

# INITIAL POSITION PAPER PROPOSED 2010-11 IN-SEASON REVIEW OF THE TOTAL ALLOWABLE CATCH FOR THE COROMANDEL SCALLOP FISHERY (SCACS)

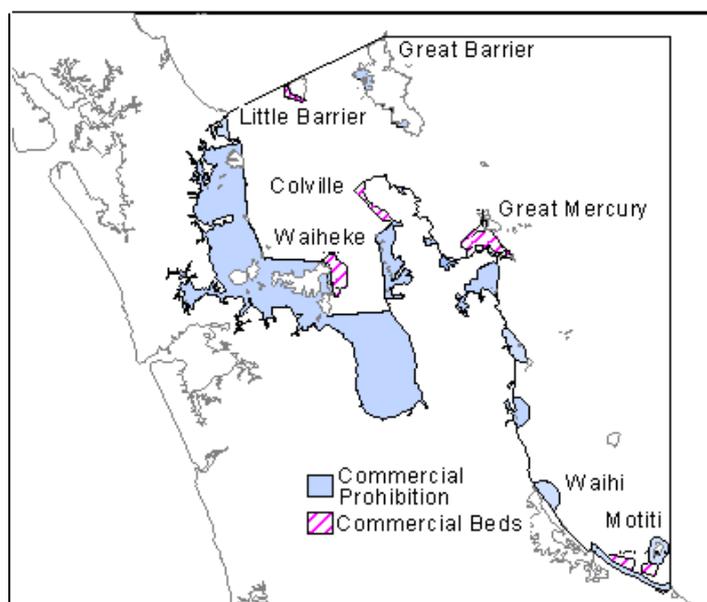


Figure 1 Coromandel scallop fishery quota management area (SCA CS)

## Executive Summary

- 1 This Initial Position Paper (IPP) seeks views and information from tangata whenua, stakeholders and interested parties on a proposed in-season increase to the total allowable catch (TAC) and sector allocations for the Coromandel scallop fishery (SCACS) for the 2010-11 fishing year.
- 2 The Coromandel scallop fishery is listed on the Second Schedule to the Fisheries Act 1996 (the Act) as a stock whose abundance is highly variable and is managed with a low baseline TAC. The Minister may increase the TAC under section 13(7) of the Act when this is supported by abundance information.
- 3 A biomass survey of the fishery has been completed by NIWA. The survey indicates in-season increase options for the 2010-11 fishing year as follows.

**Table 1: Coromandel scallop fishery -baseline and in-season TAC review options (tonnes of meatweight)**

	TAC	Commercial Annual Catch Entitlement <sup>1</sup>	Recreational Allowance	Customary Allowance	Other Sources of Fishing-related Mortality
<b>Option 1</b>	154	100	10	10	34
<b>Option 2</b>	147	95	10	10	32
<b>Baseline</b>	<b>48</b>	<b>22</b>	<b>7.5</b>	<b>7.5</b>	<b>11</b>

<sup>1</sup> Under s68 of the Act, where a TAC is increased in-season, additional ACE is created; however, the Total Allowable Commercial Catch is not increased.

- 4 The TAC, commercial annual catch entitlement (ACE), and allowances revert back to baseline levels at the conclusion of the fishing season (31 March 2011).
- 5 MFish is seeking submissions on the proposed in-season TAC increases in this paper. Submissions should be received by **Wednesday 28 July 2010** and can be sent to Trudie Macfarlane Ministry of Fisheries, PO Box 1020, Wellington 6140, or [trudie.macfarlane@fish.govt.nz](mailto:trudie.macfarlane@fish.govt.nz)

## Biological Characteristics

- 6 The New Zealand scallop, *Pecten novaezelandiae*, is found in a variety of coastal habitats. Scallops are functional hermaphrodites, and become sexually mature at about 60–70 mm shell length. They are extremely fecund, may spawn several times each year, have relatively fast growth rates, and live to a maximum of about 6-7 years. However, scallops can also experience high mortality at all life stages. These factors can lead to scallop populations being highly variable from year to year. This variability is thought to be largely independent of fishing pressure.

