NEW ZEALAND RED ROCK LOBSTER FISHERIES

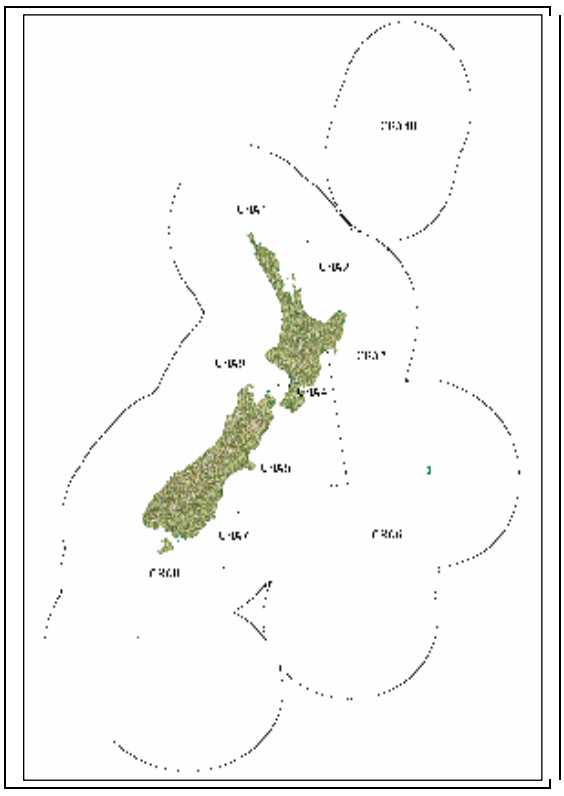
PUBLIC CONSULTATION DOCUMENT

CONSULTATION 1

PROPOSAL TO ADOPT A MANAGEMENT PROCEDURE FOR CRA 4

CONSULTATION 2

PROPOSAL TO VARY SUSTAINABILITY MEASURES FOR CRA 3, CRA 4, CRA 7 AND CRA 8



15 DECEMBER 2008

1. PROPOSAL TO ADOPT A MANAGEMENT PROCEDURE FOR CRA 4

EXECUTIVE SUMMARY

1. The National Rock Lobster Management Group (NRLMG) proposes using a management procedure to guide Total Allowable Catch (TAC) and Total Allowable Commercial Catch (TACC) setting in the Wellington/Hawke Bay rock lobster fishery (CRA 4).

2. The proposed CRA 4 Management Procedure:

    a) uses standardised autumn-winter (April through September) commercial catch per unit effort (CPUE) as the indicator of lobster abundance for CRA 4

    b) specifies the management objective as being to maintain the stock abundance at an acceptable level above the agreed sustainability indicators, while delivering an acceptable annual catch

    c) contains a harvest control rule that calculates a TACC for each fishing year the procedure is operated; the TACC varies with changes in the abundance indicator

    d) would be used for three years to guide TAC and TACC setting and then reviewed.

3. The NRLMG believes using the CRA 4 Management Procedure to guide TAC and TACC setting is consistent with the Fisheries Act 1996 (the Act). The central consideration is whether the procedure meets the TAC setting requirements of s 13 of the Act. Section 13 requires the Minister of Fisheries (the Minister) to set a TAC that moves the stock to, or maintains the stock at, a size at or above a level that can produce the maximum sustainable yield or that is not inconsistent with this objective. This stock size is commonly called Bmsy.

4. Bmsy has not been reliably estimated for CRA 4. Nevertheless, the NRLMG is confident the CRA 4 Management Procedure is consistent with s 13 because the procedure:

    a) is expected, with 99% probability, to maintain stock size above the target stock size currently accepted as a proxy for Bmsy

    b) is designed to achieve a stock size that is, on average, *larger than* the 2008 stock size. Therefore, whether current stock size is above, at or below Bmsy, applying the procedure would increase the stock size either towards Bmsy, or towards a level above Bmsy.

5. Rock lobsters are important taonga to tangata whenua in CRA 4, are prized by amateur fishers, and have high commercial value. Therefore the second key consideration is the impact of the proposed procedure on utilisation value.

6. The NRLMG believes customary Maori, amateur and commercial utilisation values would increase with application of the CRA 4 Management Procedure. This is because:

    a) the procedure would improve fishing opportunities for all sectors by increasing the stock from its current size, and by maintaining, with high probability, an average stock size larger than both the current and target stock sizes

    b) the procedure improves the "safety" of the CRA 4 stock by increasing TAC responsiveness to changes in abundance in the fishery

c) CRA 4 commercial stakeholders operated the procedure in 2007 and 2008 to guide voluntary commercial catch reductions with the express purpose of halting declining abundance to ensure the ongoing economic viability of the fishery.

