation between scenarios is because the range of catches makes little difference over the five year projection period. The different scenarios are expected to change the median 2018 biomass by little more than 1% B_0 over the five year period, as shown in Table 22.

Table 21: Probabilities, by stock and scenario, relating the 2018 biomass to the target and limits (assuming levels of recent average recruitment)

	Scenario 1	Scenario 2	Scenario 3	Scenario 4
<i>East Northland</i>				
Above target (40% B_0)	0.01	0.01	0.01	0.01
Below soft limit (20% B_0)	0.08	0.05	0.07	0.04
Below hard limit (10% B_0)	0.00	0.00	0.00	0.00
<i>Hauraki Gulf–Bay of Plenty</i>				
Above target (40% B_0)	0.00	0.00	0.00	0.00
Below soft limit (20% B_0)	0.47	0.34	0.42	0.26
Below hard limit (10% B_0)	0.00	0.00	0.00	0.00

Table 22: Median B_{2018} (as % B_0), by stock and scenario (assuming levels of recent average recruitment)

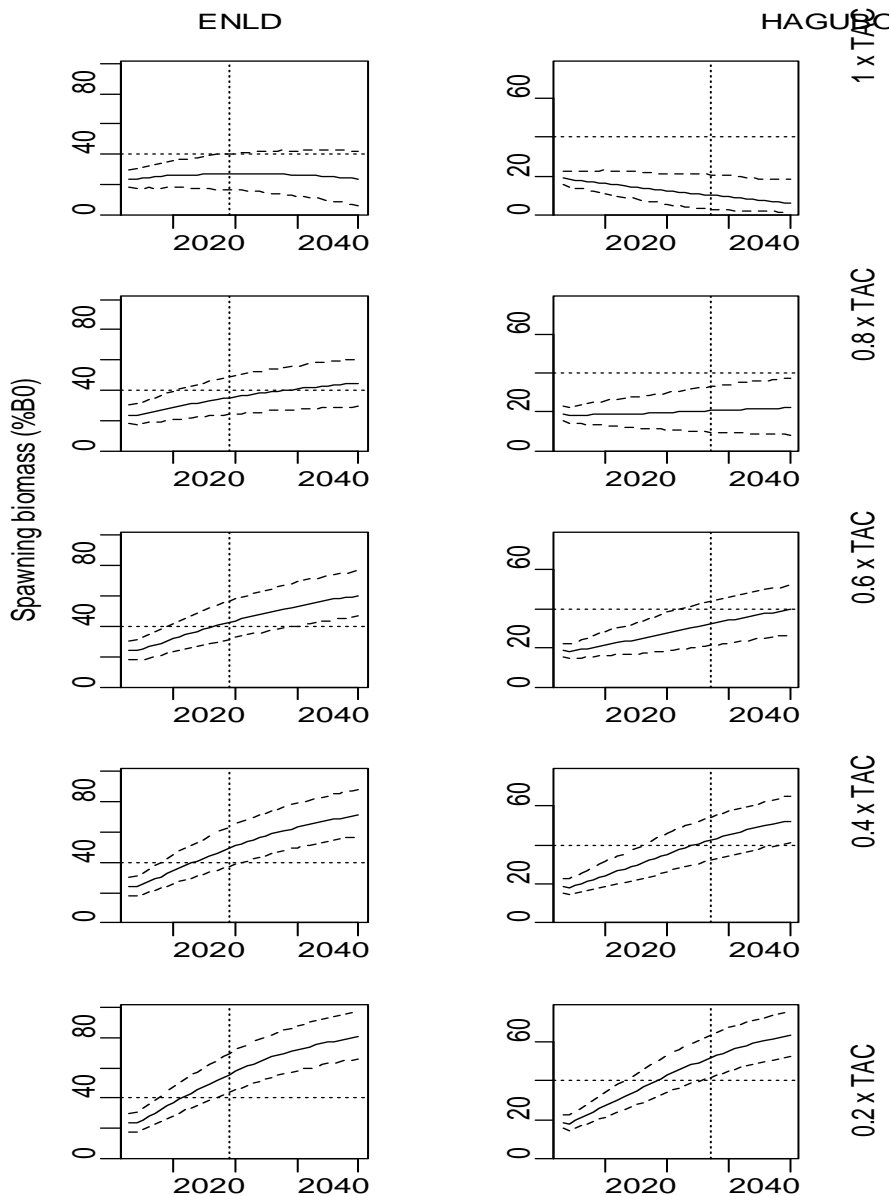
	Scenario 1	Scenario 2	Scenario 3	Scenario 4
East Northland ($B_{2013} = 24\% B_0$)	26.5	27.3	26.8	28.1
Hauraki Gulf–Bay of Plenty ($B_{2013} = 19\% B_0$)	20.4	21.3	20.6	21.9

480 Longer term biomass projections were also undertaken to explore the effect of various catch scenarios and to estimate the time to reach the interim target of 40% B_0 .

481 The long term projections indicated that in the absence of fishing the biomass would take eight years for east Northland and twelve years for Hauraki Gulf–Bay of Plenty to reach 40% B_0 .

482 Figure 36 shows longer term biomass projections under different TAC levels. The longer term projections consider recruitment is likely to be better represented by the full series of recruitment observations (1970 to 2004), rather than the most recent estimated ten year period (1994 to 2004) used in the five year projections.

Figure 36: Stock trajectories under various proportions of the current TAC (the vertical lines indicate $2xT_{MIN}$)



483 For the east Northland sub-stock, the long term biomass projections under constant catch at the level of the current TAC show that spawning biomass remains relatively constant at its current level although declining slowly after 2030. For the Hauraki Gulf–Bay of Plenty sub-stock, the biomass is predicted to decline steadily towards levels below 10% B_0 . The median biomass estimates for both sub-stocks suggest that neither will reach the interim target of 40% B_0 .

484 Catch levels that are constant at 80% of the current TAC are predicted to slowly increase the biomass of both sub-stocks through to 2050. Under this scenario, the east Northland sub-stock reaches the target biomass about five years after $2xT_{MIN}$ ⁶². The Hauraki Gulf–Bay of Plenty sub-stock does not approach the interim target within the projection period.

485 Catch levels that are constant at 60% of the current TAC result in both stocks increasing, with east Northland reaching 40% B_0 just a few years earlier than $2xT_{MIN}$ and Hauraki Gulf–Bay of Plenty reaching 40% B_0 in roughly $3xT_{MIN}$.

486 Catch levels that are constant at 40% of the current TAC result in the biomass of both sub-stocks reaching the interim target earlier than $2xT_{MIN}$.

487 Table 23 shows the estimated SNA 1 TAC levels that would allow the biomass in each sub-stock to reach the interim target within $2xT_{MIN}$; assuming the current proportional split in catch between the two sub-stocks. Because the sub-stocks each have a different current biomass in relation to B_0 and are of markedly different biomasses, a TAC relating to the Hauraki Gulf–Bay of Plenty sub-stock would need to be set to achieve the interim target within the $2xT_{MIN}$ timeframe. Achieving a rebuild to the interim target of 40% B_0 within timeframes suggested by the HSS would require about a 56% reduction of the current TAC of 7550 tonnes.

Table 23: Estimated TAC which will result in biomass attaining 40% B_0 in $2xT_{MIN}$ years

Sub-stock	East Northland		Hauraki Gulf–Bay of Plenty	
	<i>SNA 1 TAC (tonnes)</i>	<i>% current TAC</i>	<i>SNA 1 TAC (tonnes)</i>	<i>% current TAC</i>
YCS (All estimated)	5 021	67%	3 309	44%

⁶² T_{MIN} is the time a stock would take to reach the target in the absence of fishing. The HSS guidance is that rebuilds should be achieved generally within a period of $2 T_{MIN}$.

3.4.2.4 Yield at 40% B_0

488 The estimated sustainable yield that would be available from the overall SNA 1 stock when each sub-stock is at the interim target of 40% B_0 is approximately 12 000 tonnes (about 9900 tonnes from Hauraki Gulf–Bay of Plenty and 2100 tonnes from east Northland).

Submissions

489 **Seafood NZ** submits that it is odd for the science working group to choose the interim management target when the HSS clearly states that is the role of managers. Seafood NZ also disputes the basis for the choice of 40% B_0 , suggesting that snapper is more likely to be a medium rather than low productivity species. Seafood NZ suggests that estimates of yield for SNA 1 at different biomass levels should be provided in final advice in addition to that at 40% B_0 , as well as explaining any assumptions made in the calculation.

