

S7597

3 October 2006

Minister of Fisheries

2006 IN-SEASON REVIEW OF THE NORTHLAND SCALLOP FISHERY TAC

Executive Summary

1 The Ministry of Fisheries (MFish) recommends that you agree to provide an in-season Total Allowable Catch (TAC) increase for the Northland scallop fishery (SCA1) from 75 tonnes meatweight to 120 tonnes meatweight until the end of the current fishing year (31 March 2007). The TAC will revert to 75 tonnes meatweight at the end of the 2006-07 fishing year in accordance with s 13(8) of the Fisheries Act 1996 (the Act).

2 SCA1 occupies the area from Reef Point (90 Mile Beach) to Cape Rodney (Hauraki Gulf). SCA1 is included on the Second Schedule of the Act, which allows for a strategy of an in-season increase in the TAC for stocks with highly variable abundance if supported by information about the abundance of scallops during the fishing year. The current TAC (hereafter referred to as the “baseline TAC”) is based on an estimate of long term yield for the fishery and is set low relative to historical catches in the fishery resulting in a Total Allowable Commercial Catch (TACC) of 40 tonnes meatweight.

3 Since 1992, research surveys have been used to estimate the abundance of scallops in the Northland scallop fishery. Yield estimates based on surveys have been used to set limits on catch for the fishery. The yield estimates provide the key information for decisions concerning the utilisation of the resource while ensuring sustainability.

4 In making your decision on required services for 2006-07, you agreed to an optional survey for SCA1 during 2006. Quota holders decided that scallop abundance should be assessed during 2006. A survey was undertaken in May 2006. The survey results have shown that increased sustainable yield can be taken for the current fishing year. Details and results from the survey are discussed in the Initial Position Paper (IPP).

Initial proposal and consultation

5 MFish proposed four options for SCA1 in the IPP for an in-season TAC increase.

Option 1: Retain the non-commercial allowances and increase the Annual Catch Entitlement (ACE) to 70 tonnes

- a) Increase SCA1 TAC from 75 to 109 tonnes meatweight, and within the TAC:
 - i) retain the recreational allowance at 7.5 tonnes meatweight;
 - ii) retain the customary allowance at 7.5 tonnes meatweight;
 - iii) increase the allowance for other sources of fishing-related mortality from 20 tonnes meatweight to 24 tonnes meatweight;
 - iv) increase the ACE for quota owners from 40 tonnes meatweight to 70 tonnes meatweight.

Option 2: Retain the non-commercial allowances and increase ACE to 100 tonnes

- b) Increase SCA1 TAC from 75 to 149 tonnes meatweight, and within the TAC:
 - i) retain the recreational allowance at 7.5 tonnes meatweight;
 - ii) retain the customary allowance at 7.5 tonnes meatweight;
 - iii) increase the allowance for other sources of fishing-related mortality from 20 tonnes meatweight to 34 tonnes meatweight;
 - iv) increase the ACE for quota owners from 40 tonnes meatweight to 100 tonnes meatweight.

Option 3: Increase the non-commercial allowances and increase ACE to 70 tonnes

- c) Increase SCA1 TAC from 75 to 120 tonnes meatweight, and within the TAC:
 - i) increase the allowance for recreational fishing from 7.5 to 13 tonnes meatweight;
 - ii) increase the allowance for customary fishing from 7.5 to 13 tonnes meatweight;
 - iii) increase the allowance for other sources of fishing-related mortality from 20 tonnes meatweight to 24 tonnes meatweight;
 - iv) increase the ACE for quota owners from 40 tonnes meatweight to 70 tonnes meatweight.

Option 4: Increase the non-commercial allowances and increase ACE to 100 tonnes

- d) Increase SCA1 TAC from 75 to 170 tonnes meatweight, and within the TAC:
 - i) increase the allowance for recreational fishing from 7.5 to 18 tonnes meatweight;
 - ii) increase the allowance for customary fishing from 7.5 to 18 tonnes meatweight;
 - iii) increase the allowance for other sources of fishing-related mortality from 20 tonnes meatweight to 34 tonnes meatweight;

- iv) increase the ACE for quota owners from 40 tonnes meatweight to 100 tonnes meatweight.

6 The Fisheries Act requires that you consult in accordance with section 12 prior to making a decision on a sustainability measure. Accordingly, MFish has consulted on your behalf with commercial, recreational, iwi, and environmental groups on the proposal to review the TAC and allowances for the SCA1 fishery.

7 This Final Advice Paper has been structured so that summaries of stakeholders' submissions, MFish's discussion on the issues raised in submissions, and MFish's final recommendations are provided in this paper. The IPP for this proposal (released to stakeholders on 2 August 2006) has also been provided (Attachment 1). The two documents together form the full advice on the decisions sought.

8 Seven (Royal Forest and Bird Protection Society of NZ, Te Ohu Kai Moana, Whangamata Seafoods, Northland Scallop Enhancement Company, Tom Hunt, Craig Enterprises, and NZ Big Game Fishing Council / Option4 (joint submission)) written submissions were received. A verbal submission was received from the NZ Recreational Fishing Council (NZRFC) supporting option 3. MFish held a consultation meeting on the IPP proposal with stakeholders in Whangarei on 18 August 2006. The key points from the verbal submission made by the two commercial fishers who attended the meeting have been included.

Key Issues

- 9 The key issues to be considered for the SCA1 fishery are:
- a) whether the amount of ACE available to the commercial sector should be increased to 70 or 100 tonnes meatweight;
 - b) whether or not there should be an increase in the separate allowances for customary Maori fishing and recreational fishing.

Issues raised in submissions

Proposed TAC, ACE, and allowances

Commercial submissions

Northland Scallop Enhancement Company (NSEC)

10 A letter was received from Kim Walshe (Secretary NSEC) prior to the release of the IPP summarising the two main views expressed by the Directors of the NSEC. The majority of Directors supported an in-season ACE increase to 70 tonnes. These Directors argued that the yield from the fishery is highly variable, and that once a fishery is fished down it may be many years before the fishery rebuilds. For example, they noted that although there is high abundance in the Bream Bay area, the traditional fishing areas further north remain in low abundance (compared with historical levels). The concern is that if the TAC is increased there will be heavy fishing in Bream Bay, which may over fish this area.

11 Walshe noted that the second argument is that increasing the TAC and ACE will potentially over supply the market leading to a decreased price for scallops. Northland

processors have traditionally paid their fishers a higher price per kilogram than other (eg Coromandel) processors. The reason for this is due to the marketing strategy used by Northland processors and the larger size of their scallops. The nature of the market for Northland scallops (fresh not frozen product and a larger size of scallop) means that it is likely to be very sensitive to seasonal changes in the volume of scallops placed on the market. The Directors consider there would be no point increasing the TAC if the resultant volume caused a drop in market price; fishers could fish a larger TAC, but overall the total fishery revenue would remain the same as for the smaller TAC.

12 Other Directors felt that the in-season TAC increase should provide for an ACE increase to 70 – 100 tonnes. This view noted that even the most conservative yield estimate from NIWA was in the order of 150 tonnes. Given that scallop yields varied widely from year to year, in years of higher abundance (as occurred this season and last) the TAC should be increased accordingly. Other reasons for a higher TAC was the need to offset the increased fuel price, and the need for fishers/quota holders to get a reasonable living from the resource.

13 Another issue discussed and agreed to by Directors was that the baseline quota should increase to 100 tonnes. The argument in support of this is that the fishery has had two years of increasing yield and the Directors in both seasons have recommended a low (lower than the CAY calculated by NIWA) TAC in the expectation that their conservative approach will increase the biomass of SCA1 to the stage where more of the baseline quota can be allowed to quota holders.

Tom Hunt (Hunt)

14 Hunt (quotaholder and one of the Directors of the Northland Scallop Enhancement Company (NSEC)) notes that part of paragraph 39 of the IPP states that “. . . other Directors and some of the quotaholders who have subsequently contacted MFish, favoured an increase to 100 tonnes”. Hunt considers this to be misleading because at the NSEC AGM, the majority of members voted to only increase the commercial catch to 70 tonnes. Hunt adds that because of some dissension among Directors, a further Directors meeting was held. At this meeting, all the Directors except one (who voted for 100 tonnes) voted again to only increase the ACE level to 70 tonnes.

MFish Consultation meeting in Whangarei

15 Only two¹ commercial fishers attended the meeting: John Dyer (quotaholder) and Merv Payne (skipper, but not a quotaholder). Both Dyer and Payne wanted the ACE to be increased to 100 tonnes. They noted that 100 tonnes is less than the most pessimistic sustainability estimate calculated by NIWA at around 150 tonnes. Both noted that scallops are short-lived, and fishers should catch the scallops when they are available because the scallops may die and not be available next year.

16 Dyer and Payne were also concerned about the economic performance of the fishery and were aware that the majority of Directors had recommended that the ACE be increased to

¹ A recent email from Kim Walshe (Secretary NSEC) clarified the reason for the small attendance at the MFish consultation meeting. NSEC had scheduled a Directors meeting for the same day. Because of the clash between the meeting dates, NSEC cancelled their meeting, but some of the NSEC Directors mistook the cancellation notification as meaning the MFish meeting was cancelled.

only 70 tonnes. In reply, Dyer and Payne noted that the price paid to the scallop fishers is largely determined by two Licensed Fish Receivers (LFRs) who process most of the Northland scallops and sell the scallops on the NZ domestic market. Dyer and Payne argued that if (following an ACE increase to 100 tonnes) the market is poor with low prices for scallops, then the LFRs will instruct the fishers to stop fishing and the increased ACE level will then be under-caught.

Whangamata Seafoods Ltd (Whangamata)

17 Whangamata (quotaholder) requests that things be kept in line with last years increase. Option 2 is supported - retain the non commercial allowance and increase the ACE to 100 tonnes.

Te Ohu Kai Moana (Te Ohu)

18 Te Ohu (quotaholder) supports option 1 (retain the non commercial allowance and increase the ACE to 70 tonnes). Te Ohu is satisfied there are no sustainability issues in the commercial beds and that current biomass trends are consistent with a recovery in the fishery from the events experienced during the period between 1998 and 2000. Te Ohu is particularly pleased that there has been a substantial improvement in the Bream Bay fishery, as predicted by commercial fishers in recent times. Te Ohu notes that there has been an improvement across three of the four main beds, but that no surveys were done in the Doubtless, Whangaroa and Cavalli beds because fishers believed scallop numbers were likely to be low in these areas.

19 Te Ohu does not consider that any conclusions can be drawn from the surveys of commercial beds on the sustainability of stocks within the non-commercial beds. As with all previous surveys in SCA 1, none of the non-commercial beds (which are to a large extent spatially separated from the commercial beds) were surveyed in 2006.

20 Te Ohu notes MFish's general criterion that in the absence of information and where the fishery is of known importance to Maori, the recreational allowance is used as a benchmark to set the customary allowance. Te Ohu disagrees with the MFish policy on estimating customary catch (based on poor information derived for recreational catch) and asserts the policy has been applied inconsistently.

21 Te Ohu proposes that there is a much better way to arrive at customary catch estimates and therefore set improved allowances. Firstly, working directly with Iwi having an interest in SCA 1 and the relevant Iwi forums that have been established under the MFish Treaty Strategy would be a good way to start. Secondly, in Te Ohu's submission on North Island eels entering the QMS, it was recommended that better information is readily available to estimate catch and set allowances using the method outlined in the table below.

	Estimating Customary Fishing for Hui & Tangi purposes
Known available information	Number and whereabouts of Marae available from Te Puni Kokiri
Initial Estimate Formula	<ul style="list-style-type: none">• Marae per QMA x• Average number of hui or tangi per annum x• Consumption estimate per hui or tangi
Consumption Estimate	Some information available from submissions and other surveys undertaken by MFish
Follow up Survey Verification	<ul style="list-style-type: none">• Average number of hui or tangi per annum• Consumption estimate

22 Thirdly, bring all Iwi under the customary regulations as it will result in better customary catch data because of the mandatory reporting requirements.

23 In the absence of any of the above information, including biomass data for the non-commercial beds, Te Ohu is reluctant to support any increases in the customary allowance. MFish’s statement in paragraph 22 of the IPP states that “MFish’s experience is that most of these authorisations relate to mussels, rock lobster, and paua.” Te Ohu considers that this suggests there is very little if any scallops harvested under the customary authorisation system indicating there is no justification for increasing the allowance for customary fishers.

24 Te Ohu supports option 1 with an increase in the annual TACC from 40 to 70 tonnes meatweight. Te Ohu encourages industry to implement a catch spreading arrangement to ensure industry efforts are not undermined through excessive fishing in any one or more of the main beds.