7. Initial feedback from discussions with some of the representative customary Maori, amateur and commercial fishing organisations indicate they would support a management procedure approach. Customary Maori and amateur are keen to see an approach to TAC setting that is more responsive to changes in observed abundance in the CRA 4 fishery. CRA 4 commercial stakeholders support use of the CRA 4 Management Procedure to guide statutory TAC and TACC setting in the fishery.

PURPOSE OF THIS PAPER

8. This paper sets out the NRLMG's initial advice on a proposal to adopt the CRA 4 Management Procedure to guide TAC and TACC setting in CRA 4. It includes the best information available to the NRLMG to inform decision making.

9. The key purpose of the paper is to seek information and comments from CRA 4 tangata whenua, CRA 4 fishery stakeholders and other interested parties on the proposal.

TERMINOLOGY IN THE PAPER

Management Procedure

10. A management procedure is a tool used to guide the setting of catch limits. Management procedures are becoming more widely used, especially in South Africa, Australia, Europe and North America, as well as in New Zealand. A management procedure:

a) specifies what data will be used to make catch limit decisions

b) specifies how the data will be collected and analysed

c) contains a harvest control rule (a mathematical equation that determines what the specific output of the procedure will be, such as the exact TAC or TACC)

d) has been extensively simulation-tested using an operating model that is a model of the fishery system being managed.

11. Under a management procedure approach, agreement is obtained among managers and stakeholders before the procedure is implemented: they agree about the data inputs, the way the inputs will be treated to make inferences, the harvest control rule and the period for which the management procedure will be used. Extensive simulation testing of the procedure is undertaken to ensure it will deliver the desired outcomes.

12. The advantages of a management procedure approach, over the conventional approach of periodic stock assessments followed by decision making, are:

a) the process leads to explicit definition of management objectives;

b) all participants in the fishery can become involved in the choice of procedure;

c) uncertainty in all facets of the assessment and management process can be addressed;

d) greater certainty of achieving outcomes is provided ;

e) management procedures reduce the need for regular stock assessments, freeing resources for other research, and

f) the process is more understandable to fishers than the conventional approach.

Sustainability Indicators (Bmsy, Bref, Bmin)

13. The NRLMG uses sustainability indicators to report on stock health and to evaluate the effectiveness of management options. For most rock lobster stocks, performance is reported against a "target" stock size and a "minimum" stock size.

14. Three sustainability indicators are relevant to evaluation of the CRA 4 Management Procedure:

a) The statutory target stock size, **Bmsy**. The Act requires the Minister to set a TAC that moves the stock towards, or maintains the stock at, a level at or above Bmsy or to set a TAC that is not inconsistent with this objective. Bmsy is not straightforward to estimate and uncertain when estimated; there is currently no reliable estimate of Bmsy for CRA 4.

b) The proxy target stock size, **Bref**. In the absence of a reliable Bmsy estimate, alternative and proxy targets are used. For CRA 4, the stock size associated with a reference period is used. In this period the stock showed good productivity and was demonstrably safe: it subsequently declined to lower levels and then recovered.

c) The minimum stock size, **Bmin**. Bmin is the stock size associated with lowest abundance in the observed history of the CRA 4 fishery.

15. For all these indicators, CRA 4 stock size is measured in terms of the autumn-winter vulnerable biomass. "Vulnerable" biomass is the total quantity of lobsters available to the fishery (i.e., it does not include lobsters that cannot be harvested such as undersize lobsters).

16. The NRLMG has specified the desired performance[1] in relation to these sustainability indicators as:

a) stock size that fluctuates around the target (Bref) with at least 50% probability of achieving the target; and

b) stock size remains above the minimum (Bmin) with 90% probability.

SUMMARY OF PROPOSED MANAGEMENT OPTIONS

17. The NRLMG is seeking comments on the following management options:

Option	Description
Option 1	Adopt the CRA 4 Management Procedure to guide TAC and TACC setting in CRA 4
Option 2	Continue to use periodic stock assessments to guide TAC setting in CRA 4 (status quo)

[1] In October 2008, MFish released the Harvest Strategy Standard for New Zealand Fisheries (the HSS) that specifies performance standards for Quota Management System species. The NRLMG has not had time to generate the necessary information to incorporate the policy into its advice but will include reporting against the HSS, if necessary to do so, as new stock assessments are undertaken.

Option 1 – Adopt the CRA 4 Management Procedure to Guide TAC and TACC Setting in CRA 4

18. Under Option 1, the Minister would use the CRA 4 Management Procedure to guide statutory TAC setting decisions for CRA 4. The CRA 4 Management Procedure is described in detail in *Attachment* 1 to this consultation paper.

19. Under Option 1, the Minister would be guided by the operation of the management procedure when setting the TAC and TACC for CRA 4 for the 2009-10, 2010-11 and 2011-12 fishing years. During 2011, the management procedure would be reviewed.