490 **SNA 1 Commercial** submits the view that the stock assessment estimates of current biomass for each sub-stock are pessimistic, based on the flattening of the standardised CPUE indices and bias in the tagging information. They also suggest that the assessment results do not concur with anecdotal evidence for the strong increase in catch rates and snapper availability. SNA 1 Commercial makes similar points about the choice of 40% B_0 as a target, questions the need to use a proxy for B_{MSY} when a full assessment is available, and the process for determining a target.

491 **NZ Fishing Industry Guild Inc** submits it disagrees that the SNA 1 stock is waning, and has the view that it is rather increasing, based on the experience of fishers.

492 **Te Aupouri Fisheries Management Limited** submits that the SNA 1 stock is healthy and the review is not for sustainability reasons.

493 **EDS** submits that the long-term recruitment series should be used rather than the 1994-2004 recruitment series, because it is known that the more recent recruitment was stronger than expected from the long term series. EDS also notes that the so-called ‘recent’ data is almost ten years out of date and questions if that data is appropriate as a basis for short-term management action. EDS also comments that the choice of recruitment series strongly influences the short-term projections, with the more recent recruitment suggesting a slow increase in biomass whereas the long-term recruitment suggests that biomass will decline over the next 5 years.

494 **NZSFC** submits concern about the estimated exploitation rates that are too high to support stock rebuilding, the high exploitation rate in the Bay of Plenty, and the need to advise you of the attendant risks. The Council also notes stock assessment results for the three separate sub-stocks of East Northland, Hauraki Gulf, and Bay of Plenty, pointing out that combining the Gulf and Bay of Plenty sub-stocks is a contrived way to avoid dealing

with the low biomass (below the hard limit of 10% B_0) in the Bay of Plenty. The Council submits that more work is needed to improve some data inputs into the model for the next stock assessment, which it suggests should occur after the development of an agreed harvest strategy.

MPI Response

495 The interim target of 40% B_0 was proposed by fishery managers in response to the working group's request for a target to use for the stock assessment. The interim target is consistent with the analytical proxies provided in the HSS Guidelines for a species with the biological characteristics of snapper (most of the characteristics fall into the low productivity range). The working group, including the industry scientists present, accepted the proposed 40% B_0 as an interim target, on the understanding that the fishery planning process would provide the opportunity for more fulsome discussion of HSS reference points with interested stakeholders.

496 The estimates of B_{MSY} from the assessment are 26% B_0 for East Northland and 30% B_0 for Hauraki Gulf-Bay of Plenty. Those are deterministic estimates which imply perfect knowledge and perfect management of fishery characteristics. Those are unrealistic assumptions, so deterministic estimates of B_{MSY} are not considered to be appropriate for management targets, as explained in the HSS. MPI acknowledges in the IPP that a likely target for SNA 1 will be between 33 and 40% B_0 . The IPP also notes that a research project has been contracted to explore the relative costs and benefits of different long-term biomass levels for SNA 1 to provide a basis for discussion with stakeholders on future management of SNA 1.

497 The SNA 1 assessment did not report estimates of yield, but rather the current and future stock status in relation to different levels of harvest. The yield estimate at a biomass of 40% B_0 provided in the IPP was calculated using the estimated exploitation rate of 8% (harvesting that percentage of the adult biomass each fishing year) that would maintain the biomass at 40% B_0 .

498 The 2013 assessment provides the best way to integrate all available data to inform management. The process for standardising CPUE is well tested and routine. In the case of the SNA 1 assessment, alternative analyses were done (at the suggestion of industry scientists) to test for changes in the raw CPUE that might influence the standardised results, and little change was found. Potential biases in tagging data, and conflict between tagging and ageing data were dealt with by appropriate data weighting. The assessment results are reported with the associated uncertainties, and reality could indeed be more favourable, but also less favourable than the mid-point values from the assessment that are used. For example, if recent recruitment has been below that which prevailed between 1994 and 2004

(and was relied on to estimate recruitment in the 5 year model projections), then the forward projections of biomass would be more pessimistic.

499 The science working group agreed to use the recent recruitment series for the short term projections as this fits conventional practice and accounts for the likelihood that recruitment in the near future is more likely to be similar to the recent past. However, when predicting biomass further into the future, it is more appropriate to use the full series of recruitment information as that provides a better representation of long-term recruitment variability.

500 MPI acknowledges that the exploitation rates do not support long-term rebuilding to the interim target, and that was recognised in the IPP. The IPP showed the long-term projections which reveal declining biomass unless substantial changes to management measures are implemented over the longer term.

501 The Plenary agreed to the assessment results based on the combined Hauraki Gulf/Bay of Plenty sub-stock as the basis for management information. Because of uncertainty in the relationship between the Hauraki Gulf and Bay of Plenty biological populations, the results for these areas were combined and reported as a single stock. While we have sufficient data to reliably estimate the biomass in the combined Hauraki Gulf/Bay of Plenty area, we do not have sufficient information about movement between the areas (information from tag returns) to reliably apportion this biomass to the stocks residing in each of the two sub-areas. The next stock assessment should be informed by further tagging research which will enable the sub-stocks to be better separated.

502 The assessment results indeed show that the biomass has increased since 1997 and is likely to remain at or slightly above current levels for the coming 5 years. The increase is consistent with anecdotal evidence for the biomass having increased. However, the assessment predicts that biomass is likely to decline over the longer term and at current catch levels will not reach a level likely to be an appropriate management target for SNA 1 (between 33 and 40% B_0).

3.5 OTHER CONSIDERATIONS

503 The Minister may set or vary the sustainability measures for a stock (under section 11 of the Act) after taking into account any effects of fishing on any stock and the aquatic environment, any existing controls on fishing, and the natural variability of the stock. In determining the TAC for a stock under section 13 of the Act, the Minister must have regard to the interdependence of stocks, the biological characteristics, and any environmental conditions affecting the stock.

3.5.1 Habitat of particular significance for fisheries management

504 Habitat of particular significance for fisheries management does not currently have a policy definition, although work is underway to generate one.

505 For juvenile snapper, it is likely that certain habitats or locations are critical to successful recruitment of snapper. Post settlement juvenile snapper 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 unclear, but the provision of food and shelter are likely explanations.

506 No information on the influence of specific habitats within SNA 1 is available.

Submissions

507 **Patuharakeke Te Iwi Trust Board Inc** submits that MPI should work with relevant agencies to better control land-based effects on snapper habitat.

508 **NZSFC** submits concern about the effects of trawling on inshore reef habitats and benthic communities, noting that some inshore areas were ‘clear-felled’ by heavy trawl gear during the 1970s and 1980s to modify habitat. The Council also notes that reports of 1990s research into juvenile mortality in commercial fisheries have not been made available, neither at the time nor recently.

509 **New Zealand Royal Forest and Bird Protection Society** submits support for the 40% B0 biomass target on the basis that it would assist the recovery of larger snapper and the role they play in maintaining healthy reef ecosystems. The Society also notes that bottom fishing is destructive of habitats and responsible for declines in biodiversity and destruction of mussel beds in the Gulf. The Society proposes that bottom fishing should not be allowed to continue in the Gulf.

MPI Response

510 MPI notes that improving engagement with agencies administering the RMA with a view to reducing potential impacts on fish habitats is a task identified within Fisheries 2030 and embraced within the inshore fisheries plans.

511 MPI acknowledges that inshore habitats are likely to have been modified by bottom-contacting fishing methods over the long history of commercial fishing in SNA 1. However, MPI notes that several measures have been in place for considerable time to address the effects of trawling, Danish seining, and other methods on habitats known to be important for young snapper and other species. MPI also notes that work is underway to explore where there might be habitats of particular significance for fisheries management within SNA 1 and

to determine the need for, and appropriate forms of, protection from any adverse effects of fishing.

512 MPI is searching archived documents and will make the documents on 1990s research on snapper mortality in commercial fisheries available if and when the documents are found, subject to relevant legal considerations.

513 MPI notes that a formal management biomass target for SNA 1 will be determined through a subsequent process involving stakeholders. MPI acknowledges the ecosystem benefits that can flow from higher biomass management targets, but notes that the implications of different targets for utilisation also need to be considered. MPI notes that several areas of substantial extent (Figure 3.6) have been closed to bottom fishing methods for a long time. The Firth of Thames in the inner Gulf has been closed to trawling for almost 100 years and the formerly abundant mussel beds have not re-established. It is thought that fine sediments introduced from terrestrial runoff are a key reason for the mussel beds not recovering.

3.5.2 Effects of Fishing

3.5.2.1 Effects of Fishing on Spawning

514 Snapper spawning is described in the previous section on the biological characteristics of SNA 1. Fishing within aggregations of spawning fish may have the potential to disrupt spawning behaviour and, for some fishing methods, may lead to reduced spawning success. No research has been conducted on the potential disruption of snapper spawning, but aggregations of spawning snapper often receive high commercial and recreational fishing effort.