## The Fishery

### Management Objectives

- 7 The Coromandel scallop fishery was introduced into the quota management system (QMS) on 1 April 2002. The fishery is managed using a current annual yield (CAY) strategy. The fishery is listed on the Second Schedule to the Act as a species whose abundance is highly variable and is managed with a low baseline TAC. The Minister may, in accordance with section 13(7) of the Act, increase the TAC in years of high scallop abundance to allow for better value to be gained from the fishery. This management approach gives some protection for the stock in years of low abundance and allows harvesters to benefit in years of high abundance.
- 8 The baseline TAC, ACE and allowances are given in Table 1.

### Commercial Fishery

- 9 The Coromandel scallop fishery supports a regionally important commercial fishery. Fishing is mainly conducted within a number of discrete beds located around Little Barrier Island, east of Waiheke Island, Colville, north of Whitianga, and the Bay of Plenty (Waihi, Motiti and Slipper Islands) (Figure 1). Commercial fishers typically use self-tipping “box” dredges. About seven commercial vessels currently operate in the fishery.
- 10 There are a number of regulations controlling the commercial fishery. Aside from the TAC, the three main commercial controls are:
  - Open season from 15 July to 21 December
  - A 90 mm minimum commercial size limit
  - Commercial scallop fishing prohibited areas, (Figure 1).
- 11 The areas where commercial scallop fishing is prohibited create a significant, but not complete spatial separation between the commercial and non-commercial sectors.

- 12 Box dredges catch only about 50% of the scallops that they encounter and it is estimated that up to 50% of those not caught die. The overall effect is that, when fishing close to the CAY about 34 scallops are killed for every 100 caught. Commercial dredges also reduce habitat heterogeneity and increases juvenile scallop mortality. These factors are addresses in the CAY(+*indirect*) estimate and taken into account in the “other sources of fishing-related mortality” allowance.

### **Maori Customary Non-commercial Fishery**

- 13 The Coromandel scallop fishery supports an important customary fishery. However, quantitative information on the level of customary Maori non-commercial take is very limited and there is no reliable estimate of this catch.

### **Recreational Fishery**

- 14 There is an intense recreational interest in the Coromandel scallop fishery. The main harvest method is diving, although some dredging occurs.
- 15 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.
- 16 There are no reliable fishery-wide estimates of the amount of scallops harvested by recreational fishers. Telephone diary surveys have been undertaken on four occasions. The Marine Recreational Fisheries Technical Working Group states “that the telephone diary estimates be used only with the following qualifications: 1) they may be very inaccurate; 2) the 1996 and earlier surveys contain a methodological error; and 3) the 1999-2000 and 2000-2001 estimates are implausibly high for many important fisheries.” In noting the aforementioned, the 1993–94 the recreational harvest estimate for the Coromandel scallop fishery was 60–70 tonnes (greenweight) (7.5-8.75 tonnes meatweight).
- 17 A pilot boat ramp survey undertaken from 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 greenweight or 3 tonnes meatweight.

### **Stock Status**

- 18 NIWA undertook a biomass survey of the Little Barrier Island, Waiheke, Colville, Mercury Island (Whitianga), Waihi, Motiti and Papamoa scallop beds between 8 May and 31 May 2010. The survey methodology and analytical process has been approved by the Shellfish Working Group.
- 19 The survey estimates are as follows:
- 540 tonnes meatweight – absolute start of season (15 July) biomass  
(95% confidence interval 370 – 835 tonnes, cv = 0.21)
  - 172 tonnes meatweight – CAY estimate  
(95% confidence interval 118 – 263 tonnes)