Option 2 – Continue to use Periodic Stock Assessments to Guide TAC Setting in CRA 4 (status quo)

20. Under Option 2, periodic stock assessments (which are relatively infrequent due to resource constraints) would continue to guide TAC setting for CRA 4. Seasonal CPUE information would also be used to monitor stock abundance between stock assessments.

21. Under Option 2, a CRA 4 stock assessment would be completed in 2009 to allow consideration of whether statutory TAC setting requirements were being met.

RATIONALE FOR MANAGEMENT OPTIONS

CRA 4 Stock Status

22. A stock assessment was last performed for CRA 4 in 2005. The stock assessment indicated stock abundance was well above the target stock size, Bref. The median expectation was that stock size would decline slightly over the subsequent three years but would remain above Bref. The average predicted reduction in stock size was six percent. Uncertainty around these median predictions was very high.

23. CPUE is considered a good indicator of relative abundance in CRA 4, and seasonal CPUE information suggests the CRA 4 stock size may have declined more than predicted by the 2005 stock assessment. The autumn-winter CPUEs declined from 0.728 kg/potlift in 2005, to 0.611 in 2006, and then to 0.527 in 2007. The CPUE increased in 2008 to 0.573 kg/potlift. These CPUE values are all higher than the minimum level observed since 1979 (0.412 in 1992), but are lower than the mean for the reference period 1979-88 (0.754). These historical values are not reference points, but they are closely related to the reference points based on the reference periods. In short, they suggest the stock is probably above Bmin but may be below Bref.

24. CRA 4 commercial stakeholders did not harvest the full TACC in 2004-05 (six tonne shortfall), in 2005-06 (72 tonne shortfall) or in 2006-07 (131 tonne shortfall). They voluntarily shelved 44% of annual catch entitlement (ACE) in 2007-08, and shelved 58% of ACE in 2008-09. Given the decline in CPUE over the same period, the NRLMG considers that the current TAC is probably not sustainable.

25. The NRLMG notes that current catch levels probably are sustainable. CRA 4 quota shareowners used the CRA 4 Management Procedure to guide voluntary ACE shelving in 2007-08 and 2008-09; the procedure's abundance indicator – autumn-winter CPUE – increased from 0.527 kg/potlift in 2007 to 0.573 kg/potlift in 2008.

Rationale for Option 1

26. Management procedures have been successfully used to guide TAC setting in CRA 7 and CRA 8 since 1996. Management procedures were used first to rebuild the fisheries from a state of low abundance and then to maintain the stocks at target levels with high probability.

27. Adopting the CRA 4 Management Procedure would provide a mechanism to address the issue of a potentially unsustainable TAC quickly (i.e., from 1 April 2009). The procedure is designed to maintain the stock size at a level above both the current stock size and Bref. Use of the procedure is viable because:

a) the procedure was chosen from a large selection of procedures that were evaluated for performance against sustainability criteria (refer Breen *et al* (2006))

b) the procedure has been tested using a model of the CRA 4 fishery system based on the 2005 CRA 4 stock assessment model (which was accepted by the Ministry of Fisheries (MFish) Plenary in 2005)

c) the procedure has been tested for robustness to uncertainties in information, including uncertainties in recruitment, in the level of non-commercial catches and in the stock assessment results. The procedure was robust to these uncertainties in that desired performance against the sustainability indicators was maintained.

Rationale for Option 2

28. The status quo approach to addressing the issue of a potentially unsustainable rock lobster TAC is to conduct a stock assessment to confirm stock status and inform TAC setting.

29. The necessary information to complete a viable stock assessment is available for CRA 4. The stock assessment could be completed in 2009 and used to inform TAC setting for the 2010-11 fishing year.

ASSESSMENT OF MANAGEMENT OPTIONS

30. Assessment of the management options against statutory criteria is set out in *Attachment 2* to this consultation paper. Key considerations and impacts are discussed below.

Option 1 – Adopt the CRA 4 Management Procedure to Guide TAC and TACC Setting in CRA 4

Sustainability and Environment

31. Simulation-testing of the CRA 4 Management Procedure shows it to be very safe with respect to sustainability indicators. The procedure is expected to maintain stock size above both Bref and Bmin with high probability.

32. The NRLMG acknowledges that it does not have a reliable estimate of the statutory target, Bmsy. However, the NRLMG is confident the proposed three-year application of the CRA 4 Management Procedure is consistent with the statutory target because:

a) Bref has previously been accepted by the MFish Plenary as a suitable proxy for Bmsy and the procedure is expected to maintain stock size above this proxy target with very high probability, and

b) the procedure is designed to achieve a stock size that is, on average, *larger than* the current stock size. Therefore, whether current stock size is above, at or below Bmsy, applying the procedure would increase the stock size either towards Bmsy, or towards a level above Bmsy.

33. The NRLMG also acknowledges that there is significant uncertainty in information on the CRA 4 fishery. The procedure has been tested for robustness to uncertainties in information, including uncertainties in recruitment assumptions, in the level of non-commercial catches and in stock

assessment results. The procedure was robust to these uncertainties in that desired performance against the sustainability indicators was maintained.