3.5.2.2 Effects of Fishing: Genetic effects

515 Fishing and environmental changes, including those caused by climate change or pollution, could alter the genetic composition or diversity of a species. A 2003 study estimated genetic diversity for snapper in the Hauraki Gulf. It showed only random fluctuations of mean heterozygosity and mean number of alleles, and a decrease in genetic diversity at only one locus examined. Essentially no strong evidence for changes to the genetic composition of snapper in the Hauraki Gulf was shown, although changes were seen in other stocks outside SNA1.

3.5.2.3 Effects of fishing: Incidental catch (fish and invertebrates)

516 The best available information on incidental catch of fish and invertebrates in SNA 1 trawl fisheries is from research fishing conducted in the areas where target fisheries take place. Although the gear used for research surveys may be different than that used in the fishery itself (e.g. smaller mesh cod ends are used in trawl surveys than commercial trawl

operations), surveys are conducted in the same areas and provide insight as to the fish and invertebrate species likely to be caught in association with snapper.

517 More than 70 species have been captured in trawl surveys within SNA 1, but catches are dominated by snapper. A 2002 study noted the following species in more than 30% of tows by research vessels: jack mackerels (three species), John dory, red gurnard, sand flounder, leatherjacket, rig, eagle ray, lemon sole, and trevally. Smaller numbers of invertebrates are captured including green-lipped mussel, arrow squid, broad squid, octopus, and scallop.

518 For SNA 1, information on bycatch fish and invertebrates associated with research long-lining is also available, although restricted to the inner and western parts of the Hauraki Gulf. The most common bycatch species in this area included: rig, school shark, hammerhead shark, eagle ray, stingrays, conger eel, trevally, red gurnard, jack mackerels, blue cod, John dory, kingfish, frostfish, and barracouta.

3.5.2.4 Effects of Fishing: Incidental Catch (mammals, seabirds, turtles, and protected fish)

519 Capture estimates discussed here include all animals recovered to the deck (alive, injured or dead) of fishing vessels, but do not include any cryptic mortality (e.g. seabirds struck by a warp or caught on a hook but not brought onboard the vessel).

520 There were no observed captures of marine mammals in all trawls targeting SNA 1 between 2002/03 and 2011/12. However, low observer coverage of inshore trawlers means that the frequency of interactions is highly uncertain. In the same years, there were no observed marine mammal captures in SNA 1 long-line fisheries, where coverage has averaged 1.6% of hooks set.

521 There were only two observed captures of seabirds (one flesh-footed shearwater and one unidentified small bird) in trawls targeting snapper between 2002/03 and 2009/10. However, low observer coverage of inshore trawlers means that the frequency of interactions is highly uncertain. The estimated number of seabird captures in the snapper bottom long-line fishery declined from 3436 in 2000/01 to 247–644 in 2003/04.

522 Between 2002/03 and 2011/12 there has been one observed capture of a green turtle across the SNA 1 long-line fishery occurring in the Northland and Hauraki Gulf fishing area. Observer records documented the green turtle as captured and released alive.

Submissions

523 **New Zealand Royal Forest and Bird Protection Society** submits the IPP discussion on the interaction between fishing and seabirds was inadequate, and stresses that commercial fishing (by bottom longline) for snapper poses the single biggest threat to seabirds in New Zealand. The submission relays the analyses of the recent seabird risk assessment work and notes that MPI should ensure you are made aware of the risks and measures being taken to address them. The Society proposes that measures such as fishing effort reduction overall, or seasonal effort reductions, should be considered to reduce risks from fishing.

MPI Response

524 MPI acknowledges the risk to black petrel posed by inshore longliners but notes that separate processes are being run in concert with the recently released National Plan of Action – Seabirds aimed at addressing risk from fishing. A species-specific action plan for black petrel is being developed and several initiatives (in SNA 1) to improve understanding of fishery and seabird interactions, implement monitoring measures, and improve mitigation approaches are underway. MPI will be providing opportunities for input into these processes.

3.5.3 Benthic interactions

525 At least 90% of trawls occur at depths less than 100 metres. Trawling is likely to have effects on benthic community structure and function and there may be consequences for benthic productivity. The consequences of trawling are not considered in detail here but are discussed in the Aquatic Environment and Biodiversity Annual Review (2012).⁶³

Submissions

526 **ECO** submitted that snapper are important predators in north-eastern waters and play an important role in the coastal and inshore ecosystem, which provides an added reason to rebuild the biomass to over 40% B0 within 10 years. ECO also notes that trawling can have impacts on benthic species and expresses concerns about the bycatch of seabirds in the SNA 1 fishery. ECO submits it is essential that MPI implements the NPOA Seabirds and also makes recreational fishers aware of seabird bycatch.

MPI Response

527 In other places, this paper discusses the ecosystem role of snapper and the controls in place that protect several areas of habitat important for juvenile snapper. MPI recognises the positive effect that rebuilding the SNA1 biomass could have on environmental and fisheries outcomes. MPI also notes the release of the NPOA Seabirds and the associated activities to implement it, including specific actions within the SNA 1 fishery.

⁶³ The Review is [available online here](#)

3.5.4 Ecosystem Indicators

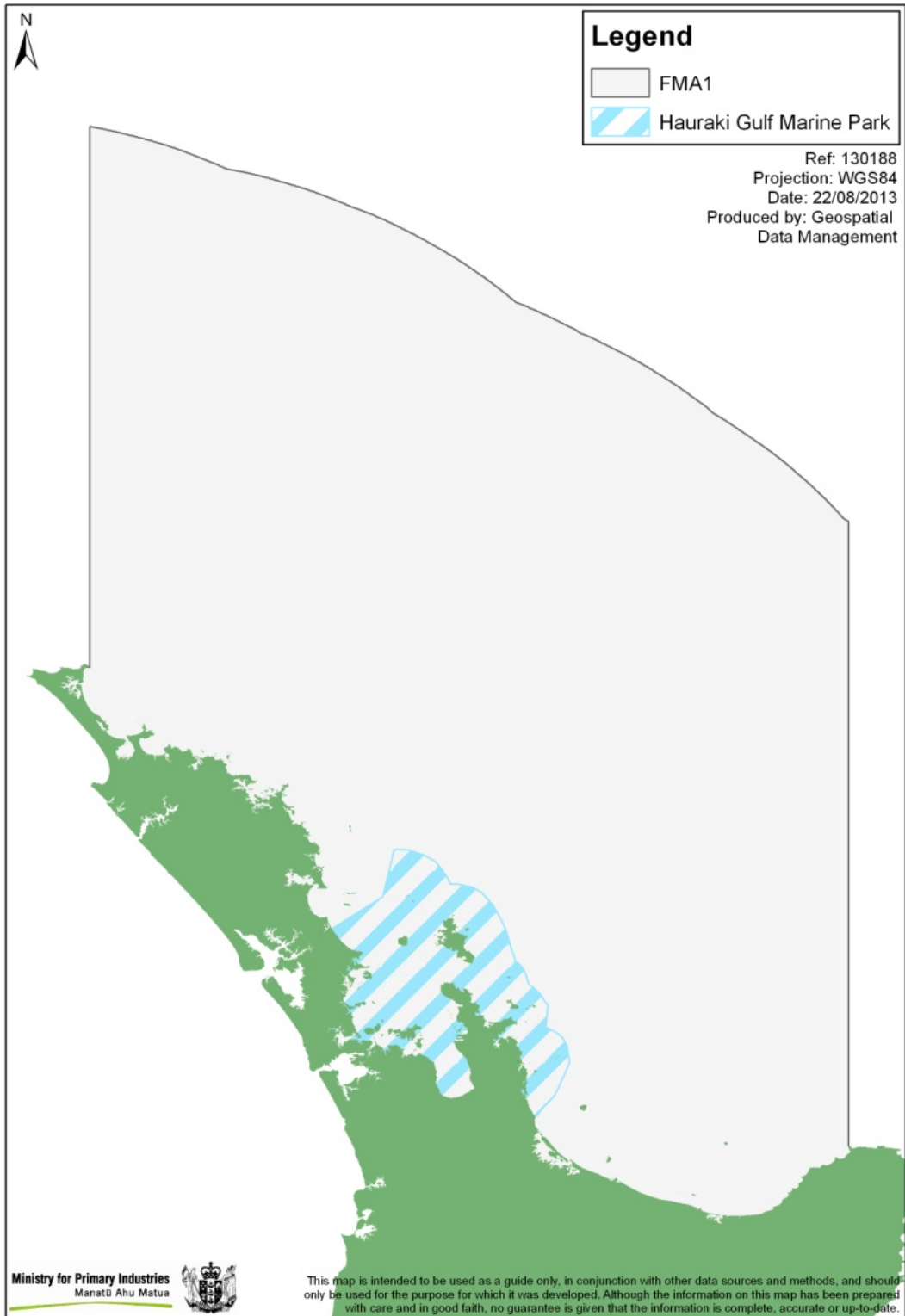
528 Ecosystem indicators using diversity, fish size, and trophic level were derived using data from the Hauraki Gulf trawl survey series. The trawl surveys ran between 1983 and 2001, and have not been conducted since.