25 Te Ohu does not support any increase to the recreational allowance because surveys have not been conducted in the non commercial beds. Te Ohu considers there is also no evidence to show there is a relationship between the commercial and non-commercial beds, and the current recreational estimates are based upon poor information. Finally, Te Ohu notes that the Minister declined to increase the 2005 recreational allowance because there was a lack of scientific information that the scallop biomass in the non-commercial beds could sustain an increase in the recreational allowance.

Craig Enterprises Ltd (Craig)

26 Craig (quotaholder) states that option 3 and 4 should not be considered for the following reasons. The Northland Scallop fishery is not an “agreed” proportional fishery. Proportional catch allocations cannot be considered where an area exclusivity “allowance” has been in existence for some time. Non-commercial data is not available to support any increased catch or area allocation. Until non-commercial sectors have carried out surveys in these exclusive areas then no adjustment can be made.

27 Craig also notes that the available data (recreational survey results outlined on page 20 of the IPP) suggest there was little impact to recreational harvest levels from 1996 compared to the substantive management adjustments taken by the commercial sector over similar periods (see Table A below provided by Craig). Such a position cannot presume a “shared gain shared pain” environment exists, and any increase in non-commercial allocation could only be seen as a blatant expropriation / reallocation of rights.

Table A

Year	Recreational catch	% Drop against 1996	Commercial catch	% Drop against 1996
1996	4.10		208.3	
2000	4.00	-2%	14.9	-93%
2001	3.60	-12%	37.7	-82%

28 Craig considers that the proposed increases to the in-season ACE are grossly underestimating the healthy state of this relatively short lived species. He adds that arguably this is a failure to apply the purposes of the Act, which places the Minister at risk by not optimising harvest opportunity. Section 13 requires the TAC to be set at a level that will maintain or move the stock towards or above the level that will produce the Maximum Sustainable Yield (MSY), having regard to the interdependence of stocks. Table B (provided

by Craig) below compares historical catch rates with research results based on the estimated number (per million) of scallops >100mm available in the fishery.

Table B

Year	Reported Commercial Landings	Estimated Number of Scallops (million)
1991/92	157.9	28.9
1992/93	134.9	
1993/94	113.6	14.8
1994/95	205.4	18.2
1995/96	208.3	37.6
1996/97	129.1	35.3
1997/98	136.1	14.0
1998/99	30.7	
1999/00	21.6	
2000/01	14.9	13.2
2001/02	37.7	26.6
2002/03	39.9	18.0
2003/04	38.2	
2004/05	39.9	66.1
2005/06	69.7	71.8

29 Craig considers that it is therefore unacceptable to assert that the proposed in-season ACE/TAC adjustment, given that the number of scallops per million in recent surveys is almost double the number that supported commercial landings of up to 208 tonnes previously, can in any way be moving the stock towards MSY. Further, Craig says that by the Ministry’s own admission, the fisheries management initiatives applied in this fishery meet all other statutory requirements under the Act.

30 Craig believes the proposed increases are ultra-conservative and penalise an industry that has undergone significant economic adjustment over recent years due to the poor health of the fishery and the management initiatives they undertook. The proposed increases do not provide for industry’s ability to maximise its economic wellbeing. Craig asserts that some in industry may be concerned at the market impact of substantial increases, the Ministry is neither authorised (can only “provide for”) nor in a position to make decisions of a “market /economic impact” nature.

31 Finally, based on the extremely positive state of the fishery, Craig states that he assumes that the Ministry will be recommending at the April sustainability round an increase to the [baseline] TACC for Northland scallops that is reflective of the healthy state of the fishery.

Kim Walshe (Walshe)

32 Kim Walshe (NSEC Secretary) states that two of the Directors (David Olsen and Tom Hunt (both quotaholders)) have spoken to a number of fishers all of whom support the conservative 70 tonnes limit. Walshe notes that the market for scallops this season appears to be depressed, as fishers have had their price paid for scallops reduced from last years \$20 to \$17/kg this year. The result of increasing the TACC above 70 tonnes is only going to make the marketing situation worse.

33 Walshe also notes that organisations (such as NSEC) that were formed to represent quota holders, need to be seen as having some weight in the decision making process. Walshe notes that the decision about Directors determining the TAC advice to the Ministry was made at the NSEC AGM, so all members had a chance to participate in the decision.

Non-commercial submissions

NZ Big Game Fishing Council / Option4 (NZBGFC/Option4)

34 NZBGFC / Option4 support the following allocation for SCA1: the TAC be increased in-season to 114t; the baseline level for customary Maori be set at 15t; the baseline level for recreational fishers be set at 15t; the level for fishing related mortality be set at 24t; the TACC remain at 40t and additional ACE of 30t be provided for the 2006/07 fishing year.

35 NZBGFC / Option4 note that page 5 of the IPP states that “Many of Northland’s harbours within SCA1 are closed by fisheries regulations to commercial scallop fishing. Therefore, to some extent, the non-commercial and commercial fishing sectors are separated spatially”. NZBGFC / Option4 consider that there is only one scallop fishery and within that fishery commercial harvesters cannot use dredges outside the areas endorsed on their permits. Non-commercial fishers can fish anywhere (excluding marine reserves or other closed areas).

36 NZBGFC / Option4 consider the increase in abundance recorded in the pre-season survey of scallops in the main commercial scallop fishing beds to be encouraging. The beds off Rangaunu (17% of surveyed scallops) and Bream Bay (71% of surveyed scallops) have enjoyed the most substantial increase in abundance. The concern the submitters have is that if there is a large increase in TAC and additional ACE is given to commercial fishers, there is no direction as to where those extra scallops can be harvested. It would be appropriate to tie most of any increase in ACE to the areas where the increases in abundance are greatest.

37 NZBGFC / Option4 submit that the non-commercial allowances should be increased but not on a proportional basis. NZBGFC / Option4 do not believe there is any statutory requirement for proportional allocation within the Fisheries Act framework. There is also no evidence of public support for this type of allocation either. Proportional allocation was utterly rejected in the year 2000 during the Soundings debate, by over 60,000 people.

38 While the Ministry may have a “policy preference” for proportional allocation, NZBGFC / Option4 do not accept it in principle, nor is it appropriate in this case. NZBGFC / Option4 accept the Minister has discretion on how he allocates fisheries resources but he also has to be fair in his decision making process. The courts have made reference to proportionalism; in 1997 Justice Tipping made the following statement: “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.....”.

39 Regarding the non-commercial allowances, NZBGFC / Option4 consider that the Ministry has failed to take into account the change in regulations, which now allow for extra bag limits to be taken by a diver for up to two ‘safety people’ on board a boat. This will undoubtedly have an impact on the amount of scallops harvested by non-commercial fishers every year, not just this season. MFish need to factor this increase into the baseline tonnage that the Minister allows for recreational and customary fishers.

40 NZBGFC / Option4 note that when announcing his decisions for the Northland scallop fishery in 2005, the Minister justified not increasing the non-commercial allowances on the basis that no surveys had been conducted outside of the commercial fishing beds. The Minister decided “not to increase the allowances for these sectors [recreational and customary] because I would like to see the development of a more robust system for assessing the scallop stocks in the non-commercial fishing areas”. NZBGFC / Option4 consider that if the Ministry does not consider it necessary to carry out pre-season surveys on the beds outside the main commercial areas then the non-commercial baseline allowance should be set at a high level so that it is seldom reached. Non-commercial fishers could then exercise their judgement whether it was worth fishing hard in a particular season (and coming close to the allowance) or to expend their efforts elsewhere and leave the beds to rebuild. Likewise, it is noted that there is some willingness by commercial fishers not to fish to the maximum sustainable yield in this or the previous year.

41 NZBGFC / Option4 state that the policy of having baseline catch levels well above average catch is not new. The flounder (FLA1) fishery is managed in a similar manner, whereby the TACC is set at a very high level. In 2005, the Ministry explained this management strategy as “the existing management of FLA1 relies on a TACC well above current catches, to provide flexibility for commercial fishers to take flatfish in larger numbers in years of high abundance”. There is no logical reason why the same strategy cannot be applied to the allowances for the non-commercial sector in the Northland scallop fishery. NZBGFC / Option4 consider that the telephone / diary survey of recreational harvest does not seem to capture the harvest of shellfish in Northland well, even for species such as tuatua and cockle that may have quite stable abundance.

42 NZBGFC / Option4 recommend that a new baseline recreational allowance of 15t is required to cover recent regulation changes, under-estimation in surveys, and the increase in population since 1992/93 when the 7.5t estimate was made. If it is not possible to adjust the baseline non-commercial allowance during this process then, NZBGFC / Option4 request that this measure be included for Northland and Coromandel in the next sustainability round.

43 NZBGFC / Option4 consider that there are mixed opinions on whether the individual daily bag limit should be increased. The submitters acknowledge that an increase in the individual bag limit is important to some people, but NZBGFC / Option4 have not had the opportunity to canvas all the people represented by NZBGFC / Option4 due to the limited time for responding to this proposal. The most meaningful and truthful gain would be found in an increased baseline allowance for all non-commercial fishers, and that the new baseline allowance remains after the end of the fishing season.

44 NZBGFC / Option4 state that the Ministry acknowledges there is no approved Fisheries Plans for the Northland scallop fishery but suggests the Coromandel plan, currently being developed, could be a “useful template and starting point” for the Northland plan. The submitters have had doubts about the practicalities of the Fisheries Plans process since they were first mooted by the Ministry last year. Those reservations have now been confirmed given the difficulties the recreational sector has experienced in the Coromandel process.

45 NZBGFC / Option4 considers that the non-commercial sector stands to lose the most in the Fisheries Plans process. Resources are hard to come by for amateur fishers who are expected to provide equal input to the fully funded commercial fishers’ lobbyists, scientists and lawyers. NZBGFC / Option4 have little hope of getting a fair and reasonable outcome from any Fisheries Plan process under the current regime.

46 The Ministry has previously acknowledged that there will only be multi-sector Fisheries Plans, no single sector plans. NZBGFC / Option4 believe co-operative plans are merely a smokescreen to cover the Ministry's failures in many other fisheries. For twenty years the Ministry has failed to manage many of the important shared fisheries according to the Fisheries Act ie. at or above Bmsy. NZBGFC / Option4 state that they have absolutely no faith in the Ministry's ability to somehow change their management, just because a plan is in place.

Royal Forest and Bird Protection Society of NZ (Forest and Bird)

47 Forest and Bird supports the responsible management of fisheries utilising a precautionary approach and backed with scientific data. The Northland scallop fishery appears largely to follow these principles. Forest and Bird also supports the principle that commercial fisheries should benefit from considered and successful management, with an in-season TAC increase where appropriate. Forest and Bird acknowledge the positive investment and actions of this particular fishery in this regard.

48 Forest and Bird supports an option where the apparent increase in biomass of the available fishery can be shared by all New Zealanders, in this case commercial, recreational and customary users while ensuring the species remains ecologically viable. Forest and Bird support option 3 and believe that a TAC increase is justified based on the projected scallop populations and the reported increase in the fishery. Forest and Bird support increasing both non-commercial allowances from 7.5t to 13t, with an increase in the ACE for quota owners from 40 to 70t.

49 Forest and Bird note that the ACE was raised to 70t for the first time in 2005-06 after a number of years at 40t. Forest and Bird believe that it may be premature to raise the ACE to 100t before the impacts of an ACE of 70t have been measured over a number of years.

MFish Discussion

TAC setting

50 Under s 13(7), for any stock listed in the Second Schedule of the Act, the Minister can increase the TAC in-season after considering information about the abundance of the stock and after having regard to the factors set out in s 13(2) and s 13(3). SCA1 is a Second Schedule stock, with a baseline TAC set low relative to the historical catch in the fishery. The pre-season scientific survey results (summarised in the IPP for your consideration) provide the best available information on SCA1 abundance during the course of a season. The level of the TAC to be set depends on your decisions on ACE and allowances to be made available for the fishery as outlined in the following sections.

51 With regard to s 13(2), MFish notes that there is no current assessment of the entire SCA1 stock on which to base a TAC. The available assessment information on yield is based on a survey of the main commercial scallop fishing beds. Areas closed to commercial scallop fishing (eg. Bay of Islands, Whangarei Harbour) were not surveyed. MFish considers that the proposed TACs for all four options are likely to maintain the SCA1 stock at a level at or above the MSY level because all of the options are considerably less than the Current Annual Yield (CAY) estimate (278 tonnes (see IPP Attachment 1)).