- 117 tonnes meatweight – CAY(*+indirect*) estimate  
(95% confidence interval 80 – 179 tonnes)
- 20 The above survey estimates are for the surveyed beds only (commercial areas). Additional biomass is available from the areas outside the areas surveyed, including those areas where commercial scallop fishing is prohibited. The CAY estimates have been calculated taking incidental mortality into account.
- 21 The CAY estimate takes into account the effects of fishing on the adults only. The CAY(*+indirect*) estimate takes into account the effects of fishing on adults and the effects of fishing on the mortality of juvenile scallops shortly after they settle to the seabed. The Shellfish Working group accepts that habitat effects will reduce yield however, the magnitude of the effects are highly uncertain and therefore the CAY(*+indirect*) is uncertain.
- 22 The 2010-11 CAY estimate and the CAY(*+indirect*) estimate are statistically similar to those of the 2009-10 fishing year (190 and 129 tonnes meatweight respectively).
- 23 Although it is difficult to discern trends in highly variable stocks such as scallops, overall the CAY estimates have declined since peak abundance in 2005, with quite large declines since 2007; around 30% per annum. The 2010-11 estimate suggests a cessation to that decline.
- 24 A copy of the NIWA survey report is available for down loading from the Ministry’s website – [www.fish.govt.nz/consultations](http://www.fish.govt.nz/consultations).

## Initial Consultation

- 25 The Coromandel Scallop Fishermen’s Association (CSFA) after receiving a presentation on the results of the biomass survey have suggested the in-season commercial ACE should be set at 100 tonnes meatweight, (5 tonnes more than last year).
- 26 The New Zealand Recreational Fishing Council (NZRFC), suggests a conservative approach should be taken, noting that last year commercial fishers caught only 35 tonnes meatweight from a ACE of 90 [sic 95 tonnes]. NZRFC suggests that the Ministry underestimates recreational catch and ‘others sources of fishing related-mortality’.

## Management Options

- 27 MFish proposes the in-season TAC increase options for the Coromandel scallops fishery as set out in Table 1. These options are based on the biomass survey and assessment and the above discussions.

### ***In-Season Total Allowable Catch***

- 28 In-season TAC increases are provided for under section 13(7) of the Act. Section 13(7) requires the Minister to have regard to sections 13(2), 13(2A), if applicable, and 13(3).
- 29 The best available information does not allow the level of the stock that can produce the MSY to be reliably estimated. In such circumstances, section 13(2A) requires that the stock is managed in a way that is consistent with maintaining the stock at or above

the level that can produce the maximum sustainable yield. Using information from the biomass survey, NIWA has estimated the CAY of the commercial beds to be 172 tonnes. This is the yield that is sustainable based on the present biomass within the commercial beds. The biomass survey clearly shows that the biomass of scallops within the commercial beds can support a significantly larger TAC than the baseline TAC.

- 30 Research suggests that the scallop biomass within the areas closed to commercial scallop fishing follows similar biomass trends to the surveyed beds. This additional biomass is available to the non-commercial sector.
- 31 MFish proposes that the Coromandel scallop fishery TAC should be set at either 154 or 147 tonnes meatweight. The proposed TAC options are less than the CAY estimate figure, but are slightly greater than the CAY(+*indirect*) estimate. However, when the “other sources of fishing-related mortality” allowance is added to the CAY estimates and the additional biomass in the areas where commercial scallop fishing is prohibited is taken into account, both the CAY estimates are likely to be greater than the proposed TAC.
- 32 In setting the in-season increase regard must be had to those matters raised in section 13(2A)(b). These are the interdependence of stocks, its biological characteristics and environmental conditions affecting the stock. As stated above, the CAY model, in particular the CAY(+*indirect*) estimate takes into account the above factors.
- 33 Section 13(3) requires the Minister to have regard to the social, cultural and economic factors associated with the in-season review. The in-season review process is about providing for increased utilisation where that is supported by abundance. As such, the process inherently provides for increased social, cultural and economic benefits, whilst still ensuring sustainability. An analysis of the comparative benefits of the two options is provided in paragraph 52.
- 34 Relevant matters for the Minister to take into account in varying the TAC include:
- a) Any effects of fishing on any stock and the aquatic environment
  - b) Any existing controls that apply to the stock or area concerned
  - c) The natural variation of the stock concerned.
- 35 The Minister must also take into account the following environmental principles.
- a) Associated or dependent species should be maintained above a level that ensures their long term viability
  - b) Biological diversity of the aquatic environment should be maintained
  - c) Habitats of particular significance to fisheries management should be protected.
- 36 The CAY(+*indirect*) estimates addresses fishing impacts on the stock and on the aquatic environment. However, there is significant uncertainty as to how well the CAY(+*indirect*) addresses this latter impact. There are a small number of existing controls that apply to the fishery. The TAC options do not alter any existing controls. The in-season TAC review process is designed to manage highly variable stocks