529 Information from the surveys showed decreasing trends in the proportion of species with low resilience and the proportion of demersal fish species in waters shallower than 50 metres in the Hauraki Gulf. Several indices of fish diversity showed significant declines in muddy waters shallower than 50 metres, especially in the Firth of Thames. Size-based indicators were not considered as useful as they have been overseas, but there was some indication that the maximum size of fish has decreased in the Hauraki Gulf, especially over sandy bottoms.

3.5.5 Hauraki Gulf Marine Park Act 2000 (HGMPA)

530 The Hauraki Gulf Marine Park boundaries fall within SNA 1. MPI notes that these boundaries include the Hauraki Gulf substock but also extend into the East Northland and Bay of Plenty substocks. As discussed in Part A, when setting or varying the TAC or TACC, you are required to have regard to sections 7 and 8 of the HGMPA.

Figure 37: Boundary of the Hauraki Gulf Marine Park



531 Section 7 of the HGMPA recognises the national significance of the Hauraki Gulf (defined by the marine park boundaries), including its capacity to provide for the relationship of tangata whenua and the social, economic, recreational and cultural wellbeing of people and communities. Section 8 of the HGMPA sets out the objectives of the management of the Hauraki Gulf, which include the maintenance or, where appropriate, the enhancement of the Gulf for social and economic wellbeing, and its contribution to the recreation and enjoyment, of the people and communities of the Gulf and New Zealand.

Section 7 Recognition of national significance of Hauraki Gulf

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

(2) The life-supporting capacity of the environment of the Gulf and its islands includes the capacity—

(a) to provide for—

(i) the historic, traditional, cultural, and spiritual relationship of the tangata whenua of the Gulf with the Gulf and its islands; and

(ii) the social, economic, recreational, and cultural well-being of people and communities:

(b) to use the resources of the Gulf by the people and communities of the Gulf and New Zealand for economic activities and recreation:

(c) to maintain the soil, air, water, and ecosystems of the Gulf.

Section 8 Management of Hauraki Gulf

To recognise the national significance of the Hauraki Gulf, its islands, and catchments, the objectives of the management of the Hauraki Gulf, its islands, and catchments are—

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

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

(c) the protection and, where appropriate, the enhancement of those natural, historic, and physical resources (including kaimoana) of the

Hauraki Gulf, its islands, and catchments with which tangata whenua have an historic, traditional, cultural, and spiritual relationship:

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

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

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

532 MPI considers that while the management options contained in this paper may have varied costs and benefits for the respective sectors, they all provide for the above outcomes and are consistent with sections 7 and 8 of the HGMPA.

533 **Mayor John Tregidga (Chair – Hauraki Gulf Forum)** submits that the HGMPA establishes a hierarchy of values based on ecosystem management principles and directs management agencies to focus on sustaining the life-supporting capacity of the Gulf's marine area. He states that when interpreted alongside the Fisheries Act 1996, the HGMPA strengthens the impetus to rebuild the stock in a timely manner, to gain the considerable ecosystem health and societal benefits expected from improved sustainable yields in the long term.

534 MPI notes that the formal target level for the SNA 1 fishery will be determined over the next few years in collaboration with stakeholders, and the relative costs and benefits, including ecosystem effects, will be evaluated.

535 The Mayor also submits his view that commercial fishing has greater impacts on the marine environment than recreational fishing and cites damage to the seabed from trawling, seabird and marine mammal interactions and potential for greater wastage as examples. He considers that this should be considered in allocation decisions between the two sectors.

536 MPI notes that a considerable number of measures are already in place to address impacts of commercial fishing and associated mortality, with further measures under development. As discussed earlier the Hauraki Gulf Marine Park includes important fisheries

for both commercial and recreational fisheries. Existing measures serve to separate the commercial and recreational sectors within the Gulf within specific areas of high recreational importance and where juvenile snapper are known to occur in abundance.

3.6 CONSULTATION PROCESS AND ANALYSIS OF SUBMISSIONS

537 In May and June 2013, MPI used the input of the FMA 1 recreational and iwi fisheries forums during pre-consultation processes when developing the SNA 1 initial position paper. MPI also met with commercial representatives at this time. Where forums or representatives held views on the review, these were incorporated into the IPP.

538 The IPP was released for consultation on 12 July 2013. The consultation period was for six weeks, during which time stakeholders were invited to make submissions on the review. The consultation period formally ended on 23 August 2013.

539 In addition to the normal consultation process, MPI also undertook a series of public information sessions on the SNA 1 review. The purpose of the information sessions was to inform interested parties about the SNA 1 IPP. Sessions presented a series of posters outlining key facts on the fishery, options proposed, and rationale. MPI officials were in attendance to answer questions from the public. These sessions were held in Auckland, Whangarei and Tauranga in late July and early August. Most sessions had significant numbers of people attend, with 200-300 people estimated to have attended the Whangarei and Auckland meetings.

540 In total, 47 709 submissions were received from stakeholders.

Stakeholder Summary

541 The following provides a summary of stakeholders who made submissions on the SNA 1 review for October 2013:

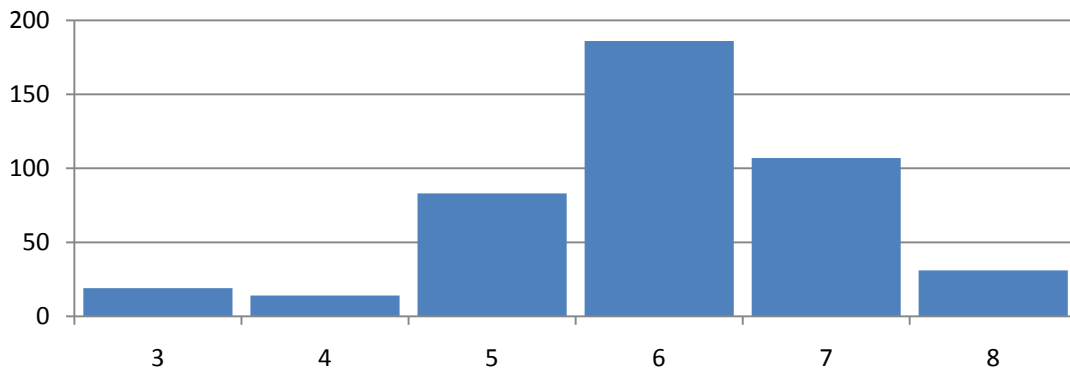
- 46 059 Legasea form submissions; (6 219 were individually amended)
- 1 650 individual submissions (including Legasea submissions that were significantly amended by individuals)
- 21 submissions from Amateur Charter Vessel (ACV) operators and ACV associations
- 28 submissions from fishing and recreational clubs
- 23 submissions from commercial associations and stakeholders
- 6 submissions from environmental organisations and stakeholders
- 2 submissions from District Councils, and one from the Hauraki Gulf Forum
- 17 submissions from iwi groups and stakeholders
- 9 submissions that contained petitions of multiple signatures

- 33 submissions from stakeholders associated with the recreational fishing industry.

542 Every submission was read and assessed by MPI officials. For both amended Legasea petitions and individual submissions, key points identified were highlighted and aggregated. This final advice has acknowledged and/or responded to the issues identified by submitters. Where submissions raised issues that were outside of the scope of this review, they have not been responded to here.