52 Regarding s 13(3), MFish considers that both TAC options are appropriate for providing for social, cultural, and economic factors regarding the rate at which the stock is moved to or above the MSY level. MFish notes that commercial and non-commercial fishers want the SCA1 biomass to recover to support higher catch levels to provide for greater social, cultural, and economic well-being in the long-term. In general, MFish considers that the fishers are prepared to have a lower TAC in the short-term to allow the fishery to recover in the long term, with the possibility of increasing the baseline yield from the fishery.

TAC allocation

53 MFish notes that there is no statutory requirement for proportional allocation within the Fisheries Act framework. However, for fisheries management policy reasons MFish favours the adoption of a proportional policy as a default approach when adjusting the TAC. A proportional policy is applicable where there is no case for reallocating catch. Where there is no particular reason for making a reallocation, the expectation that a required TAC adjustment would be dealt with proportionally provides a consistent approach for stakeholders.

54 A proportional system provides a degree of certainty to stakeholders about how increases and decreases to the TAC will be addressed. It enables commercial fishers to plan and invest with a greater degree of confidence. It supports the fundamentals of the QMS and the value of the quota property right.

55 A default proportional approach is not intended to fetter your discretion to explicitly recognise the competing demands on a resource. Consideration of individual circumstances may lead you to depart from a proportional approach where you consider it reasonable to do so, such as increasing recreational demand through the growth of the NZ population. However, this issue is not currently apparent in SCA1.

56 MFish agrees with stakeholders that the current situation relating to allocation of the TAC demands attention and improvement. This matter is linked strongly to the issue of recreational management as noted in submissions, which has been a contentious issue to progress. MFish supports the development of an allocation system that delivers greater certainty to all stakeholders and reduces conflict over allocative decisions. However, development of a satisfactory allocation policy and its implementation will require time and resources from stakeholders, MFish, and Government.

Level of ACE for commercial fishing

57 MFish notes that s 20(4) of the Act does not allow the TACC to be increased in-season if the Minister decides to increase the TAC. However under s 68(1), if the Minister, after taking into account the matters under s 21(1), is satisfied that he would have increased the TACC but for the s 20(4) prohibition, then he may create an additional amount of ACE equal to the amount he would have increased the TACC. Any increase in ACE will be distributed proportionally amongst scallop quota owners according to the formula in s 68(2).

58 MFish considers that you can be satisfied that the survey results (discussed in the IPP) provide adequate grounds for increasing the ACE for quotaholders. The s 21(1) matters (allowing for non-commercial fishing interests and other sources of fishing mortality) are considered and discussed in the following sections. In brief, the non-commercial interests are

allowed for by either maintaining the existing allowances or providing the same proportionate increase in the non-commercial allowances as provided by increasing the amount of ACE to commercial fishers.

59 MFish notes that all the stakeholders that made written and oral submissions supported an ACE increase. All of the non-commercial organisations (NZRFC, NZBGFC, option4, Forest and Bird) and the majority of quotaholders (56% (Table 1)) supported the lower ACE increase to either 70 or 75 tonnes meatweight. A minority of the quotaholders (24%) supported increasing the ACE to 100 tonnes meatweight. The viewpoint of 11 quotaholders with relatively small quota holdings who either did not make a submission or were not a NSEC Director is not known.

Table 1: ACE increase preference for the main Northland scallop quotaholders.

Quotaholder name	ITQ share	ACE increase preference	Sub-totals
Northland Scallops Limited	4,277,500	70t	
Tom Hunt (NSEC Director)	4,577,500	70t	
David Olsen (NSEC Director)	10,257,500	70t	
Sanford Limited (NSEC Director)	10,540,000	70t	
Te Ohu Kai Moana Trustee Limited	20,000,000	70t	49,652,500
Phillip White (NSEC Director)	2,615,000	75t	
Max Terrance Wyatt (NSEC Director)	3,617,500	75t	6,232,500
John Perry	1,325,000	100t	
Craig Enterprises Limited	1,590,000	100t	
Liberty Fishing Company Limited (NSEC Director)	2,800,000	100t	
John Robin Dyer	5,720,000	100t	
Athol Thomas Butcher (Whangamata Seafoods)	12,532,500	100t	23,967,500
Rodney Nobilo and others	942,500	Unknown	
Francis Lockey	1,102,500	Unknown	
Adrian Hodge	1,250,000	Unknown	
Laird Investment Trust	1,415,000	Unknown	
Ian Reichardt	1,590,000	Unknown	
Janelle Fisheries Limited	1,765,000	Unknown	
Keith Goodall and Louise Fry	2,012,500	Unknown	
Robert Snow and David Haldane	2,122,500	Unknown	
Bevan Fisher	2,430,000	Unknown	
Grant Tucker	2,700,000	Unknown	
Hilton Leith and others	2,817,500	Unknown	20,147,500
TOTAL	100,000,000		

60 Craig is concerned that the proposed ACE increases are not moving the stock down towards MSY. However, section 13(2) of the Act provides that a fishery can be maintained at or above the level that can produce the MSY. MFish notes that MSY is a problematic concept for a species such as scallops that are short-lived, exhibit highly variable abundance patterns, and have a patchy distribution. For highly variable species such as scallops, section

13(7) specifically provides for the circumstance where abundance within a year is higher than that provided for by the “baseline” TAC and TACC. Nonetheless, because SCA1 has been fished at less than the CAY in recent years, it is likely that the stock is being maintained above a level that can produce the MSY. MFish also disagrees with Craig’s assertion that the Ministry is not authorised to make recommendations based on economic / market considerations. Section 13(3) requires the Minister to consider relevant social, cultural, and economic factors when deciding on the rate at which a stock is moved towards or above MSY.

61 Accordingly, based on the submissions, the information provided in Table 1, and due to the improvement in the biomass of the Northland scallop fishery, MFish recommends that you agree to the proposed ACE increase from 40 to 70 tonnes meatweight. MFish recognises that the non-commercial stakeholders and the majority of commercial quota-holders are taking a conservative and responsible attitude towards increasing ACE. These stakeholders have emphasised that they prefer to take a conservative management approach due to the variability of scallop populations to ensure a successful long-term biomass rebuild.

62 It is also important to recognise that the non-commercial sector has an important stake in the areas open to commercial scallop fishing that were included in the pre-season survey by NIWA. This is based on information on the amount of the recreational catch by sub-areas from the nationwide telephone / diary surveys conducted in 1993-94, 1996, 1997, 1999-00, and 2000-01. This information shows that only around 45% of the recreational catch was taken from the zones (Bay of Islands and Whangarei Harbour) closed to commercial scallop fishing (Table 2). The remainder (55%) of the recreational catch was taken from the two open coastal zones (North Cape-Cape Brett; Cape Brett-Cape Rodney).

Table 2: Number and percentage of scallops caught by diarists by zone from the Northland scallop fishery. Data are summarised from the five large-scale recreational fishing diary surveys: 1993/94, 1996, 1997, 1999/00, 2000/01.

Sub-area Zone	Number of scallops caught	Percentage
North Cape - Cape Brett	3108	38%
Bay of Islands	1853	23%
Cape Brett - Cape Rodney	1386	17%
Whangarei Harbour	1757	22%
TOTAL	8104	

63 From North Cape to Cape Rodney, the following areas are closed to commercial scallop fishing: harbours – Parengarenga, Houhora, Rangaunu, Doubtless Bay, Whangaroa, Whangaruru, Tutukaka; estuaries – Whananaki, Ngunguru, Pataua). However, MFish considers that very little non-commercial scallop fishing occurs in most of these areas, except for a small catch from Doubtless Bay, Whangaroa and Whangaruru Harbours. Consequently, MFish considers it likely that much of the non-commercial scallop catch in the open coastal waters from North Cape to Cape Rodney will be taken in the main scallop beds that are open to commercial scallop fishing.

Recreational allowance

64 In allowing for recreational fishing interests as required by s 21(1), MFish considers that the most relevant consideration is that there has been a large increase in the biomass of

the scallop fishery, mostly in Bream Bay. MFish notes that the survey results relate to the scallop beds “open” to the commercial sector. However, as indicated above, it is likely that around 55% of the recreational catch has also been taken from these areas. Moreover, MFish considers that trends in scallop abundance in the “recreational” scallop beds (areas closed to commercial scallop fishing (eg. Whangarei Harbour)) are likely to be similar to the abundance trends for the surveyed beds, where the beds are close together and in similar habitat/depth. Fishery Officers at boat ramps and recreational fishing leaders have commented that there has been a general steady increase in the number of scallops taken by the recreational sector over the last 2-3 years in the Northland fishery, especially in Bream Bay, Whangarei Harbour, and the Bay of Islands. MFish considers that this qualitative information is consistent with the biomass improvement and MFish’s contention that the overall recreational catch is likely to increase for 2006-07 as outlined below.

65 MFish considers it likely that there will be an increase in the catch for the recreational sector due to the increased biomass. An increased recreational catch could be attained from a number of factors. It is likely that existing fishers will fish more frequently for scallops. As people become more aware that scallop abundance has increased, there are likely to be more “new” and “occasional” fishers fishing for scallops. In addition, it is likely that fishers will more frequently attain their full legal entitlement of scallops ie. the current daily bag limit of 20 scallops per fisher per day.

66 NZBGFC / Option4 consider that the change in regulations allowing for extra bag limits to be taken by a diver for up to two ‘safety people’ on board a boat will increase the recreational catch. However, MFish does not consider that this change (plus the change removing the ban prohibiting scallops from being processed (“shucked”) at sea) are likely to significantly increase the recreational catch. This is because to a large extent both changes were recognising current practices that were already occurring in the recreational fishery. Many divers also carried a dredge on board the boat and claimed an extra bag limit or two for other people on the boat by saying that the scallops were taken by dredge, rather than the diver on the boat. MFish notes that any scallops eaten at sea are required to be included in the daily limit.

67 Given that the recreational catch is likely to increase, it is therefore reasonable to increase the recreational allowance. Accordingly, MFish recommends that you agree to the proposal in the IPP to increase the recreational allowance by the same proportion as the increase in ACE to commercial fishers. Therefore, MFish recommends that the allowance for recreational fishing be increased from 7.5 tonnes meatweight to 13 tonnes meatweight for 2006-07. The recreational allowance would then revert to 7.5 tonnes meatweight at the end of the current fishing year for SCA1 (31 March 2007).

68 In response to TOKM and Craig’s concerns about the lack of scientific information for the recreational allowance, MFish has implemented a research project to obtain biomass information from the main recreational scallop fishing areas. In June 2006, NIWA conducted a dive survey in three of the main recreational beds: Bay of Islands; inside and outside Whangarei Harbour. Since the survey is the first of a new time series, the methodology and analysis will need to go through a review process. The survey results should be available in 2-3 months.

69 The industry’s concerns about recreational fishing harvest surveys are common to other fisheries. The problem is that recreational harvest surveys are expensive, logistically challenging, and can produce uncertain results depending on survey methodologies. Despite

these difficulties, for fisheries management purposes it is necessary to set an allowance for recreational fishing using the best available information as required by s 10 of the Fisheries Act. In some situations, when quantitative scientific information is not available, MFish considers that lower quality anecdotal information will be the best available information for decision making as required by s 10(a). Decision-makers are also required to take into account the three other information principles stated by s 10 (b), (c), and (d).

70 MFish also notes that the use of anecdotal information to manage the recreational fishery has also been used to apply restrictions and controls on the recreational fishery. For example, a two-year rāhui was recently imposed by *Gazette* notice prohibiting recreational scallop fishing on the Kaipara Harbour. This control was based entirely on anecdotal information from local Maori, supported by local recreational fishing groups.

71 Craig considers that proportional allocation is not appropriate for SCA1 for various reasons. However, MFish considers that a proportional allocation is appropriate because it is most likely that the non-commercial catch will increase due to the increase in the SCA1 biomass as explained earlier. MFish does not consider that Craig's Table A is particularly relevant. Most of the large commercial catch (208 tonnes) in 1996 was taken off Spirits Bay as a "one-off" in the mid 1990s, and the area has not been heavily fished subsequently. Very little non-commercial scallop fishing occurs in this area due to its extreme isolation. The other reason for the decline in the commercial catch is that the scallop fishery was dramatically affected by blackgill disease and the tubeworm outbreak as noted in the IPP.

Maori customary allowance

72 There is no quantitative information available on the overall tonnage of Northland scallops taken by Maori customary fishers. Some kaumātua and kaitiaki keep records of authorisations to take fish and shellfish by customary fishers. However, MFish's experience is that most of these authorisations relate to mussels, rock lobster, and paua. In the future, better quantitative information on the customary catch may become available due to the more comprehensive reporting required under the North Island customary fishing regulations.

