



Review of the Coromandel Scallop Fishery In-Season TAC for the 2012/13 Fishing Year

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REVIEW OF THE COROMANDEL SCALLOP FISHERY IN-SEASON TAC FOR 2012/13

1 This Initial Position Paper (IPP) provides the Ministry for Primary Industries' (MPI's) initial views on a proposal to increase the in-season Total Allowable Catch (TAC) for the Coromandel Scallop Fishery for the 2012/13 fishing year.

2 MPI developed this IPP for the purpose of consultation as required under the Fisheries Act 1996 (the Act). MPI emphasises the views and recommendations outlined in the paper are preliminary and are provided as a basis for consultation with stakeholders.

3 In July 2012, MPI will compile the Final Advice Paper (FAP) for the attached proposal. This document will summarise MPI's and stakeholder's views on the issues being reviewed, and provide final advice and recommendations to the Minister for Primary Industries. A copy of the FAP and the Minister's letter setting out his final decisions will be posted on the MPI website as soon as these become available. Hard copies will be available on request.

Deadline for Submissions

4 MPI welcomes written submissions on the proposals contained in the IPP. All written submissions must be received by MPI no later than 4pm on Friday, 20 July 2012.

Written submissions should be sent directly to:

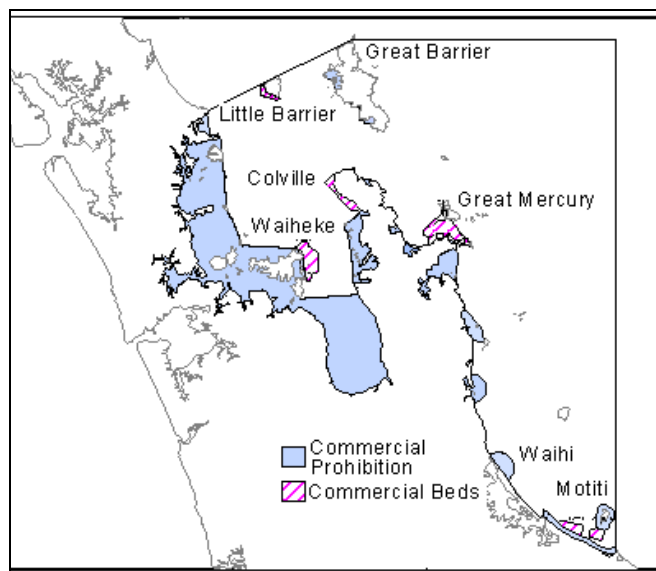
Kara McKelvey
Ministry for Primary Industries
P O Box 2526
Wellington 6011

or emailed to kara.mckelvey@mpi.govt.nz

5 All submissions are subject to the Official Information Act and can be released, if requested, under the Act. If you have specific reasons for wanting to have your submission withheld, please set out your reasons in the submission. MPI will consider those reasons when making any assessment for the release of submissions if requested under the Official Information Act.

INTRODUCTION

Figure 1: Quota Management Area (QMA) for the Coromandel Scallop Fishery (SCA CS)



6 The Ministry for Primary Industries (MPI) is seeking tangata whenua and stakeholder information and views on a proposal to increase the in-season Total Allowable Catch (TAC) for the Coromandel Scallop Fishery (SCA CS, see Figure 1) for the 2012/13 fishing year.

7 SCA CS is on Schedule 2 of the Fisheries Act 1996 (the Act). Should information about the abundance of scallops indicate a higher TAC would be sustainable, then, an in-season increase to the TAC can be approved by the Minister for Primary Industries (the Minister) under section 13(7).

8 If the Minister does decide on an in-season increase to the TAC the Minister must, under section 68 of the Act, after considering customary and recreational allowances and other sources of mortality, increase the annual catch entitlement (ACE) for the stock. In-season TACs, allowances and ACE increases revert to the 'baseline' at the end of the fishing year (30 March).