34. Fishing methods used to harvest rock lobster (potting and hand gathering) are low impact; they result in low bycatch and low impact on the benthic environment when compared to other fishing methods. Simulation-testing suggests the average annual catch delivered by the procedure over a 20 year period would be 461 tonnes and the average autumn winter CPUE would be 0.973 kg/potlift. This average level of fishing effort (470 thousand potlifts) is less than the effort expended in all past years except 1996 to 2000 and 2003, and therefore is unlikely to result in any increase in negative impacts on the marine environment.

Utilisation Value

35. Simulation-testing of the CRA 4 Management Procedure suggests that, as well as maintaining safe stock levels, the CRA 4 Management Procedure would provide for good utilisation.

36. The testing indicates the management procedure would:

a) improve fishing opportunities for all sectors. Over the 20-year testing horizon the procedure delivered an average annual catch larger than the current estimated catch and an annual average CPUE higher than the current CPUE

b) the procedure improves the certainty of outcomes by being more responsive to changes in abundance in the fishery.

37. The harvest control rule in the CRA 4 Management Procedure, with allowances made for non-commercial catches, generates a recommended TAC; the recommended TACC is the TAC minus these allowances.

38. In the short term, commercial stakeholders are likely to be significantly negatively affected by operation of the procedure. CPUE is currently well below the target CPUE specified in the CRA 4 Management Procedure and therefore significant cuts to the TAC and TACC will likely occur to move CPUE back towards the target. The NRLMG notes that CRA 4 commercial stakeholders have implemented the procedure voluntarily since 2007 and so have already demonstrated a willingness to accept these short term impacts to achieve the longer-term benefits of applying the procedure.

39. Information on customary Maori and amateur catches is highly uncertain (although customary Maori information is improving). Current allowances made for customary, amateur and illegal fishing are estimated to be under-caught. The NRLMG notes that it is unlikely to receive, within the three-year application of the CRA 4 Management Procedure, information of sufficient quality to enable an assessment of whether and how allowances should be adjusted.

40. The NRLMG considers the most robust approach is to maintain existing allowances and review, in consultation with tangata whenua and stakeholders, the situation in three years. The following features of the CRA 4 Management Procedure mitigate any impacts that might arise from this approach:

a) the procedure is tested for robustness to uncertainty in non-commercial catch information

b) the procedure uses an abundance indicator that is affected by all fishing activity (i.e., if non commercial fishing effort increases beyond that accounted for in the model, it will affect the abundance indicator and therefore the TACC calculated by the harvest control rule).

41. The NRLMG notes that, should new information become available, the Minister will be provided the information at the time of TAC and allowance setting so that s/he can make an informed decision about appropriate allocations.

Credibility and Acceptance

42. Management procedures are simpler for people to understand than stock assessments. They therefore tend to attract more interest and support.

43. As noted, the CRA 4 Management Procedure already has a very high degree of acceptance and support among CRA 4 quota shareowners and fishers, who have used the procedure voluntarily since 2007 to constrain commercial catches.

44. Adopting the CRA 4 Management Procedure reduces the frequency of stock assessments, freeing resources for other research and potentially reducing costs to commercial stakeholders.

45. Initial feedback from discussions with some of the representative customary Maori, and amateur fishing representatives in CRA 4 indicate they also would support a management procedure approach. Customary Maori and amateur fishers are keen to see an approach to TAC setting that is more responsive to changes in observed abundance in the CRA 4 fishery.

46. The NRLMG notes that Zone 5 Big Game Fishing Council Clubs (Zone 5 encompasses the CRA 4 area) have implemented a voluntary daily bag limit reduction (from 6 lobsters per person per day to 4) to support the voluntary commercial reductions and efforts to increase abundance in the fishery. This initiative has been supported by the Te Kupenga Whiturauroa a Maui Kaitiaki Forum.

Option 2 – Continue to use Periodic Stock Assessments to Guide TAC Setting in CRA 4 (status quo)

47. Compared with Option 1, continuing to use periodic stock assessments to guide TAC setting for CRA 4:

a) is less responsive to observed changes in stock abundance in the fishery

b) provides lesser certainty of achieving desired sustainability and utilisation outcomes

c) appears to have less support among tangata whenua and stakeholders in CRA 4

d) may result in higher research costs to CRA 4 commercial stakeholders, and less efficient allocation of available research resources.

OTHER MANAGEMENT ISSUES

48. Operation of the CRA 4 Management Procedure (Option 1) for the 2009-10 fishing year would result in TAC and TACC decreases for CRA 4. A separate paper provides advice on the TAC and TACC adjustments that would be proposed for CRA 4 if the CRA 4 Management Procedure were to be adopted.