73 In the absence of quantitative catch information and where the fishery is of known importance to Maori, MFish has a general policy that the recreational allowance be used as a benchmark to set the customary allowance, unless there is a reason to depart from this policy. MFish does not consider there is any reason to depart from this general policy in the particular circumstances of this case.

74 Therefore, consistent with the recommended increase in the recreational allowance, MFish recommends that the allowance for Maori customary fishing be increased from 7.5 tonnes meatweight to 13 tonnes meatweight for 2006-07. The Maori customary allowance would then revert to 7.5 tonnes meatweight at the end of the current fishing year for SCA1 (31 March 2007).

75 MFish is interested in the suggestion made by Te Ohu for a methodology for providing a semi-quantitative estimate of the customary catch. However, at this stage, the suggested approach cannot be used because no actual catch estimate information was provided to MFish. In addition, the assumptions about expected consumption rate and extrapolating this to the population statistics of Maori involved with customary fishing in SCA1 requires further consideration and discussion.

76 Nonetheless, MFish accepts that further steps are required to improve both the management of customary fishing and information on the levels of customary catch. MFish has appointed customary relationship managers and extension officers to assist Maori to participate in fisheries management. Progress to date on the implementation of the customary regulations in the North Island has been slower than expected, but some progress has been made in Northland. MFish intends to build on this progress in future years.

Review of the baseline TAC

77 Commercial stakeholders have asked that MFish review the baseline TAC for the SCA1 fishery. Conversely, in discussions in the past, the NZRFC is known to have supported the conservative baseline TAC approach. NZBGFC / Option4 have asked that the baseline non-commercial allowances should be increased from 7.5 to 15 tonnes meatweight. MFish understands that part of the reason why quotaholders want to increase the baseline TAC is as a way of avoiding the costs of a pre-season survey and to avoid the time consuming and uncertain annual in-season TAC review process.

78 MFish does not intend reviewing the baseline TAC for SCA1 due to the results of scientific modelling research on the northern scallop fisheries by NIWA. This research has shown that there is a greater likelihood of stock collapse if the baseline TAC is increased, and fishers attempt to take the TAC regardless of the state of the stock. Another risk is that fishers decide not to conduct a survey in a given year and fish to a baseline TAC higher than that supported by the biomass in the fishery. Regarding the timeliness and speed of the in-season TAC review process, over the last five years in the Coromandel scallop fishery, the review process has become more efficient. Each year, Coromandel fishers have been notified earlier than the previous year that the increase has been approved by the Minister. Similar efficiencies can be expected for the Northland scallop fishery.

79 Regarding the baseline non-commercial allowances, MFish notes that the current baseline allowance (7.5 tonnes) is based on the earliest (1993-94) of the recreational catch estimates from the telephone / diary surveys. Subsequent recreational catch estimates were less (3.6-4.1 tonnes (see IPP paragraph 20)). Therefore, it is likely that the baseline non-commercial allowances are still reasonably appropriate. Increases in the non-commercial catch during periods of high scallop abundance (such as the current situation) can be allowed for under the current management approach by adjusting the non-commercial allowances in-season on a proportional basis relative to the level of the ACE increase.

Environmental Issues

NZ Big Game Fishing Council / Option4 (NZBGFC/Option4)

80 NZBGFC / Option4 state that in the 1970s and 1980s scallop fishers with their extremely destructive dredges kept finding new areas to fish. As one area became decimated and productivity fell because of the damage caused by the dredges, the fishers simply moved to another area. The real consequences to productivity only became apparent once all the areas that could possibly be dredged had been dredged. The most recent case in point is Spirits Bay, which was highly productive for a few years but now is a relatively minor part of the fishery.

81 NZBGFC / Option4 consider there needs to be recognition of the adverse effect on benthic communities in the management of this fishery. The submitters believe the environmental principles of the Fisheries Act 1996 are not being met under the current management strategy and the Minister needs to instruct the Ministry of Fisheries to take measures to address the environmental issues. NZBGFC / Option4 believe that the incessant use of heavy Victorian dredges, in the same area, every year has changed the environment. The reason why some strange diseases/intruders are infesting the scallops (eg. black gill disease, tubeworms) is due to destructive commercial dredging directly impacting on the environment and quickly spreading these problems through the beds. NZBGFC / Option4 note that although there is natural variability in most scallop populations driven by variable recruitment, that heavy dredging during poor years only makes the situation worse and delays recovery.

82 NZBGFC / Option4 consider there should be minimum standards applicable to participate in harvesting in the scallop fishery. The current system is devoid of incentives for fishers to experiment with more environmentally friendly fishing methods. Fishers should be rewarded for reducing damage caused to: the seabed environment, diverse benthic communities that provide attachment and shelter for spat and juveniles, scallops that pass underneath the dredge and are damaged, and undersized scallops and legal-sized fish damaged in the dredge that would normally be dumped at sea due to their broken condition.

83 NZBGFC / Option4 consider that scallop fishery managers should be able to direct fishing effort, due to in-season increases of ACE, toward areas where the surveys have determined that scallop density is highest. In this season those areas are Bream Bay and Rangaunu Bay. This would ensure higher catch rates and overall less dredging would be required to reach the ACE limit. While higher fuel prices and a reduction in the number of vessels fishing may mean that fishers will do this anyway, the Ministry should have the ability to direct additional effort.

84 NZBGFC / Option4 consider that dredging with the existing commercial dredges should only be allowed once scallop density rises to a certain level. Other areas which are still recovering from damage from previous years of fishing should not be fished until they show signs that the biodiversity has stabilised and the scallop population has recovered and is disease free.

Royal Forest and Bird Protection Society of NZ (Forest and Bird)

85 Forest and Bird continue to hold concerns over dredging as a sustainable method of fishing. Forest and Bird support the restrictions on the areas allowed for commercial use and encourage further research into viable alternatives.

MFish Discussion

86 MFish is developing standards for protecting the benthic environment to acceptable levels from methods such as dredging and trawling. Stakeholders will be consulted about the proposed levels of the benthic impact standards. The benthic standards will be used as a key part in the development of Fisheries Plans which will provide the focus for improved environmental performance.

87 MFish acknowledges that dredging is having an effect on the benthic environment in parts of the Northland scallop fishery that are fished frequently. It is likely that benthic

biodiversity in these areas has decreased compared with areas that are not dredged. However, MFish is not aware of any information suggesting that the biodiversity in the dredged areas is likely to have been significantly different (prior to the start of the dredge fisheries 30 years ago) in species composition from surrounding areas that are not dredged. Therefore, it is likely that the overall level of biodiversity in the wider area surrounding the scallop beds is being maintained. As noted in the IPP, the most recent NIWA survey showed no indication of black gill disease, and that tubeworms were very rare.

88 Another consideration concerning the issue of the effects of dredging on the benthic environment is that dredging is currently the only cost-effective method for taking scallops on a commercial basis. It is not economically viable to take scallops commercially by diving. If dredging were to be banned, then society would not have the benefits associated with the commercial scallop fishery. This is in contrast to some finfish fisheries where a range of methods (eg. longline, trawl, set net, purse seine) can be used to commercially harvest the resource.

89 MFish contracted NIWA in the mid 1990s to conduct research into dredge design in the northern scallop fisheries. The research showed that a single pass of a ring bag dredge (as used in the Southern (Nelson) scallop fishery) results in less damage to scallops and benthic epifauna than a single pass of the box dredge (as used in the Northland scallop fishery). However, the review concluded that the box dredge's higher efficiency more than compensated for the rate of damage at each pass, and made their use preferable on the harder sandy substrates in the north – in the Southern scallop fishery the seafloor is a soft muddy substrate.

90 Nonetheless, if information becomes available that indicates dredging is having an adverse effect on an area of special or significant biodiversity, then MFish will take steps to avoid, remedy, or mitigate the adverse effect. Such a situation occurred at Spirits Bay in the Northland scallop fishery in the late 1990s. Research information indicated that dredging and trawling were likely to be having a significant adverse effect on the rare and endemic benthic biota only occurring in that area. Consequently, a large area at Spirits Bay and Tom Bowling Bay was closed by fisheries regulation to dredging and trawling.

Social, cultural and economic factors

91 None of the submissions raised any significant social, cultural or economic issues. No further information or consideration is available to that provided in the IPP (attached for your consideration).

Consultation

Submissions

92 Te Ohu identified nine iwi organisations (Te Runanga a Iwi o Ngati Kahu, Te Runanga o Whaingaroa, Te Runanga o Nga Puhi, Te Runanga o Ngati Whatua, Ngati Wai Trust Board, Ngai Takoto – RONAN Trust, Ngati Kuri Trust Board Incorporated, Te Runanga o Te Rarawa, Te Runanga O Te Aupouri Incorporated and Te Aupouri Maori Trust Board (Te Aupouri) that have an interest in SCA1. Te Ohu trusts that MFish consults with these organisations.

MFish Discussion

93 For the Northland scallop fishery, MFish employed the normal process used for consulting stakeholders on most other fisheries management proposals. This involves the release of an Initial Position Paper to representative stakeholder organisations outlining the rationale for the proposed management change; a consultation meeting in a central area for stakeholders to discuss the issues, hear other views, and make oral submissions; and a timeline for making formal written submissions.

94 The two MFish Pou Hononga based in Northland identified 29 representatives of Maori groups who were posted copies of the IPP. Through the Pou Hononga network, MFish is establishing much better contacts and relationships with Maori customary fishers. Much of the Pou Hononga emphasis is on improving the capacity of Maori to engage with MFish and other stakeholders in fisheries management. The relationship has also been two-way, because MFish is now gaining a better understanding of Maori aspirations and concerns about the state of our fisheries, as well as patterns and degree of customary harvest.

Conclusion

95 MFish has undertaken an in-season review of the TAC for the Northland scallop fishery. MFish is satisfied that the scientific stock assessment for SCA1 is robust and is the best available information on abundance for the current fishing year. The assessment indicates that there has been an increase in biomass, and that this has largely occurred in one main area – Bream Bay.

96 The fishery can support all four of the TAC increase options proposed in the IPP. However, MFish recommends you select option 3 – increase the TAC to 120 tonnes meatweight for the remainder of the 2006-07 fishing year. Option 3 provides for an increase in the ACE to 70 tonnes for quotaholders, and an increase in both non-commercial allowances to 13 tonnes. Increasing the ACE to 70 tonnes was supported by the majority of commercial and non-commercial stakeholders. Regarding the non-commercial allowances, opinion was split between the sectors. Most commercial entities favoured no change, while non-commercial groups favoured an increase. MFish recommends increasing the non-commercial allowances because it is most likely that the non-commercial catch will increase due to the increased scallop biomass. As part of option 3, the allowance for other sources of fishing-related mortality would increase from 20 to 24 tonnes meatweight to reflect the greater amount of fishing.

97 MFish notes that at the end of the current fishing year for SCA1, the TAC will revert to 75 tonnes meatweight in accordance with section 13(8). Therefore, the non-commercial allowances will revert to 7.5 tonnes, and the allowance for other sources of fishing-related mortality will revert to 20 tonnes meatweight.

Final Recommendations

98 MFish recommends that you:

EITHER (MFish's recommended option (option 3) – increase the non-commercial allowances and increase ACE to 70 tonnes)

- a) **agree** to increase the TAC for SCA1 from 75 tonnes meatweight to 120 tonnes meatweight for the 2006 season, and within the TAC:
 - i) **agree** to increase the allowance for recreational fishing from 7.5 tonnes meatweight to 13 tonnes meatweight;
 - ii) **agree** to increase the allowance for customary Maori fishing from 7.5 tonnes meatweight to 13 tonnes meatweight;
 - iii) **agree** to increase the allowance for other sources of fishing-related mortality from 20 tonnes meatweight to 24 tonnes meatweight;
 - iv) **agree** to increase the annual catch entitlement (ACE) for SCA1 by increasing the available ACE for quota owners from 40 tonnes meatweight to 70 tonnes meatweight; and
 - v) **note** that at the end of the current fishing year for SCA1, the TAC will revert to 75 tonnes meatweight, the allowance for recreational fishing will revert to 7.5 tonnes meatweight, the allowance for customary fishing will revert to 7.5 tonnes meatweight, the allowance for other sources of fishing-related mortality will revert to 20 tonnes meatweight, and the ACE will revert to 40 tonnes meatweight.