9 For the 2012/13 year it is proposed that the Minister consider the following in-season TACs and allowances:

Table 1: Proposed Management Options for SCA CS (*expressed as meat weight*)

Option	TAC	TACC	Māori customary allowance	Other sources of mortality	Recreational Allowance
1 (Current Settings)	48 tonnes	22 tonnes	7.5 tonnes	11 tonnes	7.5 tonnes
2 (Preferred Option)	370 tonnes	315 tonnes	15 tonnes	25 tonnes	15 tonnes

10 No changes to any other management settings for SCA CS are proposed.

CONTEXT

Need to Act

11 For the current (2012/13) fishing year, information on the abundance of scallops suggests an increase to the TAC can be considered. An in-season increase would generate benefits from the commercial fishery from additional ACE.

SCA CS Assessments

12 Information on this year's abundance of scallops is available from a biomass survey, conducted by NIWA under MPI project (SCA 2010/01B)) in April-May 2012 and reviewed by MPI's Shellfish Working Group in May 2012.

13 The survey was the most extensive to-date, including a large new area of the fishery located in relatively deep water in Hauraki Gulf, part of which supported the majority of the previous year's catch.

14 The survey estimates (in meat-weight) are as follows:

- 1380 tonnes – start of season biomass¹.
- 439 tonnes – Current Annual Yield (CAY) (49% confidence $CAY < F_{0.1}^2$).
- 370 tonnes – CAY (82% confidence $CAY < F_{0.1}$).
- 300 tonnes – CAY (considers both direct and indirect fishing effects).

15 These estimates are for the surveyed commercial beds-only. Additional biomass is available from the areas outside the areas surveyed, including those areas where commercial scallop fishing is prohibited.

16 The CAY estimate of 370 tonnes considers the direct incidental effects of fishing on the mortality on adult scallops, whereas the CAY of 300 tonnes considers both the direct and indirect incidental effects on adult and juvenile scallops. The Shellfish Working group accepts that indirect effects (for example on habitat) will reduce yield. However, the magnitude of the effects is uncertain, as is the confidence of not exceeding $F_{0.1}$ under this approach. Therefore, it is not used to set the in-season TAC.

¹ 95% confidence interval of 976–1913 tonnes, coefficient of variation (CV) of 18%. The CV is a measure of data variability e.g., the higher the CV the more variability in the data.

² $F_{0.1}$ is the reference fishing mortality (unofficial target) used in several scallop fisheries in New Zealand.

17 Previous in-season increases have used CAYs with an 82 percent or greater confidence of being below F0.1 (rather than 49 percent) to set the TAC. This higher level of confidence allows both the direct and indirect effects of fishing on adults and juveniles to be taken into consideration and MPI proposes to continue this approach. On this basis the in-season TAC for the 2012/13 year would be set at 370 tonnes.

18 The 2012 survey takes into account new estimates of dredge efficiency available for the first time as a result of a new study reviewed by the Shellfish Working Group in 2011. The results suggest that dredge efficiency is likely to have been underestimated in the past, resulting in CAYs being overestimated in some years. The new dredge efficiency estimates also affect the estimates of F0.1. New estimates of F0.1 have not been calculated as yet.

Biological Characteristics of Scallops

19 Scallops are highly productive, relatively short-lived (six to seven years maximum age) and able to move short distances (usually in the direction of prevailing currents). As a result, stock levels can vary considerably year to year, and over small spatial scales. The placement of SCA CS on Schedule 2 to the Act, and operation of in-season increases under s13(7), is a reflection of these characteristics.