NRLMG INITIAL POSITION

49. Based on the available information and the evaluation set out above, the NRLMG's initial position is in favour of Option 1: **adopt** the proposed management procedure to guide TAC and TACC setting in CRA 4.

50. The NRLMG emphasises that this position is preliminary and is provided as a basis for consultation with tangata whenua and stakeholders. All submissions received on the proposal will be considered and discussed in final advice to the Minister. A copy of the final advice will be made available to iwi and stakeholders who make a submission on the proposal following announcement of the Minister's decision.

ATTACHMENT 1:

SPECIFICATIONS OF THE PROPOSED CRA 4 MANAGEMENT PROCEDURE

51. After a stock assessment for CRA 4 (Breen et al. 2006), a large set of management procedure evaluations were done, using an operating model based on the CRA 4 assessment model (Breen & Kim 2006b).

52. The 2005-06 catch in CRA 4 was 504 t; this was less than the TACC of 577 t. In the latter part of 2006 it was obvious that the catch for 2006-07 would be even further below the TACC In the event it turned out to be 445 t). A series of industry meetings discussed options that included adoption of a management procedure or decision rule that would specify annually how much ACE should be voluntarily shelved.

53. The Breen & Kim (2006b) study was used as the basis for choosing a management procedure. One of the obvious requirements, not considered by Breen & Kim, was that the 2007-08 catch limit should be set low enough that it actually constrained the catch. A rule was chosen that specified a low catch limit (321 t) when using the most recent CPUE estimate. This rule, E170 (Figure), is specified as follows:

$$SCC_{y+1} = 500\left(\frac{I_y}{0.9}\right)^{1.4}$$

where *SCC* is the specified catch limit and *I* is standardised CPUE from the most recent AW season. There is no latent year[2]; the maximum allowable change is 75% and the minimum change is 5%.

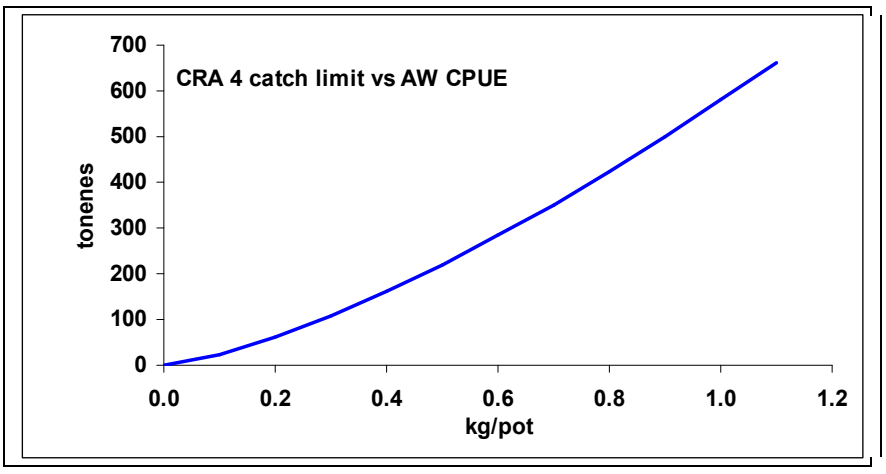


Figure A: The CRA 4 management procedure.

54. The following table below shows the history of the rule. In late 2006, the rule delivered a specified catch limit of 321 t. Not all quota owners shelved the requisite ACE, resulting in an operational limit of 339 t, a 41% reduction from the TACC.

[2] The original MPEs described by Breen & Kim (2006b) used an asymmetric latent year, under a decrease could be made, but not an increase, in a year following a change. The latent year was dropped before a rule was adopted, at the request of NZ RLIC Ltd., after examination of the performance of the rule without a latent year.

55. In late 2007, the rule delivered a specified catch limit of 229 t. Not all quota owners shelved the requisite ACE, resulting in an operational limit of 245 t, a 57% reduction from the TACC.

Year	Applied to fishing year	AW CPUE	Rule Result	Operational Limit
2006	2007-08	0.656 kg/potlift	321.1 tonnes	339 tonnes
2007	2008-09	0.515 kg/potlift	228.9 tonnes	240 tonnes
2008		0.573 kg/potlift	265.9 tonnes	

ATTACHMENT 2:

STATUTORY CONSIDERATIONS

56. The following statutory considerations have been taken into account when forming the management options for CRA 4:

International Obligations and Treaty of Waitangi Settlement Act 1992 (s 5)

57. **Section 5** of the Act requires the Minister to 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 Act. The NRLMG is not aware of any specific international obligations relating to rock lobster fisheries. The proposed options are consistent with the obligations relating to the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992.