OR (option 1: retain the non-commercial allowances and increase the ACE to 70 tonnes)

- b) **agree** to increase the TAC for SCA1 from 75 tonnes meatweight to 109 tonnes meatweight for the 2006 season, and within the TAC:
 - i) **agree** to retain the allowance for recreational fishing at 7.5 tonnes meatweight;
 - ii) **agree** to retain the allowance for customary Maori fishing at 7.5 tonnes meatweight;
 - iii) **agree** to increase the allowance for other sources of fishing-related mortality from 20 tonnes meatweight to 24 tonnes meatweight;
 - iv) **agree** to increase the annual catch entitlement (ACE) for SCA1 by increasing the available ACE for quota owners from 40 tonnes meatweight to 70 tonnes meatweight; and
 - v) **note** that at the end of the current fishing year for SCA1, the TAC will revert to 75 tonnes meatweight, the allowance for other sources of fishing-related mortality will revert to 20 tonnes meatweight, and the ACE will revert to 40 tonnes meatweight.

OR (option 2: retain the non-commercial allowances and increase the ACE to 100 tonnes)

- c) **agree** to increase the TAC for SCA1 from 75 tonnes meatweight to 149 tonnes meatweight for the 2006 season, and within the TAC:
 - i) **agree** to retain the allowance for recreational fishing at 7.5 tonnes meatweight;

- ii) **agree** to retain the allowance for customary Maori fishing at 7.5 tonnes meatweight;
- iii) **agree** to increase the allowance for other sources of fishing-related mortality from 20 tonnes meatweight to 34 tonnes meatweight;
- iv) **agree** to increase the annual catch entitlement (ACE) for SCA1 by increasing the available ACE for quota owners from 40 tonnes meatweight to 100 tonnes meatweight; and
- v) **note** that at the end of the current fishing year for SCA1, the TAC will revert to 75 tonnes meatweight, the allowance for other sources of fishing-related mortality will revert to 20 tonnes meatweight, and the ACE will revert to 40 tonnes meatweight.

OR (option 4: increase the non-commercial allowances and increase ACE to 100 tonnes)

- d) **agree** to increase the TAC for SCA1 from 75 tonnes meatweight to 175 tonnes meatweight for the 2006 season, and within the TAC:
 - i) **agree** to increase the allowance for recreational fishing from 7.5 tonnes meatweight to 13 tonnes meatweight;
 - ii) **agree** to increase the allowance for customary Maori fishing from 7.5 tonnes meatweight to 13 tonnes meatweight;
 - iii) **agree** to increase the allowance for other sources of fishing-related mortality from 20 tonnes meatweight to 34 tonnes meatweight;
 - iv) **agree** to increase the annual catch entitlement (ACE) for SCA1 by increasing the available ACE for quota owners from 40 tonnes meatweight to 100 tonnes meatweight; and
 - v) **note** that at the end of the current fishing year for SCA1, the TAC will revert to 75 tonnes meatweight, the allowance for recreational fishing will revert to 7.5 tonnes meatweight, the allowance for customary fishing will revert to 7.5 tonnes meatweight, the allowance for other sources of fishing-related mortality will revert to 20 tonnes meatweight, and the ACE will revert to 40 tonnes meatweight.

Arthur Hore
for Chief Executive
Ministry of Fisheries

AGREED / NOT AGREED / AGREED AS AMENDED

Hon Jim Anderton
Minister of Fisheries

/ / 2006

ATTACHMENT 1:

INITIAL POSITION PAPER - PROPOSAL FOR AN IN-SEASON TAC INCREASE FOR THE NORTHLAND SCALLOP FISHERY (SCA1) FOR 2006-07

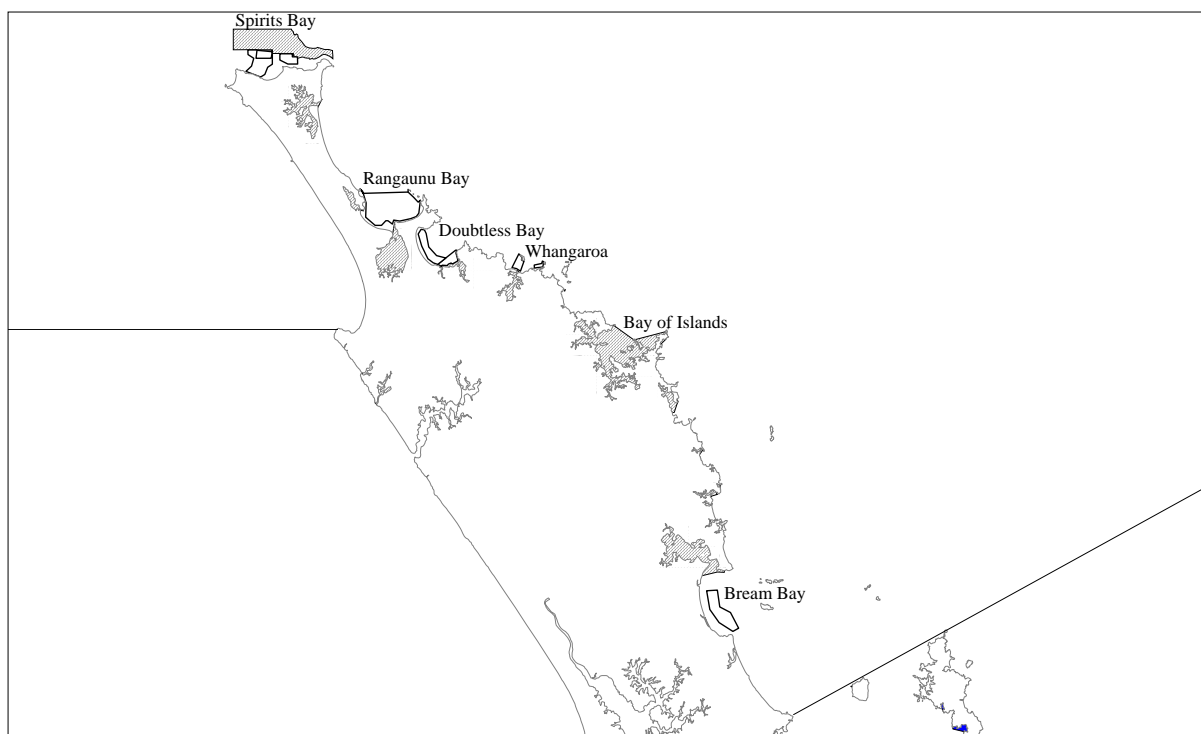


Figure 1: Boundary of the Northland Scallop Quota Management Area (SCA1), location of strata (dark outline) generally used for the Northland scallop fishery survey, and the location of areas (grey diagonal stripe) closed to commercial scallop fishing.

Proposal

- 1 The Ministry of Fisheries (MFish) proposes to review the total allowable catch (TAC) of the Northland scallop fishstock (SCA1) for the purpose of providing for an in-season TAC increase for the 2006-07 fishing year. MFish proposes that the Minister of Fisheries (the Minister), after taking into account information about scallop abundance in SCA1 during the current fishing year, considers the four management proposals below.

Option 1: Retain the non-commercial allowances and increase ACE to 70 tonnes

- a) Increase SCA1 TAC from 75 to 109 tonnes meatweight, and within the TAC:
- i) retain the recreational allowance at 7.5 tonnes meatweight;
 - ii) retain the customary allowance at 7.5 tonnes meatweight;
 - iii) increase the allowance for other sources of fishing-related mortality from 20 tonnes meatweight to 24 tonnes meatweight;
 - iv) increase the Annual Catch Entitlement (ACE) for quota owners from 40 tonnes meatweight to 70 tonnes meatweight.

Option 2: Retain the non-commercial allowances and increase ACE to 100 tonnes

- b) Increase SCA1 TAC from 75 to 149 tonnes meatweight, and within the TAC:
- i) retain the recreational allowance at 7.5 tonnes meatweight;
 - ii) retain the customary allowance at 7.5 tonnes meatweight;
 - iii) increase the allowance for other sources of fishing-related mortality from 20 tonnes meatweight to 34 tonnes meatweight;
 - iv) increase the ACE for quota owners from 40 tonnes meatweight to 100 tonnes meatweight.

Option 3: Increase the non-commercial allowances and increase ACE to 70 tonnes

- c) Increase SCA1 TAC from 75 to 120 tonnes meatweight, and within the TAC:
- i) increase the allowance for recreational fishing from 7.5 to 13 tonnes meatweight;
 - ii) increase the allowance for customary fishing from 7.5 to 13 tonnes meatweight;
 - iii) increase the allowance for other sources of fishing-related mortality from 20 tonnes meatweight to 24 tonnes meatweight;
 - iv) increase the ACE for quota owners from 40 tonnes meatweight to 70 tonnes meatweight.

Option 4: Increase the non-commercial allowances and increase ACE to 100 tonnes

- d) Increase SCA1 TAC from 75 to 170 tonnes meatweight, and within the TAC:
- i) increase the allowance for recreational fishing from 7.5 to 18 tonnes meatweight;
 - ii) increase the allowance for customary fishing from 7.5 to 18 tonnes meatweight;

- iii) increase the allowance for other sources of fishing-related mortality from 20 tonnes meatweight to 34 tonnes meatweight;
 - iv) increase the ACE for quota owners from 40 tonnes meatweight to 100 tonnes meatweight.
- 2 For all four options, MFish proposes that at the end of the current fishing year for SCA1, the TAC will be 75 tonnes meatweight, the allowance for recreational fishing will be 7.5 tonnes meatweight, the allowance for customary fishing will be 7.5 tonnes meatweight, the allowance for other sources of fishing-related mortality will be 20 tonnes meatweight, and the ACE will be 40 tonnes meatweight.

Management Framework

- 3 In 2002, the Minister agreed to set a TAC (under section 13 of the Fisheries Act 1996 (the Act)) for SCA1 at 75 tonnes meatweight to apply from the start of the fishing year on 1 April 2002. Section 13 requires the TAC to be set at a level that will maintain or move the stock towards or above the level that will produce the maximum sustainable yield (MSY), having regard to the interdependence of stocks.
- 4 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. A requirement to maintain stocks at a level that is capable of producing the MSY is generally recognised internationally as being an appropriate fishstock target, although there is some international support for MSY as the upper limit of the acceptable range of catch rather than a target.
- 5 The Minister also decided in 2002 to include SCA1 on the Second Schedule of the Act. A stock listed on the Second Schedule may have its TAC increased during the season under s 13(7) of the Act after consideration of information about the abundance of the stock during the current fishing year. At the start of the next fishing year, the TAC reverts to the level set at the start of the previous fishing year. The TAC can only be increased during the fishing year and not decreased.
- 6 Since 1992, surveys have been used to estimate the abundance of scallops in the Northland scallop fishery. Yield estimates based on these surveys have been used to set limits on catch (including the TAC, TACC, and allowances) for the fishery. In making his decision on required services, the Minister agreed to an optional survey for SCA1 during 2006. Quota holders decided that scallop abundance should be assessed during 2006. A research survey was undertaken in May 2006 to assess SCA1.
- 7 Section 13(7) recognises that abundance for some stocks can be highly variable between fishing years. Section 13(7) allows for further utilisation in years when the stock is more abundant, so long as the catch is still sustainable. Accordingly, the same considerations (s 13(2), s 13(3)) to achieve the direction and rate of change towards the MSY level must be taken into account in making an in-season adjustment as in setting the original TAC.
- 8 Section 20(4) of the Act states that the TACC set under s 20 shall have effect on and from the first day of the next fishing year, therefore the TACC cannot be increased during the fishing year. However, under s 68(1), if the Minister is satisfied that after considering the matters required for TACC setting (as prescribed under s 21(1)) he would have made an in-season

increase to the TACC but for the prohibition against that in s 20(4), then he may create additional ACE for fishers equal to the amount of the increase in the TACC that he would have made.

- 9 Section 21(1) provides that in setting or varying the TACC the Minister shall make an allowance for Maori customary fishing, recreational fishing, and other sources of fishing-related mortality. It is implicit that the Minister, when increasing the TAC in-season, can increase the level of non-commercial allowances. However, there is nothing in the Act that requires these allowances to automatically revert to the original allowances at the end of the fishing year; only the TAC reverts. Therefore, if the Minister decides to increase any of the allowances for the remainder of the current fishing year, then part of his decision will also be that the allowances will reduce to the original level at the start of the next fishing year on 1 April 2007.
- 10 The process outlined in the preceding paragraphs has become standardised as it has been used for the Coromandel fishery every year since 2002 for an in-season ACE increase. The same process was also used last year in the Northland scallop fishery.