The SCA CS Fishery

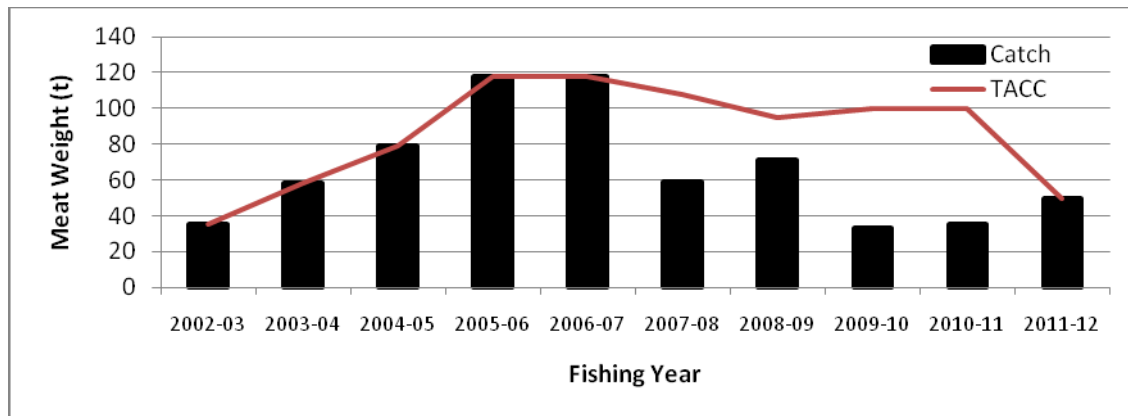
Commercial

20 The SCA CS commercial season runs from 15 July to 21 December. About seven commercial vessels operate in the fishery. Harvest from the fishery is measured as meat-weight, and there is a minimum legal size limit of 90mm.

21 Commercial fishers typically use self-tipping “box” dredges. The efficiency of these dredges is difficult to estimate and is affected by substrate type, current direction and weather conditions. Dredges cause incidental mortality of scallops and can impact on the seabed. However, the substrate in the areas commercially fished is predominantly sand, which may be less vulnerable to habitat modification than stable substrates.

22 A voluntary “catch per unit effort (CPUE) limit rule” management scheme has been implemented by quota holders and SeaFIC for the past three years and operates across all vessels in the fishery. Once a specified lower CPUE limit of scallops has been reached, fishing within that area of the fishery ceases for the remainder of the season. This approach helps avoid localised over-fishing of scallop beds.

Figure 2: SCA CS commercial landings and the in-season TACC (ACE) from 2002/03 to 2011/12



23 Figure 2 shows commercial landings matched in-season ACE increases until the 2007/08 fishing year. Between then and 2011/12 there was a significant gap between the in-season increase and recorded landings. This disparity is largely a result of fishery economics and practices, including; a minimum economic catch rate which means that only the densest beds of scallops are targeted, and operation of the “CPUE limit” rule.

24 Recent research also suggests survey dredge efficiency prior to the 2012 survey may have been underestimated, resulting in overestimated CAYs in some years. In 2011/12 no pre-season survey was undertaken; instead a CAY was modelled from the previous year’s survey. At the end of the 2011/12 fishing year, a significant new scallop bed in Hauraki Gulf was found, and all available ACE was caught.

Recreational

25 There is a strong recreational interest in scallops in SCA CS, mostly in enclosed bays and harbours. The recreational and commercial fisheries are, in part, spatially separated with much of the near shore closed to commercial scallop fishing (refer Figure 1). Scallops are usually taken by diving using snorkel or scuba, although small dredges are also used.

26 There are three recreational harvest controls. These are:

- Open season from 1 September to 31 March.
- A 100 mm minimum recreational size limit.
- A maximum daily bag limit of 20 scallops per person. A diver may take an additional daily bag limit for each of up to two boat safety people.

27 There are no reporting requirements for recreational fishers and scallop catch cannot be reliably determined. Estimates of recreational catch are available from telephone and diary surveys but are considered unreliable (Table 2). The 1996 and earlier surveys contain a

methodological error and the 1999/2000 estimates should be evaluated with reference to the large coefficients of variations (CVs).

Table 2: Recreational catch estimates for SCA CS

Year	Estimated Number caught	CV	Point estimate (t) (green weight)	Meat weight estimate
1993-94	626 000	0.14	60.0-70.0	7.5-8.8
1996	614 000	0.12	62.0	7.8
1999-00	257 000	1.01	30.1	3.8
2000-01	472 000	0.47	55.3	6.9

28 A pilot boat ramp survey undertaken over part of the SCA CS fishery during a peak recreational period of 1 December 2007 to 28 February 2008 estimated the recreational scallop harvest for the area between Cape Colville and Hot Water Beach to be 23.9 tonnes green-weight or 3 tonnes meat weight.