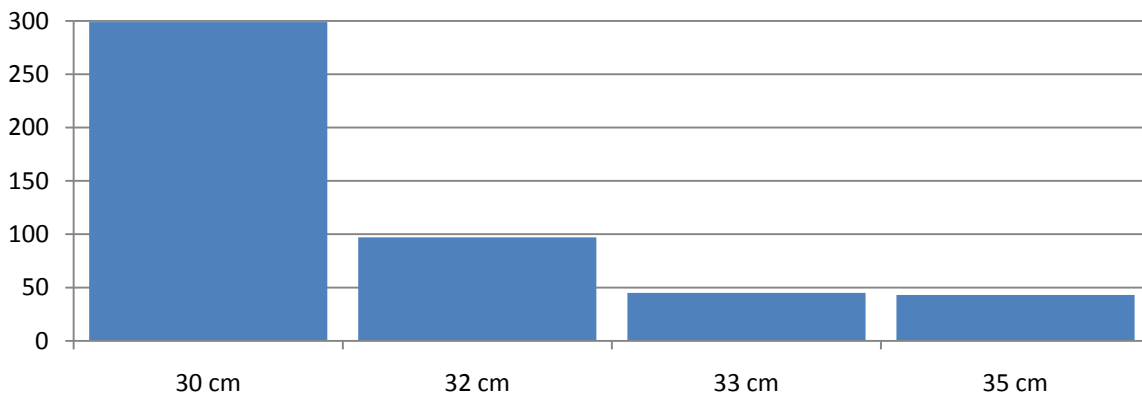
Support for changes to recreational management controls

543 Approximately 27% of individual submissions stated support for some reduction to bag limits. The most common bag limit supported was for six snapper. The following graph shows support for different bag limits changes from individual submissions:



544 The vertical axis shows the number of comments recorded, while the horizontal axis displays the daily bag limit number that submitters were in support of.

545 Approximately 29% of individual submissions stated support for some increase to the minimum legal size (MLS). The most common MLS supported was an increase to 30 centimetres. The following graph shows support for different MLS limits from individual submissions:



546 The vertical axis shows the number of comments recorded, while the horizontal axis displays the MLS that submitters were in support of, where change was supported.

Issues raised in submissions

547 Submitters raised a wide range of issues relating to the SNA 1 fishery and review. Where relevant, those issues have been included in the relevant sections in this final advice.

548 Submitters raised a number of other issues relating to the SNA 1 fishery, that MPI considers a response is appropriate. Those issues and the MPI response are set out in Table 24.

Table 24: Summary of key issues raised in submissions, and MPI response

Key Issue	Explanation of Issue	MPI response
TAC	<p>Support for the three different TAC options (7 050, 7 550, 8 050 tonnes) was mixed. Many submissions focused on allocation and management controls, and explicit opinions on preferred TAC levels were not always clear.</p> <p>Legasea, SNA 1 commercial, and many cross sector submissions (excluding environmental submissions) supported an increase to the TAC (Option 2 in the IPP).</p> <p>Other submissions from across sectors supported no change to the TAC (Option 1 in the IPP).</p> <p>A small number of submissions, including those of environmental stakeholders, were supportive of reducing the TAC (Option 3 in the IPP).</p> <p>A small number of submissions stated a preference for TAC levels beyond the range proposed in the IPP, from 8 500 tonnes down to 3 000 tonnes.</p>	<p>A discussion on the TAC, including reviewing the submissions put forward by stakeholders and tangata whenua is set out in Part A of this paper (paragraphs 27 – 76).</p>
SNA 1 Stock levels and target biomass	<p>Many submissions noted the improved health of the fishery compared to decades ago, and stated that they did not consider there to be a sustainability issue with the fishery. Commercial submissions also had this view, with a number of commercial interests noting the high abundance of snapper in recent years. Submissions across commercial and non commercial interests considered there was not a sustainability issue for the SNA 1 fishery.</p> <p>Individual submissions from across sectors were in support of rebuilding the stock to 40% B₀, placing emphasis on the ecological benefits and stock health that would be realised when the stock was at target levels.</p> <p>Some commercial submissions considered a target of 40% B₀ to</p>	<p>A discussion on the stock status and target biomass is set out in Part A of this paper (paragraphs 33-34 and 52-58).</p>

	<p>be conservative or inappropriate in the way it was set (by science working groups, not managers). They suggest that a target be identified in consultation with stakeholders, and that a target level less than 40% B₀ could be appropriate.</p>	
<p>Allocation and proportionality</p>	<p>Submissions across all sectors were of the view that guardianship of the SNA 1 fishery was the collective responsibility of commercial, recreational and customary fishers. Many submissions considered that the MPI proposals in the IPP placed responsibility for the fishery only on the recreational sector, and considered this unfair.</p> <p>Some recreational submissions were against the current proportions between recreational and commercial interests in SNA 1, and against the application of proportionality when any changes to the TAC occur. Recreational interests submit that their sector must be given a priority over the TACC when the Minister sets allowances.</p> <ul style="list-style-type: none"> - That recreational fishing is a right, and ought to be treated as such - "Moyle's Promise" whereby recreational interests are to be given priority in a shared fishery (such as SNA 1) - That the value of recreational fishing (both economic and intangible) is much higher than commercial value - Some submissions state that the Fisheries Act 1996 requires this approach to be taken in a shared fishery - Some submitters consider that the outcome of the 1997 SNA 1 review had the objective of enhancing recreational fishing - That the recreational allowance must reflect the increase in population, and therefore needs to increase. <p>Some non-commercial interests consider that the TACC should decrease over time as the needs of the recreational sector increase.</p> <p>Conversely, some recreational submissions were in favour of proportionality, considering that changes to catch levels must be equally shared between sectors (including customary fishing). Submissions commonly considered that proportionality should be applied from any changes in daily bag limits, so that a reduction in daily bag limits to seven snapper (for example) should be met with a corresponding reduction in the TACC of 2/9^{ths}</p> <p>Commercial submissions note that the Minister is required to constrain recreational harvest to the allowance set, and cites Court judgements in support of this claim. Commercial submissions dispute that recreational interests have a priority in the fishery, and consider the current proportions ought to remain. Commercial submissions cite a number of reasons for supporting</p>	<p>The setting of the allowance and priorities are set out in the statutory obligations section in Part A.</p> <p>MPI has responded to the submissions on proportions of the fishery and proportional and non-proportional approaches in paragraphs 77 - 175.</p>

	<p>proportionality:</p> <ul style="list-style-type: none"> - To ensure the integrity of the QMS - To provide certainty to fishery users. <p>In terms of valuing the fishery, the commercial submissions note that the commercial fishery is extremely valuable in terms of export receipts. Because SNA 1 is a constraining species for commercial operations, the ability to harvest snapper allows the commercial harvest of a number of other valuable commercial stocks, such as john dory and gurnard.</p> <p>Both commercial and non-commercial submissions considered there is a need for more information on sector and relative values of the SNA 1 fishery.</p>	
<p>Commercial Fishing Practices</p>	<p>The most common issue raised in both individual and amended Form submissions relates to commercial fishing practices. Submitters noted there was a substantial amount of waste associated with commercial practices, and that addressing the waste would be beneficial for both the health of the stock and users of the fishery.</p> <p>Submitters noted the following issues with commercial fishing for SNA 1:</p> <ul style="list-style-type: none"> - Commercial methods are destructive and inefficient, especially trawling and Danish / purse seining methods - Commercial fishers operating in spawning grounds and during spawning seasons - Commercial fishers operating in areas highly frequented and valued by recreational fishers (especially close to shore) - Commercial offending, including dumping and discarding of snapper and other bycatch species. Many submitters stated that they had observed illegal dumping behaviour from commercial vessels - Commercial disregard for the fish stock and environment. <p>Some submissions from non-commercial interests consider that the commercial sector does not have regard for protecting the SNA 1 stock, associated species or the environment.</p> <p>Submitters made a number of suggestions to amend existing management controls relating to commercial fishing in SNA 1:</p> <ul style="list-style-type: none"> - Increasing the MLS for commercially harvested snapper - Changes to mesh size, hook types and numbers, line lengths and other method alterations that submitters believed would reduce fishing mortality and protect 	<p>Commercial fishing practices and controls are discussed in Parts A and B of this final advice.</p>

	<p>small fish</p> <ul style="list-style-type: none"> - A need for increased monitoring and observation on commercial vessels. Suggestions included video monitoring, observers on board, and improved reporting systems - Increased area and seasonal restrictions (discussed more below) - Many submitters noted that trawling, netting, and seining methods ought to be restricted altogether, and that the only commercial method allowed to be used for SNA 1 ought to be long lining - A requirement that commercial fishers be required to land all their catch. <i>While a number of submitters suggested this, it was unclear from submissions whether the intention is to require fishers to land all catch that was over the MLS, or whether the MLS ought to be removed and everything be landed.</i> - Changing regulations so that excess catch is deducted from the following year's ACE holdings. <p>Submissions from commercial organisations submit that the portrayal of commercial practices throughout the review is unjustified. The SNA 1 commercial group (representing over 95% of commercial fishers operating in SNA 1) submitted a range of measures they intend to implement to improve commercial fishing practices and reduce wastage.</p>	
<p>Management Controls for recreational fishing</p>	<p>Non-commercial submitters considered that recreational fishing practices were largely compliant with existing regulations, and that recreational fishers were careful not to take more than what they need. However, some submitters noted there are a small proportion of recreational fishers who ignored rules relating to limits.</p> <p>Submitters suggested that increasing education amongst recreational fishers about fish handling and hook types could help reduced recreational related fishing mortality.</p> <p>Recreational submissions felt that commercial practices needed to be addressed <i>before</i> adjustment of recreational controls is considered.</p> <p>Commercial submissions and a few individual submissions were strongly in support of changes to recreational management controls to ensure that the recreational allowance is not exceeded. Commercial submissions state that the Minister is required to ensure allowances are not exceeded.</p> <p>A significant proportion (27%) of unique submissions indicated</p>	<p>Recreational controls and a discussion of submitters' views are discussed in Part A (paragraphs 176 – 212).</p>