Steps in the process to review the TAC

- 11 To progress this review, MFish proposes the following steps:
 - consideration of the survey information about the abundance of scallops in SCA1;
 - consultation with quota holders, tangata whenua, stakeholders and Te Ohu Kai Moana in order to review the TAC, allowances, and ACE for SCA1 (this paper);
 - the Minister's consideration of MFish's final advice and his decision on the proposal;
 - notice of any increased TAC agreed to by the Minister to be notified in the *New Zealand Gazette*;
 - generation of ACE.

Fishery information

Species Biology

- 12 Scallops (*Pecten novaezelandiae*) inhabit waters to about 60 m deep, but are more common in the Northland fishery in depths of 10 to 40 m. Growth rates are spatially and temporally variable; growth to 100 mm takes between 1.5 and 3.5 years. The maximum age of scallops in unexploited populations is about 6 or 7 years.
- 13 Scallops are a hermaphroditic species, each individual carrying both male and female gonads at the same time. Most individuals are sexually mature at about 60 mm, although larger individuals have disproportionately larger gonads. The minimum legal size limit of 100 mm probably mitigates risk of recruitment failure, as scallops mature and spawn before reaching the size limit. They are extremely fecund and can spawn several times each year (although not all of these spawning events lead to successful spat settlement). Larval development lasts for about 3 weeks, depending on water temperature.

- 14 Scallops grow rapidly (albeit with considerable variation), have high natural mortality, and exhibit highly variable recruitment. Such a life history results in fluctuating biomass and catch, and reliance on relatively few year-classes.

Fishery characteristics

- 15 The management arrangements for commercial and non-commercial fishers differ. Many of Northland's harbours within SCA1 are closed by fisheries regulation to commercial scallop fishing². Therefore, to some extent, the non-commercial and commercial fishing sectors are separated spatially. The main beds in the commercial scallop fishery are found at Spirits Bay, Rangaunu Bay, Doubtless Bay, Whangaroa, and Bream Bay (see Figure 1); Mangawhai and Pakiri Beach occasionally. The minimum legal size limit (100mm) and fishing season (15 July to 14 February (inclusive) of the following year) is the same for both sectors. Recreational fishers are restricted to a maximum daily bag limit of 20 scallops per fisher per day in SCA1.
- 16 Maori customary fishers are currently able to take scallops for hui and tangi purposes in accordance with regulation 27A of the Fisheries (Amateur Fishing) Regulations 1986. If a kaitiaki has been appointed, then she or he can authorise the taking of scallops under the Fisheries (Kaimoana Customary Fishing) Regulations 1998.

Commercial fishery

- 17 The reported commercial catch has varied from 14.9 tonnes (meatweight) in 2000 to 208.3 tonnes (meatweight) in 1995 (Table 1). Since 1992, results from dredge and dive surveys undertaken before the start of each fishing season have been used to limit the commercial catch. However, the catch limits for SCA1 have often not been caught, notably in 1998, 1999 and 2000 (Table 1). Due to low scallop abundance, the quota owners agreed to a voluntary limit of 40 tonnes (1999) and 30 tonnes (2000).

Table 1: SCA1 reported landings (tonnes meatweight) by commercial fishers from 1986 to 2004, and the TACC from 1996 to 2005.

Fishing year	Reported landings (LFRR data)	TACC
1986-87	113.6	
1987-88	183.2	
1988-89	171.0	
1989-90	164.0	
1990-91	114.5	
1991-92	157.9	
1992-93	134.9	
1993-94	113.6	
1994-95	205.4	
1995-96	208.3	
1996-97	129.1	188*
1997-98	136.1	188
1998-99	30.7	106
1999-00	21.6	106
2000-01	14.9	60

² The commercial and recreational scallop fisheries can also be closed under shellfish sanitation requirements.

2001-02	37.7	40
2002-03	39.9	40
2003-04	38.2	40
2004-05	39.9	40
2005-06	69.7	70

* Individual catch entitlements

- 18 The variability of scallop biomass over short timeframes may be partly responsible for why limits on catch have not always been achieved. To reduce this influence as much as possible, surveys are conducted as close to the expected start of the commercial season as possible. Another factor is the difficulty in predicting available yields in a scallop fishery with any precision. The uncertainty due to the variables of dredge efficiency and residual scallop density are discussed in the section on information about abundance during the current fishing year. There is also additional uncertainty when the TACC is allocated in meatweight, because the meatweight to greenweight ratio varies throughout each year and between years. Actual yields will depend on scallop condition, natural mortality, scallop growth, and the timing and location of fishing.
- 19 The Northland scallop stock fluctuates in biomass from year to year. Recruited biomass in any given year cannot be predicted from historical biomass estimates, nor even from biomass estimates in the previous year adjusted by catch in the intervening season. However, the system may not be entirely random. For the Coromandel scallop fishery, prior to 1999, there appeared to be a relationship between scallop recruitment (as measured by catches two years later) and the Southern Oscillation Index. The relationship ceased after 1999 when the Coromandel scallop catch was dramatically reduced due to the “black gill” condition in scallops and the spread of the *Chaetopterus* tubeworm into some areas. It is believed that “black gill” and *Chaetopterus* also affected the Northland scallop catch in the late 1990s and early 2000s, especially in the southern parts of the fishery.

Recreational fishery

- 20 Telephone/diary surveys were undertaken during 1993-1994, 1996, 1999-2000, and 2000-01. The recreational harvest estimates (tonnes meatweight) were:

1993-94	5–7.5
1996	4.0
1999-2000	4.1
1999-2001	3.6

- 21 The recreational diary surveys include catches reported from areas closed to commercial fishing by regulation. The areas closed to commercial dredging by regulation include popular recreational and customary fishing areas such as Whangarei Harbour, the Bay of Islands, Whangaroa Harbour, and the inner parts of Doubtless Bay. The rationale for these closed areas in this fishery is that the closures protect key non-commercial scallop fishing areas from the effects of commercial scallop dredging. In general, the closures are utilisation measures, rather than sustainability measures.

Māori customary fishery

- 22 In common with many other shellfish, scallops are important to Māori as a traditional food. However, no quantitative information on the level of the overall customary take of SCA1 is

available. Some kaumätua and kaitiaki may keep records of authorisations to take fish and shellfish pursuant to the Maori customary provisions under the Fisheries Act. However, MFish's experience is that most of these authorisations relate to mussels, rock lobster, and paua. In the future, better quantitative information on the customary catch may become available due to the more comprehensive reporting required under the customary fishing regulations.

Other sources of fishing-related mortality

- 23 Quantitative information on the level of illegal catch is not available. However, quantitative information on other sources of fishing-related mortality was gathered in the Coromandel scallop fishery as part of MFish project AKSC03 during the 1996-97 fishing year. This work by NIWA assessed the incidental effects on growth and mortality of scallops from encounters with commercial dredges of various designs.
- 24 Individual-based population modelling and yield per recruit analysis suggested there are incidental effects of dredging on growth and mortality rates that are highly influential on the determination of yield from scallop dredge fisheries. Using NIWA's model, the level of incidental mortality was estimated to be 34.4% of the level of the commercial catch at a fishing mortality of F0.1. Based on this model, an allowance for fishing-related mortality is proposed later in this paper for the Northland fishery.
- 25 Recreational fishers dive, hand gather or use small dredges to collect scallops. Research information indicates that recreational dredging is responsible for negligible incidental mortality. Accordingly, no allowance will be made for incidental mortality by recreational fishers.

Fishery assessment

General methodology

- 26 The yield estimates most commonly used in New Zealand are Maximum Constant Yield (MCY) and Current Annual Yield (CAY). These are derived from two ways of viewing MSY – a static interpretation and a dynamic interpretation. Under a static interpretation, MCY is the largest constant commercial catch that may be taken sustainably, with an acceptable level of risk, even if the number of recruits fluctuates from year to year.
- 27 Under a dynamic interpretation, CAY is the catch that can be taken in a particular year, and is calculated as a constant proportion of the biomass ie. CAY increases and decreases in tandem with changes in the stock biomass. It is possible to estimate CAY only when the current stock size is known, as is possible in the case of scallops immediately after a survey. The methodology for calculating CAY is set out in MFish's Stock Assessment Plenary report.
- 28 The current TAC for SCA1 is largely based on an estimate of MCY for the fishery. This is the level of constant commercial catch that is estimated to be sustainable, with an accepted level of risk, at all probable levels of biomass. However, because of the annual variation of scallop biomass, the CAY provides the most appropriate estimate of yield on which to base any consideration for an in-season increase in TAC.
- 29 Since 1992, recruited biomass at the start of the season, for most years, has been estimated by research surveys. Counts of scallops above a critical size at each survey site are converted to

numbers per square metre of seabed according to the area swept by the dredge. The absolute density of scallops is estimated by correcting for the efficiency of the dredges. The numbers of scallops are calculated by multiplying the mean scallop density by the area of each survey stratum. Mean recruit weight is estimated and used to calculate biomass.

- 30 The draft report from NIWA for the 2006 survey provided two CAY estimates calculated using the internationally-accepted target rate of fishing mortality $F_{0.1}$. The results of the NIWA report, including a comparison between years are summarised in Attachment 1. The first CAY estimate (152 tonnes meatweight) provides for a “pessimistic outlook” based on conservative assumptions about dredge efficiency, growth, mortality, and conversion factors. The second estimate (366 tonnes meatweight) provides for an “average outlook” is more realistic and uses less conservative assumptions. NIWA did not provide an “optimistic outlook”. In addition, if an allowance is made for areas of low scallop density at a level of 0.04 m^{-2} (approximately equates to a dredging rate of 50kg greenweight per hour), then both CAY estimates would be reduced by about 24%.

Environmental Issues

- 31 The Act prescribes environmental principles that must be taken into account when exercising powers in relation to utilisation of fisheries resources while ensuring sustainability. Associated or dependent species (including non-fish bycatch) should be maintained above a level that ensures their long-term viability. Biological diversity of the aquatic environment (ie, the variability of living organisms, including diversity within species, between species, and of ecosystems) should be maintained, and habitat of particular significance for fisheries management should be protected.
- 32 The history of commercial dredging in the Northland scallop fishery dates back to the 1970s, and trawling has occurred in the area since the late nineteenth century. There is no doubt that these fishing methods have an impact on the seabed and seabed communities. However, the seafloor in the area is likely to have also been modified by the impact of land-based activities over a longer time period.
- 33 MFish is not currently aware of any habitat of particular significance for fisheries management that requires additional protection. MFish does not consider that the catch levels proposed below in this paper will put at risk the long-term viability of associated species or biological diversity within the area of the fishery.
- 34 Between 1997 and 2003, populations of the large tubeworm (*Chaetopterus spp.*) spread throughout the near shore marine environment in north-eastern New Zealand. A Uniservices research report maps the distribution of the tubeworm around north-eastern New Zealand, and discusses the species taxonomic status and the ecological effect of *Chaetopterus* species in other parts of the world.
- 35 The tubeworm affects scallop fishing by clogging dredges. The presence of vast numbers of the tubeworm, combined with its rapid spread, has also raised concerns about the potential ecosystem effects of this organism. However, as indicated earlier, tubeworms appear to have declined over the last three years and were rare during the 2006 dredge survey. Nonetheless, the increase and decrease in the tubeworm population illustrates how variable associated and dependent species can be in seafloor communities.

Current and potential research

36 The current fisheries services applying to this fishery include optional surveys to estimate yield from the commercial scallop beds.

Proposed TAC, allowances, and ACE

TAC setting

37 Under s 13 of the Act, the TAC must be set at a level that will maintain the stock at or above, or move the stock towards or above, the level that will support the MSY. As SCA1 is on the Second Schedule to the Act, under s 13(7) the Minister can increase the TAC in-season after considering information about the abundance of the stock.

38 MFish notes that there is no current assessment of the entire SCA1 stock on which to base a TAC. The available assessment information on yield is based on a survey of the main commercial scallop fishing beds. The CAY method estimates sustainable yield from areas primarily utilised by commercial fishing. The CAY estimate is a proxy for MSY, and the proposed TAC increase is likely to move the stock towards a level that can support the MSY.

39 At a recent meeting of the Directors of the Northland Scallop Enhancement Company, the results of the research survey in the draft NIWA report were discussed. The Directors were aware of the projected improvement in the fishery. Most of the Directors favoured an increase in the commercial catch limit from the baseline 40 tonnes to 70 tonnes (same as 2005). However, other Directors and some of the quotaholders who have subsequently contacted MFish, favoured an increase to 100 tonnes.