58. The NRLMG recognises that rock lobster (koura) is an important taonga species, and notes that Option 1 - the proposed management procedure - is expected to maintain stocks at a level above the current stock level and therefore improve fishing opportunities for all sectors. Option 2 is riskier in that stock abundance may be below the target. Should the Minister choose this option, the risk is mitigated by the NRLMG commitment to undertake further analysis and provide further advice in 2009. The NRLMG notes that Maori commercial fishing interests have had opportunities to input into the development of the CRA 4 Management Procedure through membership of the CRA 4 commercial stakeholder organisation. NRLMG members have also sought and received ideas and input from some CRA 4 customary Maori fishing interests on preferred approaches to TAC setting. The NRLMG hopes to receive more information and input in response to this consultation document.

Purpose of the Act (s 8)

59. **Section 8** of the Act describes the purpose of the Act as being to provide for the utilisation of fisheries resources while ensuring sustainability, and defines the meanings of utilisation and sustainability. The management options presented seek to achieve the purpose of the Act. The proposals seek to ensure TACs are set sustainably and take into account the respective costs of management versus utilisation benefits.

Environmental considerations (s 9)

60. **Section 9** of the Act prescribes the following environmental principles that must be taken into account when exercising powers in relation to utilisation of fisheries resources while ensuring sustainability:

a) **Section 9(a)** requires that associated or dependent species (i.e., those that are not harvested) should be maintained above a level that ensures their long-term viability. Potting and hand gathering fisheries have a relatively low level of by-catch and the NRLMG is not aware of any interactions between the fisheries and non-harvested species of concern.

b) **Section 9(b)** requires the maintenance of biological diversity of the aquatic environment be taken into account. The decision on whether to adopt a management procedure to guide TAC setting in CRA 4 does not directly impact on the long term viability and biological diversity of the aquatic environment in CRA 4. Analysis of the impact of

quantum reductions or increases resulting from application of the procedure (Option 1) or stock assessment (Option 2) will be undertaken in relevant consultation documents.

c) Section 9(c) requires that the Minister to take into account the principle that habitat of particular importance for fisheries management should be protected. The NRLMG is not aware of any such habitats that are affected by the CRA 4 fishery.

Information Principles (S 10)

61. **Section 10** of the Act sets out the information principles, which require that decisions be based on the best available information, taking into account any uncertainty in that information, and applying caution when information is uncertain, unreliable, or inadequate. In accordance with s 10, the absence of information should not be used as a reason to postpone, or fail to take, any measure to achieve the purpose of the Act, including providing for utilisation at levels considered to be sustainable. A thorough review of available information has been undertaken by the NRLMG and the best available information has been used to evaluate the management options presented. The NRLMG has endeavoured to set out the relevant uncertainty in, and inadequacy of, that information so that the appropriate caution can be applied in assessing the proposed management options.

Sustainability Measures (s 11)

62. **Sections 11(1)(a), (b) and (c)** set out matters the Minister must take into account when varying the TAC for CRA 4, including any effects of fishing on any stock and the aquatic environment, any existing controls under the Act that apply to the stock or area concerned, and the natural variability of the stock. Such matters will be addressed directly in consultation papers that seek quantum variations to the TAC as a result of application of the proposed management procedure (Option 1) or stock assessment (Option 2). The NRLMG notes, however, that recruitment into rock lobster stocks is highly variable and that this variability is taken into account by stock assessment scientists when developing and testing management procedures and undertaking stock assessments CRA 4. Existing controls under the act are also considered during these processes.

63. **Sections 11(2)(a) and (b)** require the Minister to have regard to any provisions of any regional policy or plan under the Resource Management Act 1991 and any management strategy or plan under the Conservation Act 1997 that apply to the coastal marine area and are considered relevant when varying the TAC for CRA 4. The NRLMG is not aware of any such provisions that should be taken into account.

64. **Section 11(2A)(b)** requires the Minister to take account of any relevant and approved fisheries plans when varying the TAC in CRA 4. There is no approved fisheries plan in place for CRA 4. The NRLMG is aware that Ngati Kahungunu is in the process of developing a fisheries plan relating to Ngati Kahungunu fisheries.

65. **Sections 11(2A)(a) and (c)** require the Minister to take into account any conservation or fisheries service, or any decision not to require such services, when varying a TAC. The NRLMG is not aware of any proposed services that affect the CRA 4 stock. No decision has been made to not require such a service in CRA 4 at this time.

TAC Setting Considerations (s 13)

66. **Section 13:** Rock lobster stocks are managed under s 13 of the Act. Under s 13(2). the Minister must set a total allowable catch that:

a) maintains the stock at or above a level that can produce the maximum sustainable yield, having regard to the interdependence of stocks; or

b) enables the level of any stock whose current level is below that which can produce the maximum sustainable yield to be altered—

(i) in a way and at a rate that will result in the stock being restored to or above a level that can produce the maximum sustainable yield, having regard to the interdependence of stocks; and

(ii) within a period appropriate to the stock, having regard to the biological characteristics of the stock and any environmental conditions affecting the stock; or]

c) enables the level of any stock whose current level is above that which can produce the maximum sustainable yield to be altered in a way and at a rate that will result in the stock moving towards or above a level that can produce the maximum sustainable yield, having regard to the interdependence of stocks.