	<p>bag limit changes they would be prepared to support, with a smaller proportion stating their opposition to any bag limit change (22%).</p> <p>For those supporting some change to the daily bag limit, the strongest support was for a bag limit of six fish, however there was support for a range from five to eight snapper. A small number of submissions were in favour of a bag limit of three snapper.</p> <p>A significant proportion of submitters indicated MLS changes they would be prepared to support (29% of unique submissions). Many recreational fishers noted they already employ a voluntary MLS above the existing 27 centimetres currently required. Most submissions who support an increase to the MLS support a range of 30 - 33 centimetres, with 18% of unique submissions in favour of an MLS of 30 centimetres.</p> <p>A significant number of submitters supported using a maximum legal size limit in addition to using a minimum legal size. Suggestions for the maximum limit commonly ranged from 45 to 70 centimetres.</p> <ul style="list-style-type: none"> - Submitters in favour of a maximum size limit noted the success of the rules in Australian fisheries - Submitters consider that the use of maximum size rules protect larger fish (breeding stock). <p>A large number of submissions made suggestions for alternate management controls that could be used in the SNA 1 fishery.</p> <ul style="list-style-type: none"> - Hook sizes and types (circle hooks, larger hooks) - Hook numbers on long-lines - Banning recreational set netting - Daily limits for boats, rather than per person - Weekly or monthly limits, rather than daily - Aggregated snapper weight limits (for boats and / or persons) - Aggregated snapper size limits (for boats and/or persons) - Introducing a licence or permit regime for recreational fishers - Banning fishing competitions. <p>In addition to management controls for recreational fishing, submissions supported an increase in fishing education, to help improve fisher behaviour and reduce fishing mortality.</p>	
Effects to recreational fishing from changes to management	Submissions noted a number of effects on recreational fishing that may happen should changes to management controls be implemented.	

controls	<p>Submissions from non-commercial interests considered that fishing 'would not be worth it' in the event of changes to recreational fishing controls. Some submitters noted they may sell their vessels and fishing gear because changes to recreational controls would create a sufficiently strong disincentive to fish.</p> <p>Submitters considered that a reduction to snapper bag limits would increase the recreational fishing pressure on other species, possibly increasing the sustainability risk to other stocks</p> <p>Submissions noted the risk of fishing effort being displaced to the West Coast (in the SNA 8 fishery), where the snapper bag limit is higher. This would lead to an increased risk to the SNA 8 stock, and fish stocks in the Kaipara Harbour. Submitters also raised concerns that fishers who shift their fishing effort to the West Coast would also be at increased risk due to the riskier weather and sea conditions in the area (compared to the East Coast).</p> <p>There could be an increased risk to fisher safety, as people overload boats with fishers in order to continue catching a desired number of snapper.</p>	
Effectiveness of changes to management controls	<p>Many non-commercial submissions noted that changes to recreational fishing controls were unlikely to be effective in constraining catch or protecting the stock.</p> <ul style="list-style-type: none"> - The changes would encourage more people to ignore the fishing rules, and exceed their bag limits anyway - That recreational fishing effects on the stock are so minor changes to fishing controls will have negligible effects on the stock. <p>Many submissions noted the consequences of changes to recreational management controls that could undermine the objectives of imposing changes. Concerns raised included that reducing the bag limits would lead to high grading, and increasing the MLS would also lead to more fish being caught while fishers tried to reach their bag and size limits. Both effects were likely to lead to an increase in handling mortality, and adversely affect the stock.</p> <p>A number of submissions considered that significant changes to bag limits would encourage more people to ignore the fishing rules, and exceed their bag limits anyway.</p> <p>Submissions also had the view that recreational fishing effects on the stock are so minor that changes to recreational fishing controls will have negligible effects on the stock.</p>	The effectiveness of changes to management controls is discussed in Part A of this final advice.
Compliance and penalties for	Many submissions were in favour of increasing MPI compliance resources in SNA 1. Submitters considered there were not enough resources to monitor the SNA 1 fishery for compliance,	MPI considers that the current penalties regime (using a tiered approach for different scales of

offending	<p>with several having observed offences taking place, but not seeing fisheries officers who could address the offending.</p> <p>There was also strong support for increasing the penalties given to offenders, both recreational and commercial.</p>	<p>offending) is adequate.</p> <p>Where people observe offending or illegal behaviour, they are asked to contact MPI, who will be able to investigate any such claims.</p>
Economic benefits associated with recreational fishing	<p>A significant number of submissions specified the adverse affects they considered would occur to the wider recreational fishing and marine industry, including:</p> <ul style="list-style-type: none"> - Boat builders - Fishing and tackle shops - Amateur Charter Vessels - Marine supplies - Townships and localities for whom recreational fishing made up a significant part of their businesses and income - Fuel suppliers - Magazines and media relating to fishing interests - Overseas tourists who came to New Zealand to fish in the SNA 1 area. <p>A number of submissions supply quantitative analysis of the size of the recreational industry.</p> <p>Submissions contended that the value of recreational fishing to the economy was comparable to, or higher than, the value of commercial fishing.</p> <p>Some submissions contended that significant changes to the daily bag limits for snapper (i.e. restricting catch to three fish) would cripple the recreational industry, causing hardship and loss for many individuals and businesses.</p>	<p>Associated benefits of recreational fishing are discussed in paragraphs 329 – 369.</p>
Best Available Information	<p>Submissions queried the validity of the information used in the MPI Initial Position Paper and 2013 SNA 1 stock assessment.</p> <ul style="list-style-type: none"> - Recreational submitters doubted the estimates of recreational catch used by MPI, with most considering the recreational harvest to be much smaller than MPI estimates - Submissions from across sectors considered the stock assessment to be incorrect or unreliable (many cited the inconsistency between the stock assessment results and what they observed on the water) - Non-commercial submissions considered the estimates of other sources of fishing related mortality to be significantly underestimated. 	<p>Where there is uncertainty or a lack of information in the data used, MPI has made that clear throughout the initial position paper and this final advice.</p>

	A significant number of submissions noted a need for more information on the SNA 1 stock and on fishing activity, considering the current information levels were too low to reliably inform decision making.	
Management Controls: Area and/or seasonal closures	<p>A large number of submissions supported increased management controls relating to area and/or seasonal closures:</p> <ul style="list-style-type: none"> - Seasonal closures for both recreational and commercial fishing during snapper spawning times. Times suggested ranged from two weeks through to three months, generally between October and February - The creation of recreational only fishing areas, where commercial fishing is not allowed to take place. Some submissions identified specific locations where they thought this should occur - Restrictions requiring commercial vessels to fish a certain distance from shore. Distances ranged in suggestions from two miles (3.4 kilometres) through to fifty miles from shore - An increase in the number of marine reserves, or no take zones. 	A discussion on other management controls, including issues raised, is detailed in Part A of this final advice.
Subsistence Fishing	<p>A number of submissions noted that many fishers fish for subsistence purposes, to feed themselves and their families. Some submitters state that they do not consider themselves 'recreational' fishers, and that they consider themselves 'subsistence' fishers.</p> <p>Submissions state that changes to bag and size limits will adversely affect the ability for fishers to eat, and noted a range of possible flow on effects (such as ill health, increased obesity, and increased hardship and poverty for families).</p>	MPI recognises that a proportion of fishers use the fishery for subsistence purposes. Outside of the snapper bag limit, there is a combined bag limit of twenty finfish in the Fisheries Management Area 1.
Finer scale management of SNA 1	<p>A number of submissions considered the SNA 1 area too large for fisheries management to administer the area effectively, and noted the differences in the stock assessment between the Bay of Plenty, Hauraki Gulf and East Northland sub-populations. Submissions were in favour of establishing smaller management areas within the existing SNA 1 boundaries.</p> <p>Submitters also noted specific locations where they considered finer scale management (particularly area closures and restrictions) was required.</p>	MPI considers discussion on finer scale management of SNA 1 is best placed within a long term management strategy for SNA 1. This is discussed in the ongoing management sections of this final advice.
Future management of SNA 1	Submissions across all sectors were largely in favour of developing and implementing a comprehensive, long term management strategy for SNA 1. Along with support for a long term management strategy, many submissions supported more active management of the fishery, with suggestions of a subsequent review occurring in the next two to five years.	The future management of SNA 1 is discussed in the ongoing management section of this final advice.