- 37 The commercial scallop fishery is a dredge fishery. Dredging is a non-selective fishing method and will catch species of no commercial interest to the fishers (associated and dependent species). Dredging is also known to reduced habitat heterogeneity and biological diversity. Commercial fishers tend to fish the same areas each year and only use a small proportion of the each habitat type. These two factors minimises the impacts of the fishery on the above matters. In addition to this, the CAY(+*indirect*) takes into account of the effects of the fishery on the stock, settlement of spat, and effects on the benthic environment. Recreational and Maori customary non-commercial fishing is either by diving or small lightweight dredge and has few impacts on the above matters. Habitats of particular significance to fisheries management are yet to be determined but given the above, and the localised nature of the fishery are not likely to be significantly affected by the fishery. Accordingly, fishing at the level of either of the TAC options is considered to be consistent with the environmental principles of the Act.
- 38 The Minister must take into account or have regard to certain other matters:
- (a) There are no relevant controls in any regional policy statement, regional plan or proposed regional plan, including a regional coastal plan
  - (b) There is no relevant management strategy or management plan under the Conservation Act 1987
  - (c) There are no relevant fisheries or conservation services that apply to this fishery.
- 39 The entire quota management area for the Coromandel scallop fishery, except that part south of the northern end of Waihi Beach, is within the Hauraki Gulf Marine Park.
- 40 Section 7 of the Hauraki Gulf Marine Park Act 2000 (HGMPA) recognises the national significance of the Hauraki Gulf and the importance of sustaining its life supporting capacity of the gulf. Importantly, life supporting capacity includes being able to provide for the relationship of tangata whenua with the Gulf, and the social, recreational and economic well-being of people and communities, and includes the use of the Gulf's resources. The management approach and both options proposed in this paper are consistent with section 7 of the HGMPA.
- 41 Section 8 sets a series of management objectives for the Hauraki Gulf. These include:
- The protection and where appropriate, the enhancement of; the life supporting capacity of the Gulf, it's natural and physical resources, and the relationship of tangata whenua with the Gulf and its resources
  - The protection of the cultural and historic associations of people and communities with the resources of the Gulf
  - The maintenance and where appropriate the enhancement of contributions of the Gulf's resources to the social, economic well-being, and the recreation and enjoyment of people and communities.
- 42 The purpose of the in-season TAC review is to enable better utilisation of the scallop resource while maintaining the sustainability of the resource and its environment.

Accordingly, the TAC increase is consistent with the management objectives set out in section 8 of the HGMPA.

- 43 In setting or varying a TAC the Minister must have regard to sections 5(a) and 5(b) of the Act. These sections relate to international obligations and to the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992. There is a wide range of international obligations relating to fishing (including sustainability and utilisation of fishstocks and maintaining biodiversity). The management options for the Coromandel scallop fishery are consistent with these international obligations. The proposed management options are consistent with the obligations under the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992.
- 44 Fisheries 2030 has an objective, *New Zealanders maximising benefits from the use of fisheries within environmental limits*. Both proposed TAC options are consistent with this objective. However, as described in the following section, the higher TAC option of 154 tonnes meatweight provides potentially greater economic benefit from an additional 5 tonnes of ACE.