29 Commercial fishers can also take scallops (as recreational fishers) if granted an approval issued under section 111 of the Act (in accordance with the conditions imposed on such approval). In the 2009/10 fishing year, 7953 scallops (approximately 110kgs meat-weight) were taken under section 111 approvals.

Maori Customary

30 Scallops are an important kaimoana species for tangata whenua. Some customary harvest information is available from reporting of customary harvest authorisations. Thirteen customary permits have been issued for 5300 scallops. This may, however, not represent total customary catch as customary fishers in much of the fishery are operating under regulation 27 and 27A of the Fisheries (Recreational Fishing) Regulations 1986, in which reporting is non-mandatory for customary landings.

31 When allowing for Maori customary non-commercial interests, any mātaihai reserves or s186A temporary closures need to be taken into account. There is one mātaihai reserve within the Coromandel scallop fishery quota management area – Mount Maunganui and Part Tauranga Harbour Mātaihai Reserve. This area is relatively small and probably holds few scallop resources. There is one s186A temporary closure, at Umupuia Beach and it does not apply to scallops.

Other sources of fisheries related mortality

32 Incidental damage to uncaught or undersize scallops can occur during commercial dredging. The level of incidental mortality expected in the commercial dredge fishery has been estimated to be 34 percent of the ACE level when fishing close to the CAY estimates. Since 2005, however, catch has been well below CAY estimates. New information also indicates dredge efficiency may have been underestimated in the past. In which case incidental mortality from commercial dredging may have been overestimated.

33 Other sources of fisheries related mortality are likely to be from recreational dredging and illegal take of scallops. MPI does not have reliable estimates of these sources of mortality.

PROPOSED RESPONSE

34 MPI proposes the following in-season management options for SCA CS for 2012/13.

Table 3: Proposed Management Options for SCA CS (*expressed as meat weight*)

Option	TAC	TACC (ACE)	Māori customary allowance	Other sources of mortality	Recreational Allowance
1 (Current Settings)	48 tonnes	22 tonnes	7.5 tonnes	11 tonnes	7.5 tonnes
2 (Preferred Option)	370 tonnes	315 tonnes	15 tonnes	25 tonnes	15 tonnes

35 No other management changes are proposed. Section 13(7) of the Act only relates to in-season TAC and allowance changes (as opposed to bag limits or other management measures).

36 The current status of SCA CS in relation to the level of the stock that can produce the maximum sustainable yield (BMSY) is unknown. In such circumstances, the Minister must set a TAC that is “not inconsistent” with the objective of maintaining the stock at or above, or moving the stock towards a level at or above BMSY, in a way and rate considered appropriate for the stock (s 13(2A) of the Act).

37 Based on current SCA CS assessments (refer paragraphs 7-14 of this IPP), both of the in-season management options set out in Table 3 meet this requirement; neither a TAC of 48 tonnes, nor a TAC of 370 tonnes is likely to exceed the target reference point of F0.1.

38 The options differ, however, in the extent to which they allow for utilisation of the fishery. Option 1 maintains the status quo TAC, whereas Option 2 takes into account that a much higher TAC is likely to be sustainable, and makes use of s13(7) to increase the TAC, amount of ACE, and allowances within the current fishing year to generate additional benefits from the fishery.

Option 1 – Status quo

39 Under Option 1, no in-season change to the TAC of 48 tonnes meat-weight would be made.

40 There would be no increase in the amount of ACE available (22 tonnes), and the current Maori customary allowance of 7.5 tonnes and recreational allowance of 7.5 tonnes would both be retained. There would be no change to the allowance of 11 tonnes for other sources of fishing related mortality.

41 Compared with Option 2, this option will provide fewer utilisation benefits for the commercial sector as the amount of ACE will be retained at the base level.

Option 2 – TAC of 370 tonnes, including an ACE increase to 315 tonnes

42 Under Option 2, a TAC of 370 tonnes meat-weight would be set.

43 This TAC is based on an ACE increase to 315 tonnes (22 tonnes “baseline” TACC plus an additional 293 tonnes of in-season ACE), along with increases to non-commercial allowances, and to the allowance for other sources of fishing related mortality.