40 The President of the NZ Recreational Fishing Council (NZRFC) has commented to MFish on the 2006 survey results and the draft NIWA report. The NZRFC notes that the fishery has rebuilt strongly with biomass levels now greater than any previous year. The NZRFC is not opposed to the commercial increase, but considers that the recreational allowance should be increased by the same magnitude as the commercial increase. The NZRFC also strongly requests that the daily bag limit should increase in both the Northland and Coromandel scallop fisheries so that recreational fishers can also benefit from the rebuilt scallop fishery.

41 MFish did not receive comments on the draft NIWA report from customary Maori, and the environmental sector.

42 MFish proposes the following four options to increase the Northland scallop TAC.

	"Baseline" levels	Option 1	Option 2	Option 3	Option 4
Customary	7.5	7.5	7.5	13	18
Recreational	7.5	7.5	7.5	13	18
Incidental	20	24	34	24	34
TACC	40	-	-	-	-
Additional ACE	-	30	60	30	60
TAC	75	109	149	120	170

43 The four options depend on two key decisions. First, whether to increase the total available ACE for commercial fishers for the 2006 season from 40 tonnes meatweight to 70 tonnes, or

from 40 tonnes to 100 tonnes meatweight. Second, whether or not to increase the allowance for recreational and customary fishers by the same proportionate amount as the commercial increase. For all of the proposed options, at the end of the current fishing year for SCA1, the proposed TAC, ACE, and allowances would revert to the initial “baseline” levels at the start of the fishing year.

- 44 MFish notes that the proposed TAC for option 4 (170 tonnes) is more than the “pessimistic outlook” CAY (a proxy for MSY) estimate of 150 tonnes stated earlier. However, the two numbers are not comparable because the CAY estimate does not include a yield estimate from the areas closed to commercial scallop fishing. In addition, the “pessimistic” CAY estimate is particularly conservative. The option 4 TAC is much less than the “average” CAY estimate (366 tonnes) which is based on more realistic assumptions about factors such as dredge efficiency and scallop growth.

Allowances and ACE

- 45 MFish notes there is no statutory obligation to make an adjustment to Maori customary or recreational interests when the TAC is varied pursuant to s 13(7) of the Act. However, s 68(1) requires the Minister to consider the provisions of s 21, under which he has the discretion to determine allowances.

Recreational interests

- 46 In considering an in-season TAC increase, and having regard to the matters under s 21, MFish proposes two variations for the recreational allowance. Options 1 and 2 entail no change to the allowance because there is no recent reliable quantitative information available on the recreational fishery. Options 3 and 4 entail increases in the allowance by the same proportion as the commercial increase on the basis that the recreational catch is likely to increase because of the strong increase in scallop biomass.

Option 1 and 2: No change to the recreational allowance

- 47 MFish acknowledges there is a lack of recent reliable quantitative information available on the tonnage of scallops taken by the recreational sector. In addition, no quantitative information is available on scallop biomass in the areas closed to commercial scallop fishing. Without this information, there is no way of knowing what a sustainable catch level might be for the recreational sector, and whether or not the allowance has been under- or over-caught.
- 48 This was essentially the position adopted by the Minister in 2005 in making his decision on the Northland scallop fishery TAC. The Minister decided to not increase the recreational allowance because he wanted a more robust system for assessing the scallop stocks in the non-commercial fishing areas to be developed.
- 49 Another consideration is that most of the recreational catch estimates (see earlier) from the telephone/diary surveys are less than the allowance. When the recreational allowance was initially set in 2002, MFish recognised that the recreational catch will vary from year to year partly in relation to scallop availability and abundance. The allowance was set at the largest of the recreational catch estimates to accommodate the variability of the recreational catch and to ensure that it was unlikely that the recreational catch would exceed the allowance.

- 50 In 2002, the results of the 1999-2000 and the 2000-01 surveys were not available for consideration for setting the recreational allowance. However, these recreational catch estimates (4.1 and 3.6 tonnes) were obtained when it is likely the overall Northland scallop biomass was at a very low level. Therefore, the recreational catch may increase with the recent increase in scallop biomass, but the catch may not increase by enough to exceed the current allowance of 7.5 tonnes.
- 51 Accordingly, under options 1 and 2, MFish proposes no change to the recreational scallop allowance and the level would remain at 7.5 tonnes meatweight.

Option 3 and 4: Increase the recreational allowance

- 52 MFish notes that the survey results relate primarily to the scallop beds mainly fished by the commercial sector. However, trends in scallop abundance in the “non-commercial” beds are likely to be similar to abundance trends for the surveyed beds. Due to the increased biomass, an increased recreational catch could be attained for 2006-07 from a number of factors. It is likely that existing fishers will fish more frequently for scallops. As people become more aware that scallop abundance has increased, there are likely to be more “new” or “occasional” fishers fishing for scallops. In addition, “habitual” fishers may fish more frequently and more frequently attain their full legal entitlement of scallops ie. the current daily bag limit of 20 scallops per fisher per day.
- 53 MFish believes that the significant increase in scallop biomass in the Northland fishery is likely to lead to an increase in the recreational catch. Under this scenario, MFish considers it would be reasonable to propose an increase in the recreational allowance by the same proportion as the proposed commercial increase. Accordingly, for option 3 MFish proposes to increase the recreational allowance from 7.5 tonnes meatweight to 13 tonnes meatweight for 2006-07. For option 4, MFish proposes to increase the recreational allowance from 7.5 tonnes meatweight to 18 tonnes meatweight for 2006-07.
- 54 For both options 3 and 4, the recreational allowance would then decrease to 7.5 tonnes meatweight at the end of the current fishing year for SCA1 (31 March 2007).

Māori customary interests

- 55 In common with many other shellfish, scallops are important to Māori as a traditional food. However, no quantitative information on the level of customary take of SCA1 is available. MFish has applied a general criterion that, in the absence of quantitative catch information and where the fishery is of known importance to Maori, the recreational allowance is used as a benchmark to set the customary allowance.
- 56 Accordingly, MFish proposes two options for the customary allowance. Both options 1 and 2 retain the customary allowance at the current level – 7.5 tonnes meatweight. Option 3 is to increase the customary allowance to the level of the proposed recreational allowance – 13 tonnes meatweight. Option 4 is to increase the customary allowance to 18 tonnes the same as the recreational allowance.
- 57 Under both options 3 and 4, the customary allowance would then decrease to 7.5 tonnes meatweight at the end of the current fishing year for SCA1 (31 March 2007).

Other sources of fishing-related mortality

- 58 When SCA1 was introduced into the QMS in 1997, the allowance for other sources of fishing-related mortality was based on the level of incidental mortality from the commercial dredge fishery which was considered to be 50% for the relatively high fishing pressures thought appropriate at that time. Following the SCA1 baseline TAC reductions in the late 1990s and early 2000s, the baseline allowance for other sources of fishing-related mortality was set at 20 tonnes, which is 50% of the baseline TACC at 40 tonnes.
- 59 However, the level of incidental mortality expected in the commercial dredge fishery is now included in the NIWA stock assessment model at 34.4% of the catch level at F0.1.

Therefore, for options 1 and 3 with the ACE increase to 70 tonnes, MFish proposes to increase the allowance for other sources of fishing-related mortality from 20 to 24 tonnes meatweight. For options 2 and 4 (proposed ACE increase to 100 tonnes), MFish proposes to increase the allowance for other sources of fishing-related mortality from 20 to 34 tonnes meatweight.

60 Under all four options, the other sources of fishing-related mortality allowance would then decrease to 20 tonnes meatweight at the end of the current fishing year for SCA1 (31 March 2007).

ACE for commercial fishers

61 MFish notes that s 20(4) of the Act does not allow the TACC to be increased in-season if the Minister decides to increase the TAC. However, under s 68(1), if the Minister after taking into account the matters under s 21, is satisfied that he would have increased the TACC but for the s 20(4) prohibition, then he may create an additional amount of ACE equal to the amount he would have increased the TACC. Any increase in ACE will be distributed proportionally amongst the scallop quota owners according to the formula in s 68(2).

62 MFish considers that the Minister can be satisfied that the survey results provide adequate grounds for increasing the TACC, but for the impediment of s 20(4). On that basis, MFish believes that the Minister can consider making available an additional amount of ACE equivalent to the TACC increase he would have considered. Accordingly, MFish proposes two variations to increase the ACE level:

- options 1 and 3 - increase from 40 to 70 tonnes meatweight;
- options 2 and 4 - increase from 40 to 100 tonnes meatweight.

63 Based on a market port price of \$16.00 per kilogram of meatweight (\$16,000 per tonne), the proposed increase in ACE of 30 tonnes meatweight equates to an increased gross return to the commercial fishers of \$480,000 for the 2006 season. An increase in ACE of 60 tonnes meatweight equates to an increased return of \$960,000.

Other legislative considerations

64 Section 5 of the 1996 Act requires that the Minister shall act in a manner consistent with New Zealand's international obligations and Treaty of Waitangi (Fisheries Claims) Settlement Act 1992. To this end, the provisions of general international instruments such as UNCLOS and the Fish Stocks Agreement have been implemented through the provisions of the 1996 Act. The Ministry is not aware of any specific international obligations relating to the Northland scallop fishery. The proposed options are consistent with the obligations relating to the Treaty of Waitangi (Fisheries Claims) Act 1992.

65 Before setting or varying any sustainability measure, s 11(1) of the Act requires the Minister to take into account specified matters. These include:

- i) any effects of fishing on any stock and the aquatic environment;
- ii) any existing controls that apply to the stock or area concerned;
- iii) the natural variation of the stock concerned.

- 66 MFish acknowledges that dredging will be having some impact on habitats of significance to the management of the scallop fishery. This is because juvenile scallops in dredged areas tend to experience higher mortality than juveniles in non-dredged areas. To some extent, this impact will be mitigated by the small increase in catch (relative to the estimated CAY) sought by commercial fishers. MFish does not consider that dredging is having a significant adverse effect on habitats for finfish fisheries. For example, scallop dredging does not occur in areas that are particularly important to snapper spawning or juvenile recruitment.
- 67 Evaluation of the available information on the effects of fishing has led to a number of restrictions that underpin the existing commercial fishery management regime for SCA1. These restrictions are consistent with the over-riding obligation to avoid, remedy or mitigate the adverse effects of fishing. They are implemented through a combination of regulations and voluntary agreement and include:
- a) restrictions on dredge size to reduce adverse effects on the seafloor;
 - b) daylight only fishing (reduces fishing intensity);
 - c) daily catch limits to reduce fishing intensity (Northland Scallop Enhancement Company initiative).
- 68 If information becomes available that indicates dredging is having an adverse effect on an area of special or significant biodiversity, then MFish will take steps to avoid, remedy, or mitigate the adverse effect. Such a situation occurred at Spirits Bay in the Northland scallop fishery in the late 1990s. Research information indicated that dredging and trawling were likely to be having a significant adverse effect on the rare and endemic benthic biota only occurring in that area. Consequently, a large area at Spirits Bay and Tom Bowling Bay was closed by fisheries regulation to dredging and trawling.
- 69 All options proposed here recognise that biological systems can be inherently variable, and stocks are prone to fluctuations in abundance. This particularly applies to scallop populations.
- 70 Section 11(2A) of the Act requires that before varying any sustainability measure the decision-maker must take into account any approved fisheries plan, any conservation or fisheries required services, and any decisions not to require fisheries services. The current fisheries service applying to the fishery is a pre-season survey to estimate CAY for the fishery. The survey estimate has been considered and forms the basis for the proposals contained in this paper. There are no conservation services applying to the fishery.
- 71 Currently, there is no approved fisheries plan for the Northland scallop fishery. However, the Ministry and stakeholder leaders are preparing a draft fisheries plan for the Coromandel scallop fishery. It is intended that the draft Coromandel plan could be ready for formal statutory consultation with stakeholders and the general public near the end of the year. Based on submissions received, the Minister could then be in a position to decide whether or not to approve the plan in early-mid 2007. Although there are some key differences between the fisheries, a Coromandel scallop plan would be a useful template and starting point for the development of a Northland scallop plan.
- 72 One of the key advantages of a scallop plan approved by the Minister is that the in-season TAC adjustment process is likely to cease in its current form. Instead, the process should be abbreviated and managed by the Fisheries Plan process. The Minister will only be asked to

approve the outcome of a pre-agreed set of decision rules on how the TAC and allowances would be adjusted.