	Some submissions suggest that the Minister makes no changes to the fishery until more information is acquired, further consultation has occurred, and a long term management strategy is established.	
Environmental concerns	<p>Environmental interests submitted that insufficient consideration was being given to addressing the effects of fishing on the environment.</p> <ul style="list-style-type: none"> - Trawling and seining have adverse benthic impacts - That the fishery should be managed with the health of the ecosystem at the forefront of decisions - More action needed to be undertaken to mitigate the effects of commercial fishing (particularly long-lining) on seabirds, particularly the endangered black petrel. 	Environmental concerns are discussed throughout this final advice, including issues raised by submitters.
Amateur Charter Vessels (ACVs)	<p>Submissions from both commercial and non-commercial interests raised a number of concerns about ACV operations in SNA 1.</p> <ul style="list-style-type: none"> - Suggestions include increasing the accountability of ACVs, including increasing information from operators. - Submissions suggest ACV operators ought to be included in the TACC of the TAC, as they are commercial operations. 	Charter vessels are discussed in paragraphs 317 – 18, including proposals currently being consulted on requiring ACV operators to record snapper catch.
Treaty of Waitangi and customary rights	<p>A number of submissions from iwi and individuals note the importance of adhering to the principles of the Treaty of Waitangi. Some submissions consider that proposals to significantly change recreational fishing controls could be in violation of the Treaty.</p> <p>Submissions from individuals and amended Form submissions considered customary fishing rights to be an inappropriate practice, and discriminatory to non-Maori fishers. Submissions suggested that customary fishing and the use of permits be banned.</p>	<p>Discussion on customary Maori fishing, including analysis of submissions is contained in paragraphs 370 – 370.</p> <p>The customary fishing regulations - the Fisheries (Kaimoana Customary Fishing) Regulations 1998 and regulations 27 and 27A of the Fisheries (Amateur Fishing) Regulations 1986 do not provide for the Crown to place limitations on customary fishing. Customary take is regulated through the authorisation system in the customary regulations, which requires that all customary fishing is to be undertaken in accordance with tikanga and the overall sustainability of the fishery. This framework was put in place to give effect to legal obligations in the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992.</p>

28 N Rights	<p>A number of commercial and non-commercial submissions made reference to historic 28 N rights that exist in the SNA 1 fishery. Most expressed a desire to resolve / clear these rights during this review.</p> <p>A few submissions suggested that 28 N rights be removed from the management regime altogether, considering that they disproportionately benefited only a few quota owners, and disadvantaged current users of the fishery.</p>	<p>MPI considers that 28 N rights is not a matter relevant to varying the TACC of SNA 1. Further discussion on this matter is set out in paragraph 274.</p>
Exports of snapper	<p>Submissions disagree with the export of commercially harvested snapper. Submitters consider that consumption of SNA 1 ought to be for New Zealand / domestic consumption first, and that a reduction in the quantity of snapper exported would be beneficial for New Zealanders. Benefits from reduced exports were considered to be a reduction in the price of snapper sold in retail markets, and a reduction in commercial catch, which could be transferred to the recreational sector.</p>	<p>MPI does not consider this issue can be appropriately addressed here, as export controls fall outside the scope of this review.</p>
Foreign fishing	<p>A number of submissions suggested that foreign vessels be banned from catching snapper.</p>	<p>MPI notes that snapper is an inshore fishery, and is not aware of any foreign charter vessels (FCVs) operating in the SNA 1 fishery.</p> <p>Any general concerns raised about FCV fishing operations are outside the scope of this review.</p>
Fish Farming	<p>A number of submissions suggested that the SNA 1 stock and fishery users would benefit from fish farming operations for snapper, including development and use of hatcheries.</p>	<p>MPI notes there is a number of developments taking place in regards to fish farming in the Fisheries Management Area 1, however considers these are likely to be long term initiatives.</p>
Process Issues	<p>A large number of submissions identified issues with the SNA 1 review, including the following:</p> <ul style="list-style-type: none"> - Considering the consultation period was not well publicised, and too short in duration - Considering that the public were not given enough opportunity to have input into the review, including pre-consultation with key stakeholders - Dissatisfaction with the public information sessions that MPI held on the SNA 1 review, including that the sessions were and poorly facilitated - That MPI was biased towards commercial fishing interests, and not presenting an impartial review or range of proposals - That decisions should not be made without more information first. 	<p>MPI is satisfied with the process undertaken for consultation on the SNA 1 review, and considers that legal requirements have been more than met.</p> <p>MPI intends to continue working with stakeholders on the future management of the SNA 1 fishery, as outlined in the ongoing management section of this final advice.</p>

Legasea Submissions

549 The Legasea group provided a submission template (Form submissions) on their website that provided stakeholders with a pre-written submission to submit to MPI. However, the submission was able to be altered in part or in whole. As a result, a significant number of stakeholders who used the Form submission template have removed the entire pre-written submission and made their own unique submission. A number of these submissions are in opposition or conflict with the pre-written submission, meaning MPI has not treated all submissions from the Legasea website as if they represent the Legasea views.

550 Where Form submissions were partially altered, MPI recorded the views made in the altered text, but continued to treat the submission as one representing the Legasea views.

551 Where Form submissions were significantly or entirely altered, MPI recorded the submission as an individual submission, and not a Legasea submission.

552 MPI received 46 059 Form submissions from individuals during the consultation period⁶⁴. Of these submissions, 6 219 (14%) had been amended to some extent by individuals.

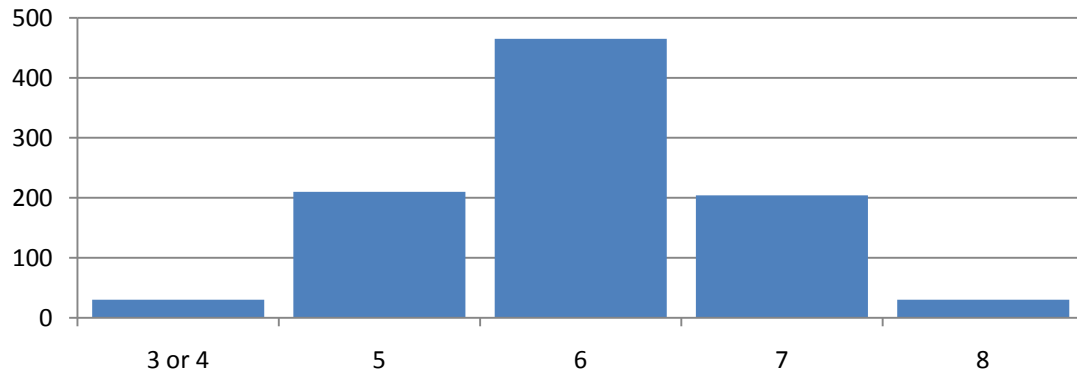
553 The original Legasea submission is attached as Appendix 2.

554 Issues raised in amended Form submissions were similar to issues raised by non-commercial interests in individual submissions. The top ten issues raised are listed below (descending in order according to the most comments recorded):

- a. Issues with commercial fishing practices
- b. Support for some increase to the recreational MLS
- c. Support for area closures and/or closed seasons (including restriction of commercial fishing in areas)
- d. Support for some reduction to the daily bag limit for snapper
- e. Emphasis on the importance and value of recreational fishing, including economic impacts
- f. Support for a recreational priority in allocation decisions
- g. Support for increasing the MLS to 30 centimetres
- h. Concern that recreational fishing would not be worth it if changes to controls are implemented
- i. Against any reduction to the recreational sector bag limit
- j. Support for increasing the commercial MLS.