In-season ACE

44 Increasing the amount of ACE by 293 tonnes could generate approximately \$5 million of additional revenue from the fishery, based on the 2011-12 port price of \$15.90 per kg. MPI cannot verify the extent to which this additional revenue will be achieved. Actual catches are likely to be less than this due to minimum economic catch rates of scallops (only the highest density scallop beds are likely to be fished), operation of the voluntary “CPUE limit” rule by the scallop fleet, and marketing constraints. The Coromandel Scallop Fisherman’s Association on behalf of quota holders advises it expects catch for the season to be in the vicinity of 150 tonnes.

Maori customary allowance

45 Under Option 2 there would be an increase in the Maori customary allowance, from 7.5 to 15 tonnes. This increase assumes that customary catch will increase with increased scallop abundance, but it is not known to what extent this will occur.

46 MPI notes this allowance exceeds reported customary catch, but that information is uncertain as iwi in some parts of the fishery are not operating under customary regulations with mandatory reporting. MPI invites iwi to submit any additional information they hold on customary catch levels in SCA CS.

47 MPI also notes that the allowance does not constrain customary catch, as harvest is authorised by Kaitiaki.

48 As with the in-season ACE increase, this allowance would revert to 7.5 tonnes at the end of the fishing year.

Recreational allowance

49 A similar approach is proposed in terms of the recreational allowance, which would increase from 7.5 to 15 tonnes. Recreational scallop catch cannot be reliably determined, however, the recreational survey data (Table 2) on which the current allowance is based, along with the 2007/08 pilot boat ramp survey, remains the best available information.

50 An increase in abundance is expected to result in greater recreational participation and an increase in fishers taking the full bag limit of 20 scallops, but it is not known to what extent this will occur. Previous submissions from recreational representatives have noted recreational harvest is influenced by a number of factors including weather, access, and the abundance of scallops in the non-commercial parts of the fishery (which are not usually surveyed).

51 This allowance would also revert to the original allowance at the end of the fishing year.

Allowance for other sources of fishing related mortality

52 The allowance for other sources of fishing related mortality is proposed to increase in proportion to the increase in the TAC, from 11 to 25 tonnes under this option. In practise, incidental mortality may not increase in this way as CPUE will rise, and total dredging effort decrease, during periods of higher scallop abundance.

53 The allowance for other sources of fishing-related mortality would also revert back to the baseline level at the end of the fishing season

OTHER MANAGEMENT MEASURES

CPUE limit rule

54 The voluntary “CPUE limit rule” management scheme run by CSFA and SeaFIC has been in place for SCA CS for the past three years and operates across all vessels in the fishery. This management approach should ensure that the biomass of scallops in any one area will not be fished below a specified level of CPUE in the event of a natural scallop mortality event or sudden decline in abundance.

Other Existing Fishing Controls

55 MPI does not propose changes to any other existing fishing controls for SCA CS.

“Baseline” TAC

56 A separate review of the “baseline” TAC is scheduled for later this year. A review is considered appropriate given the recent improved performance of the fishery and to take into account operation of the “CPUE limit rule” management scheme.

CONCLUSION

57 MPI considers it is appropriate to increase the in-season TAC for SCA CS for the 2012/13 fishing year. A TAC of 370 tonnes meat-weight is proposed, with in-season ACE set at 315 tonnes, and adjusted allowances for non-commercial and other sources of fishing related mortality. These would revert to the “baseline” TAC and allowances at the end of the fishing year.

58 This proposed increase takes into account the estimated abundance of scallops in the fishery this season, and that an increase meets the TAC setting requirements of the Act. The proposed increase could generate approximately \$5 million of additional revenue from the fishery, however catch is likely to be less than the TAC due to minimum economic catch rates of scallops (only the highest density scallop beds are likely to be fished), operation of the voluntary “CPUE limit” rule by the scallop fleet, and marketing constraints

59 MPI is seeking information and views from tangata whenua, fishery stakeholders and other interested parties to inform the in-season review of the SCA CS TAC.

60 Finally, it is important to note that the Minister has broad discretion in exercising his powers of decision-making. He will make his own independent assessment of the information presented to him by both MPI and stakeholders before determining a response.