- 73 In relation to s 11(2) of the Act, there are no provisions applicable to the coastal marine area known to exist in any policy statement or plan under the Resource Management Act 1991, or any other management strategy or plan under the Conservation Act 1987, that are considered relevant to the setting of sustainability measures for the Northland scallop fishery.
- 74 Under s 11(2)(c), the Minister must have regard to sections 7 and 8 of the Hauraki Gulf Marine Park Act 2000 as part of the Northland scallop fishery is part of the area defined as the Hauraki Gulf for the purpose of that legislation. In summary, sections 7 and 8 articulate the national significance of the Hauraki Gulf to sustain the life-supporting capacity of the environment and note that management objectives for the Hauraki Gulf are to protect the life supporting capacity of the environment and to maintain the contribution of the natural resources to the social, recreational, and economic well-being of the people and communities of the Hauraki Gulf and New Zealand. Setting a sustainable commercial catch limit on a fishery resource, having taken into account the environmental principles of the Act, is consistent with these objectives as it provides for utilisation while ensuring sustainability.
- 75 Section 11 of the Act also provides for the setting or varying of sustainability measures other than a TAC or catch limits. The Minister may determine that area closures and seasonal constraints required for the annual management of this fishery be set as sustainability measures. As mentioned, a number of commercial closed areas are already in place in the Northland scallop fishery, although these are not considered sustainability measures.
- 76 Stakeholders have indicated their preference for a harvesting strategy that primarily involves in-season adjustment of the TAC. However, it is considered that some of the current regulatory controls (eg. season length, minimum size limit) could be reviewed in the future, possibly as part of the development of a fish plan for the fishery.

Administrative implications

- 77 There will not be an opportunity to amend the cost recovery levies prior to the end of the SCA1 fishing season. Consequently, an over recovery will occur because levies are set on a per unit basis (kg or quota share), and the number of units will increase. In setting future levy orders, the Minister must have regard to over recoveries.

Consultation

- 78 In early June, MFish asked stakeholder representatives and members of the Shellfish Working Group to review the draft NIWA research report entitled “Dredge survey and stock assessment for the Northland scallop fishery, 2006”. The report forms the basis of the proposed TAC change. No significant comments of a scientific nature were provided on the draft. Subject to a few minor changes, the document will therefore be accepted as the final report.
- 79 Prior to the statutory consultation with stakeholders involving this paper as the key document, there has been some preliminary consultation. At recent meetings of the Northland Scallop Enhancement Company, the management implications of the survey

results were discussed. MFish also discussed management issues with the President of the NZRFC.

- 80 As indicated earlier, the main commercial stakeholder organisation suggested the basis for the proposed ACE increase. However, given the favourable stock assessment information, MFish is interested in hearing alternative views and options from other stakeholders for the current fishing year, and for the medium to long-term future of the Northland scallop fishery.
- 81 The 2006 in-season review of the Northland scallop TAC will be based on the process that operated in the Coromandel scallop fishery for the last four years. Stakeholders will have around three weeks to Thursday 24 August 2006 to provide MFish with written submissions commenting on the management proposals. Post submissions to: Ministry of Fisheries, PO Box 19747, Avondale, Auckland. A consultation meeting will also be held for all interested parties to discuss the proposal:

1-4pm Friday, 18 August 2006
Hatea Conference Room, Settlers Hotel
61-69 Hatea Drive
WHANGAREI

- 82 The short time period for consultation is necessary because of the relatively short scallop fishing season, which closes on 14 February. Any in-season changes to the management measures for SCA1 need to be implemented as early as possible to be meaningful within the season.
- 83 It is also important to note that all submissions are subject to the Official Information Act and can be released, if requested, under the Act. If there are any specific reasons for wanting to have a submission withheld, then please set out these reasons in the submission. MFish will consider the reasons when making any assessment for the release of submissions if requested under the Official Information Act.

Summary

- 84 The Act imposes an obligation to provide for the utilisation of fisheries resources as long as sustainability is ensured. The proposed management measures take into account the survey information showing a biomass increase for the Northland scallop fishery.
- 85 There is a reasonable level of support amongst key commercial and recreational fishing groups for the TAC to be increased, and to increase the amount of ACE from 40 tonnes to either 70 or 100 tonnes meatweight. This would allow additional utilisation and income to commercial fishers who derive part of their livelihood from this fishery. Two changes are proposed for the non-commercial allowances. MFish considers that the proposed measures for the SCA1 fishery are consistent with the purpose and principles of the Act and associated obligations.

Preliminary recommendation

86 MFish proposes four management options for an in-season TAC increase for SCA1.

Option 1: Retain the non-commercial allowances and increase ACE to 70 tonnes

- a) Increase SCA1 TAC from 75 to 109 tonnes meatweight, and within the TAC:
 - i) retain the recreational allowance at 7.5 tonnes meatweight;
 - ii) retain the customary allowance at 7.5 tonnes meatweight;
 - iii) increase the allowance for other sources of fishing-related mortality from 20 tonnes meatweight to 24 tonnes meatweight;
 - iv) increase the Annual Catch Entitlement (ACE) for quota owners from 40 tonnes meatweight to 70 tonnes meatweight.

Option 2: Retain the non-commercial allowances and increase ACE to 100 tonnes

- b) Increase SCA1 TAC from 75 to 149 tonnes meatweight, and within the TAC:
 - i) retain the recreational allowance at 7.5 tonnes meatweight;
 - ii) retain the customary allowance at 7.5 tonnes meatweight;
 - iii) increase the allowance for other sources of fishing-related mortality from 20 tonnes meatweight to 34 tonnes meatweight;
 - iv) increase the ACE for quota owners from 40 tonnes meatweight to 100 tonnes meatweight.

Option 3: Increase the non-commercial allowances and increase ACE to 70 tonnes

- c) Increase SCA1 TAC from 75 to 120 tonnes meatweight, and within the TAC:
 - i) increase the allowance for recreational fishing from 7.5 to 13 tonnes meatweight;
 - ii) increase the allowance for customary fishing from 7.5 to 13 tonnes meatweight;
 - iii) increase the allowance for other sources of fishing-related mortality from 20 tonnes meatweight to 24 tonnes meatweight;
 - iv) increase the ACE for quota owners from 40 tonnes meatweight to 70 tonnes meatweight.

Option 4: Increase the non-commercial allowances and increase ACE to 100 tonnes

- d) Increase SCA1 TAC from 75 to 170 tonnes meatweight, and within the TAC:
 - i) increase the allowance for recreational fishing from 7.5 to 18 tonnes meatweight;
 - ii) increase the allowance for customary fishing from 7.5 to 18 tonnes meatweight;
 - iii) increase the allowance for other sources of fishing-related mortality from 20 tonnes meatweight to 34 tonnes meatweight;
 - iv) increase the ACE for quota owners from 40 tonnes meatweight to 100 tonnes meatweight.

87 For all four options, MFish proposes that at the end of the current fishing year for SCA1, the TAC will be 75 tonnes meatweight, the allowance for recreational fishing will be 7.5 tonnes meatweight, the allowance for customary fishing will be 7.5 tonnes meatweight, the allowance for other sources of fishing-related mortality will be 20 tonnes meatweight, and the ACE will be 40 tonnes meatweight.

Attachment 1: Northland scallops stock assessment summary (2006)

- 1 A research survey of the main Northland scallop beds (Spirits Bay/Tom Bowling Bay, Rangaunu Bay, Bream Bay, Mangawhai/Pakiri) used for commercial fishing was conducted in May 2006. For the overall survey area, a simple “area-swept” analysis suggests there were 36 million scallops (with a Co-efficient of Variation (CV) of 14%) at or above a size of 100 mm at the time of the survey. However, this is an under-estimate, as this assumes that dredges are 100% efficient at catching all the scallops in the path of the dredge.
- 2 Dredge efficiency was assessed as part of many of the surveys in the 1990s by conducting experiments to compare scallop catch rates between divers and dredges operating in the same area at the same time. Previous estimates of dredge efficiency and selectivity on sandy substrates have been made using a variety of vessels. However, dredge efficiency was not assessed for the vessel used for the 2006 survey due to cost constraints and concerns about diver safety. Accordingly, for the 2006 assessment, the historical average selectivity pattern was used to correct for dredge efficiency. By allowing for average dredge efficiency catch rates, the number of scallops above 100 mm is estimated to be 75 million.
- 3 To allow a rough comparison of trends over the history of the fishery since 1992, survey estimates based on scallops 95mm and above are provided (Table 2).

Table 2: Millions of scallops (95 mm or greater shell length) estimated at the time of the survey in the main areas of the Northland commercial fishery since 1992. The same dredge efficiency correction (64%) has been assumed for all sizes and years. Totals include data from all surveyed beds and are not directly comparable among years. Asterisks (*) indicate unreliable results, dashes (–) indicate no survey. Surveys in 2002 and 2003 were completed very close to the start of the season, and are positively biased compared to other years.

Year	Spirits	Rangaunu	Doubtless	Whangaroa	Cavalli	Bream	Pakiri	Total
1992	–	7.0	0.7	–	0.4	16.8	4.0	28.9
1993	–	*1.5	0.7	1.7	0.4	5.5	–	*9.8
1994	–	8.5	1.3	0.6	–	4.2	0.2	14.8
1995	–	9.0	1.0	2.3	1.2	3.5	0.1	18.2
1996	24.4	7.7	0.3	1.2	0.9	2.2	–	37.6
1997	15.8	9.9	0.7	1.1	0.7	*5.7	0.4	35.3
1998	4.7	6.0	0.3	0.5	0.9	0.2	<0.1	14.0
1999	–	–	–	–	–	–	–	–
2000	–	–	–	–	–	–	–	–
2001	5.4	6.6	0.0	0.1	–	1.1	–	13.2
2002	10.5	9.3	–	0.1	–	5.4	–	26.6
2003	8.3	7.5	0.1	0.4	0.0	1.6	–	18.0
2004	–	–	–	–	–	–	–	–
2005	4.9	7.2	–	–	–	46.7	4.9	66.1
2006	3.0	12.3	–	–	–	51.0	5.5	71.8

NB. For 2006, other areas (Doubtless Bay, Whangaroa, Cavalli Islands) that have supported commercial scallop fishing and have been surveyed in previous years, were not surveyed in 2006 as quota owners believed scallop numbers were likely to be low in these areas.

- 4 The estimates (Table 2) indicate that there has been a further improvement in the number of scallops for 2006. The improvement is most pronounced for Bream Bay since 2000. However, the biomass has also improved over historical average levels for Rangaunu Bay and Mangawhai / Pakiri. The total survey estimate for 2006 (75 million) is considerably larger than all previous survey estimates which ranged from 10 million (1993) to 66 million (2005).
- 5 For 2006, the total greenweight biomass (100mm+ scallops) can be calculated by multiplying the estimate of the numbers of scallops by the average weight of a scallop (111.9 grams) at the time of the survey. This provides an estimate of 8,340 tonnes allowing for historical average dredge efficiency. A more sophisticated “re-sampling” analysis produced biomass estimates with statistical distributions with extreme right-hand skews with some CVs in excess of 100%. Due to this extreme variability, the median values were subsequently used for all yield calculations.
- 6 To estimate CAY it is necessary to know the biomass of scallops at the start of the season. The numbers of scallops at length at the time of the survey was projected forward using assumptions concerning growth (determined from previous tagging programmes (mostly in the Coromandel fishery)) and natural mortality (assumed to be $M=0.5$ spread evenly through the year). A non-parametric re-sampling and projection approach resulted in a median estimate of biomass over 100 mm in length of 7,280 tonnes (greenweight) with a high CV of 43%, based on historical average values for dredge efficiency.
- 7 An additional biomass estimation step that is optional is to make an allowance for only that part of the fishery where scallops occur at a density considered viable for commercial fishing. Critical density will differ for various operators involved in the fishery. MFish considers 0.04 m^{-2} (ie. one recruited scallop for each 25 m^2 of seabed) to be the most appropriate critical density for the Northland scallop fishery, as it conforms closest to a catch rate of around 50 kg greenweight per hour. This catch rate is likely to be about the minimum for an economic return from the fishery. An allowance for critical density at 0.04 m^{-2} would reduce the estimate by around 24%.

Current Annual Yield (CAY) calculation

- 8 Using the assumptions of historical average dredge efficiency and a reference rate of fishing mortality of $F_{0.1}$ (MFish standard rate), the CAY is estimated to be 2707 tonnes greenweight for the recruited biomass. It is then necessary to convert the greenweight to meatweight in each re-sampling calculation, as meatweight is the standard unit of measurement used in the Northland scallop fishery. This conversion results in a meatweight CAY estimate of 366 tonnes by using the actual recovery rates from 1995 to 2002 (averaging 13.59%) for extracting the scallop meat from the whole scallop shell in the processing sheds. If an allowance is made for areas of low scallop density at a level of 0.04 m^{-2} , then the CAY would be reduced by about 24%.