67. In the case of *Antons Trawling Company v The Minister of Fisheries* (High Court, Wellington, CIV 2007-485-2199, 28 February 2008) Miller J said that before a TAC could be set under the above provisions the Minister must be provided with an estimate of both current biomass and the biomass that can produce the maximum sustainable yield. Neither of these figures are available for Rock Lobster so s 13 (2A), which was passed as a consequence of Miller J's decision, becomes applicable.

68. **Section 13(2A)** says that:

(2A) For the purposes of setting a total allowable catch under this section, if the Minister considers that the current level of the stock or the level of the stock that can produce the maximum sustainable yield is not able to be estimated reliably using the best available information, the Minister must—

a) not use the absence of, or any uncertainty in, that information as a reason for postponing or failing to set a total allowable catch for the stock; and

b) have regard to the interdependence of stocks, the biological characteristics of the stock, and any environmental conditions affecting the stock; and

c) set a total allowable catch—

(i) using the best available information; and

(ii) that is not inconsistent with the objective of maintaining the stock at or above, or moving the stock towards or above, a level that can produce the maximum sustainable yield.

69. It is the NRLMG's view that the measures advanced in this paper meet the requirement of being "not inconsistent with the objective of maintaining the stock at or above, or moving the stock towards or above, a level that can produce the maximum sustainable yield."

70. In considering the way in which and rate at which a stock is moved towards or above a level that can produce maximum sustainable yield under subsection (2)(b) or (c), or (2A) (if applicable), the Minister shall have regard to such social, cultural, and economic factors as he or she considers relevant. The CRA 4 Management Procedure (Option 1) is a maintenance procedure and would

act to move the stock quickly towards the target. The NRLMG notes that the procedure is expected to maintain stock size above the target stock size with high probability.

71. The NRLMG has no information on which to base the evaluation of Option 2, as modelling work has not been undertaken on alternative TAC setting options.

TACC Setting Considerations (s 20 and 21)

72. **Section 20 and 21** specify a number of matters that must be taken into account when setting or varying a TACC. Section 21 requires the Minister to allow for non-commercial Mäori and amateur fishing interests, and other sources of fishing-related mortality when setting or varying the TACC. These allowances will be considered and provided for when quantum changes to the TAC are proposed.

73. **Section 21(4)** also requires that any mätaitai reserve or closures/restrictions under s 186A to facilitate customary Maori fishing be taken into account. Mätaitai reserves and section 186A closures are located within CRA 4 – the Moremore Mätaitai Reserves (Hawke Bay) and the Pukerua Bay 186A closure (Wellington). The NRLMG considers that both management options presented in this paper will contribute to a larger and more sustainable CRA 4 stock that will benefit abundance both inside and outside mätaitai reserves and s 186A closures.

74. **Section 21(5)** also requires that any regulations to prohibit fishing made under s 311 be taken into account when setting allowances for amateur fishing interests. The NRLMG is not aware of any restrictions under s 311 that have been placed on fishing in any area within CRA 4.

2. PROPOSAL TO VARY SUSTAINABILITY MEASURES FOR CRA 3, CRA 4, CRA 7 AND CRA 8

EXECUTIVE SUMMARY

75. The NRLMG proposes varying the TACs and allowances for CRA 3, CRA 4, CRA 7 and CRA 8 for the 2009-10 fishing year beginning 1 April 2009.

Variations to TACs Resulting From Operation of Management Procedures

76. The proposed variations to the TACs of CRA 7 and CRA 8 are the result of the operation of management procedures adopted by the Minister in March 2008 to guide TAC setting for these stocks. The NRLMG has reviewed best available information and has found nothing that would warrant the Minister setting aside the management procedures for 2009-10. Implementing the procedures would result in TAC increases of 65.12 tonnes and 57 tonnes for CRA 7 and CRA 8 respectively.

77. The proposed variation to the CRA 4 TAC is also the result of the operation of a management procedure being considered for adoption in Consultation Paper 1. The NRLMG has reviewed best available information and has found nothing that would warrant the Minister choosing not to be guided by the procedure for 2009-10. Implementing the procedure would result in a TAC decrease of 311 tonnes.

78. The NRLMG proposes achieving the new proposed TACs for CRA 4, CRA 7 and CRA 8 by varying only the commercial catch allowances (i.e., the TACCs). The NRLMG notes that, in respect to CRA 4, varying the TACC is the most effective means of achieving the decrease in catch sought and that CRA 4 commercial stakeholders support this approach.