### ***Allocation of the In-Season TAC – ACE and Allowances***

- 45 Section 68 of the Act requires that, where an in-season TAC increased is proposed, this be provided by way of an increase in ACE. The Minister must consider the following matters before creating additional ACE:
- Maori customary non-commercial fishing interests
  - Recreational interests
  - Other fisheries-related mortality.
- 46 The biomass survey was undertaken on the commercial beds. Additional biomass is available to Maori customary non-commercial and recreational fishers within the areas where commercial scallop fishing is prohibited. Research suggests that scallop biomass in these areas is likely to follow similar trends to that within the surveyed beds. As scallops are more abundant than would be expected under the baseline situation, it is reasonable to expect Maori customary non-commercial and recreational fishers will take more scallops. Accordingly, increases to both these allowances are proposed.

### ***Maori Customary Non-Commercial Fishing Interests***

- 47 Only one option is proposed for the Maori customary non-commercial fishing allowance. This is to increase the allowance from 7.5 tonnes to 10 tonnes meatweight. Although there are no reliable estimates of Maori customary non-commercial fishing, it is likely that customary catch will increase with increased abundance. Such an increase is consistent with previous decisions for this fishery.
- 48 When allowing for Maori customary non-commercial interests, any mātaimai or s186A temporary closure needs to be taken into account. There is one mātaimai reserve within the Coromandel scallop fishery quota management area – Mount Maunganui and Part Tauranga Harbour Mātaimai Reserve. This area is relatively small and probably holds few scallop resources. There is one s186A temporary closure. This is at Umupuia Beach, Manukau City and applies to cockles only.

### ***Recreational Fishing Interests***

- 49 Only one option is proposed for the recreational allowance. This is to increase the allowance from 7.5 tonnes to 10 tonnes meatweight. Although there are no reliable estimates of recreational catch, an increase in the recreational allowance to 10 tonnes meatweight is consistent with the findings of the 2007-08 pilot study, see paragraph 17. Such an increase is consistent with previous decisions for this fishery.

### ***Commercial Fishing Interests***

- 50 The CSFA has suggested an ACE of 100 tonnes meatweight for the 2010-11 season. In 2009, the Minister provided an ACE of 95 tonnes meatweight from a similar sized CAY estimate. Contrary to this view, the NZRFC have suggested a more conservative approach.
- 51 Two ACE options are proposed:
- Option 1: 100 tonnes meatweight
  - Option 2: 95 tonnes meatweight.
- 52 An increase in the commercial catch from 22 tonnes meatweight to 100 tonnes meatweight for the 2010-11 fishing year would, at the 2010-11 port price of \$17.69 per meatweight kilogram, realise a gross return from the fishery of \$1,769,000. An increase to 95 tonnes meatweight would realise a return of \$1,680,550. This is an increase of \$1,379,820 or \$1,291,370, respectively, above the baseline. The scallops caught in the fishery are processed locally, and this will provide additional economic, social and cultural benefits to the region. Option 1 will potentially provide more economic benefit from the additional 5 tonnes of ACE (if fully fished).

### ***Other Sources of Fishing-Related Mortality***

- 53 The level of incidental mortality expected in the commercial dredge fishery has been estimated to be 34% of the ACE level when fishing close to the CAY estimates. Under the proposed ACE options the ‘other sources of fishing-related mortality’ would be as follows:
- Option 1: 34 tonnes meatweight
  - Option 2: 32 tonnes meatweight.
- 54 It should be noted that the CAY(+*indirect*) estimate takes other sources of fishing-related mortality into account and accordingly this is additional to the CAY estimates.
- 55 The Act requires that the ‘other sources of fishing-related mortality’ allowance reverts back to the baseline level at the end of the fishing season.