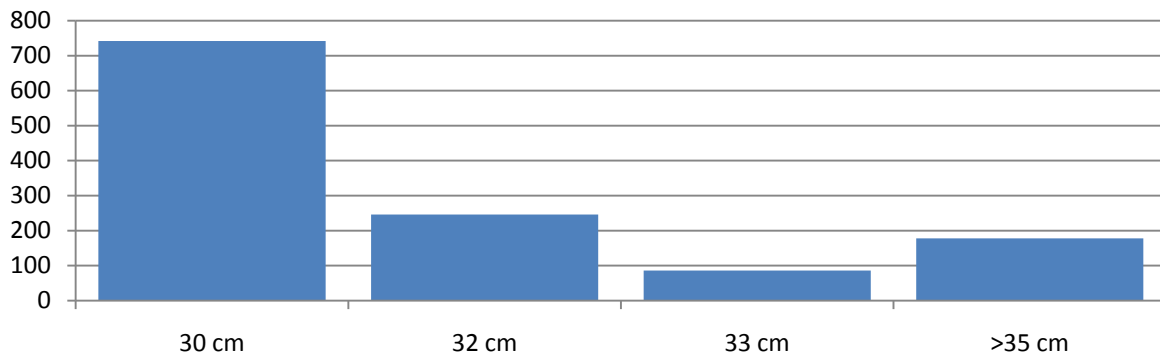
⁶⁴ This number excludes duplicate submissions sent from the same person at the same email address (395 identified), and Legasea petitions which were significantly amended to the extent that they were treated as individual submissions. After the close of the consultation period, MPI continued to receive Legasea submissions, however these have not been included for consideration in this advice.

555 A significant number of amended Form submissions stated support for some reduction to bag limits, although very few supported a bag limit of three snapper. The most common bag limit supported was for six snapper. The following graph shows support for different bag limits from amended Form submissions:



556 The vertical axis shows the number of comments recorded, while the horizontal axis displays the daily bag limit number that submitters supported.

557 A significant number of amended Form submissions stated support for some increase to the minimum legal size (MLS). The most common MLS supported was an increase to 32 centimetres. The following graph shows support for different MLS limits from amended Form submissions:



558 The vertical axis shows the number of comments recorded, while the horizontal axis displays the MLS limit that submitters were in support of.

4 APPENDIX 1: FURTHER DETAILS ON METHODS USED TO ESTIMATE RECREATIONAL HARVEST

Aerial access method

The aerial access survey method is an onsite approach which combines data collected concurrently from two sources - a dawn-to-dusk survey of recreational fishers returning to a sub-sample of boat ramps throughout the day; and a concurrent area-wide aerial count of vessels observed to be fishing at the approximate time of peak fishing effort on the day.

The number of observed fishing boats from the flights and the number of fishing boats interviewed at the boat ramps provides data for scaling up the catch observed at boat ramps to an estimate of the daily catch. This involves using boat ramp data, which are collected throughout the day, to estimate the number of boats that went fishing outside of the flight times. The level of fishing activity varies strongly between weekdays and weekends, as well as through the year. This was taken into account by spreading the timing of flights and interviews appropriately. Boat ramp sampling occurred irrespective of the weather. Some flights may be cancelled for safety reasons. Standard statistical techniques are used to account for this issue.

This aerial access method was first employed in the Hauraki Gulf in 2003/04 and was then extended to survey the wider SNA 1 fishery in 2004/05. The most recent aerial access survey was conducted in FMA 1 in 2011/12 to independently provide harvest estimates for several species (including snapper) for comparison with those generated from a concurrent national panel survey. The aerial access method is particularly suited to SNA 1 because of the large proportion of the catch taken from small stationary or drifting boats.

During the 2011/12 aerial-access survey, 40 122 fishers were interviewed from 15 520 recreational fishing boats confirmed as fishing, and 101 414 snapper were observed landed. Approximately 100 tonnes of snapper were physically observed by the surveyors. The vast majority of boats counted during the flights were trailer boats (84%) , with fewer numbers of launches, yachts, and kayaks. Charter vessels were not included in the analysis because they are not able to be representatively sampled using this method and they are not required to report snapper catch.

The estimates of the SNA 1 catch from the 2004/05 and 2011/12 aerial access surveys are given in Table 25. Note that these estimates do not include catch taken on recreational charter vessels, or recreational catch taken on commercial vessels using approvals under section 111

of the Fisheries Act (which overcome the general provision that all fish on a commercial vessel were taken for the purposes of sale).

National panel survey (or Large-scale Multi-species (LSMS) survey)

The national panel survey is an offsite approach to estimating harvests from recreational fisheries. The panel survey uses data collected from two phases: a recruitment phase where a random sample of the population is interviewed face-to-face to recruit a panel of participants; and a one year long survey of the panellists to record harvest. The catch of the random sample of panellists is scaled to the New Zealand population using standard statistical techniques. As harvest is recorded by panellists in numbers of fish, a concurrent onsite survey to collect fish weight data is required so that numbers harvested can be scaled to weight harvested.

The national panel survey method was first employed in 2011/12. Approximately 30 000 fishers were randomly selected from New Zealand households (nationwide) and interviewed face to face to recruit a panel of approximately 7 000 fishers and non-fishers for the full year. The panel members were contacted regularly during the year about their fishing activities and catch information collected using standardised phone interviews.

Table 25: Recreational catch estimates for SNA 1. These estimates do not include charter boat catch or reported catch using section 111 of the Fisheries Act

Stock (substocks)	Method	Number of fish (thousands)	Mean weight (grams)	Total weight (tonnes) (CV)
East Northland (2004-05)	Aerial access	-	-	557 (0.13)
Hauraki Gulf (2004-05)	Aerial access	-	-	1 354 (0.10)
Bay of Plenty (2004-05)	Aerial access	-	-	516 (0.10)
SNA 1 Total (2004-05)	Aerial access	-	-	2 419 (0.06)
East Northland (2011-12)	Aerial access	-	-	718 (0.14)
Hauraki Gulf (2011-12)	Aerial access	-	-	2490 (0.08)
Bay of Plenty (2011-12)	Aerial access	-	-	546 (0.12)
SNA 1 Total (2011-12)	Aerial access	-	-	3 754 (0.06)
East Northland (2001-12)	Panel survey	686	1 266	869 (0.13)
Hauraki Gulf (2011-12)	Panel survey	2 215	1 022 / 987	2 254 (0.12)
Bay of Plenty (2011-12)	Panel survey	691	956 / 1 003	669 (0.12)
SNA 1 Total (2011-12)	Panel survey	3 592	1 025	3 792 (0.08)

5 APPENDIX 2: LEGASEA FORM SUBMISSION

August 2013
Fisheries Management - Inshore Fisheries
Ministry for Primary Industries
PO Box 2526
Wellington 6140

Email: FMSubmissions@mpi.govt.nz
Copy to: Nathan Guy, Minister for Primary Industries

Individual submission for the review of the sustainability and other management controls for snapper 1 (SNA1)

Dear Mr Guy and MPI,

I strongly disagree with proposals to cut the recreational bag limits or increase the minimum legal size for snapper in area 1, without an agreed strategy in place.

Lowering bag limits will incentivise high grading and raising the minimum legal size will increase the mortality of snapper.

My recreational fishing interests are worth more than any of the Ministry's proposals recognise. I object in the strongest possible terms to being treated as if I am part of a quota-holding public accused of overfishing.

The proposed options are unreasonable and distract attention from the Ministry's real agenda - to enforce proportional shares in our fisheries, by allocating us a quota, constraining our catch and taking fish from us to protect commercial interests.

The Ministry's proportional approach will condemn my family and I to ever-reducing bag limits, to the stage where it won't be worth going fishing any more.

The Ministry are focused on maintaining the proportions established when our recreational allowance was set in 1997.

MPI fail to acknowledge the objective in 1997 was to rebuild the depleted stock and enhance recreational fishing. Now that fishing has improved it is unreasonable to try and constrain us to that 16 year old proportion.

We must not be penalised because the Ministry has failed to both review our most important fishery since 1997 and acknowledge our conservation efforts.

Minister, I am willing to conserve fish for the future, but I do not conserve fish to have them allocated as quota then exported.

For me, to even consider supporting you at the next election you must, prior to that election:

- * Make a lawful allowance that accounts for population changes and allows for recreational fishing interests in 2013 and beyond.

- * Increase the total allowable catch (TAC) by 550 tonnes to allow for a contemporary, average recreational catch of 3100 tonnes then engage with recreational fishers on practical ways we can assist the rebuild, without creating incentives to high grade catches at low bag limits or increase the mortality of adult undersized fish at larger minimum size limits.

- * Address the mortality associated with bulk harvesting methods by banning trawling and Danish seining from significant nursery and fragile benthic areas.

- * Measure, monitor and report all discards/waste caused by commercial fishing.

- * Incentivise better practices by having discards/waste caused by commercial fishing counted as catch and deducted from quota.

- * Have regard to the impact that draconian changes will have on many fishing related and tourist businesses that rely on recreational fishing.

Please. Save Our Snapper for current and future generations of Kiwis, not just corporates.

Sincerely,

This issue was brought to my attention by www.legasea.co.nz - Fish for the People