79. In respect of CRA 7 and CRA 8, the NRLMG recommends increasing only the TACCs because best available information on customary Maori and amateur catch in CRA 7 and CRA 8 suggests that existing allowances are not being caught. Amateur representatives to the NRLMG note that increased fishing activity may have increased amateur catches beyond the current allowances, but no data exists to confirm or quantify such increases at this time. The NRLMG notes that any risk associated with increased amateur catch is mitigated by the operation of the management procedures: the abundance indicators in the procedures measure the impact *all* fishing has on abundance and vary the proposed TACs accordingly.

Variations to TACs Resulting From Stock Assessment – CRA 3

80. The proposed variation to the CRA 3 TAC is the result of an updated stock assessment. The stock assessment indicates CRA 3 is below the target stock size and is likely to decline over the next four years at current catch levels. The NRLMG proposes a range of options to restore the stock to target stock size, including retaining the current TAC for 2009-10 (Option 1), cutting the TAC by 26 tonnes (Option 2) and cutting the TAC by 62 tonnes (Option 3). Each of the options includes the development and adoption of a management procedure to guide TAC setting from 2010-11. The NRLMG is seeking feedback on options for achieving the proposed TACs. For Options 1 and 2, the NRLMG proposes reducing the TACC only. For Option 2, the NRLMG proposes two approaches: (A) reducing the TACC only; or (B) reducing the TACC and recreational allowance proportionally.

81. Each of the options has a different risk (to sustainable utilisation) and impact (to cultural, social and economic values) profile. The NRLMG's initial position is that Option 2 provides the best balance between managing risks to sustainability, uncertainty in information, and impacts on CRA 3 fishers.

PURPOSE OF THIS PAPER

82. This paper sets out the NRLMG's initial advice on proposals to amend the TACs and allowances for CRA 3, CRA 4, CRA 7 and CRA 8. It includes the best information currently available to the NRLMG to inform decision making.

83. The key purpose of the paper is to seek information and comments from tangata whenua, fishery stakeholders and other interested parties on the proposals.

TERMINOLOGY IN THIS PAPER

Management Procedures

84. A management procedure is a tool used to guide the setting of catch limits. A general description of management procedures is provided in Consultation Document 1.

Sustainability Indicators (Bmsy, Bref, Bmin)

85. As noted in Consultation Paper 1, the NRLMG uses sustainability indicators to report on stock health and to evaluate the effectiveness of management options.

86. Three sustainability indicators are relevant to the evaluation of the proposals in this paper:

a) The statutory target stock size, **Bmsy**. Section 13 requires the Minister to set TACs for rock lobster stocks that move the stocks to, or maintain the stocks at, a level at or above Bmsy, or that is not inconsistent with this objective. Bmsy is not straightforward to estimate and often uncertain when estimated.

b) The proxy target stock size, **Bref**. When a Bmsy estimate is absent or unreliable, alternative and proxy targets are used. Bref is generally a stock size at or above the stock size associated with a period in the fishery that showed good productivity and was demonstrably safe.

c) The minimum stock size, **Bmin**. Bmin is either the stock size associated with lowest abundance in the observed history of the fishery or ½ Bref.

87. For all the stocks considered in this paper, stock size is measured in terms of the vulnerable biomass. "Vulnerable biomass" is the amount of lobster that is available to the fishery (i.e., it does not include lobsters that cannot be harvested such as undersize lobsters).

88. The desired performance[3] in relation to these sustainability indicators is:

a) stock size that fluctuates around the target with at least 50% probability of achieving the target; and

b) stock size remains above the minimum with 90% probability.

[3] In October 2008, MFish released the Harvest Strategy Standard for New Zealand Fisheries (the HSS) that specifies performance standards for Quota Management System species. The NRLMG has not had time to generate the necessary information to incorporate the policy into its advice but will include reporting against the HSS, if necessary to do so, as new stock assessments are undertaken.

SUMMARY OF PROPOSED MANAGEMENT OPTIONS

89. Tables 1 and 2 set out the variations to TAC and allowances in rock lobster fisheries proposed for the 2009-10 fishing year beginning 1 April 2009:

Variations to TACs and Allowances Resulting From Operation of Management Procedures

90. The NRLMG is seeking comments on the following proposed TAC and TACC variations for CRA 4, CRA 7 and CRA 8:

Stock		Current Catch Limits (Status quo)	2009-10 Catch Limits From Operation of Management Procedures
CRA 4	TAC	771 tonnes	460 tonnes
	TACC	577 tonnes	266 tonnes
CRA 7	TAC	143.88 tonnes	209 tonnes
	TACC	123.88 tonnes	189 tonnes
CRA 8	TAC	1053 tonnes	1110 tonnes
	TACC	966 tonnes	1023 tonnes

Table 1: *TAC and Allowance Options for CRA 4, CRA 7 and CRA 8*

Variations to TACs Resulting From Stock Assessment – CRA 3

91. The NRLMG is seeking comments on the following range of TAC and allocation options for CRA 3:

CRA 3	Option 1 Current Catch Limits (Status quo)	Option 2 Reduce the TAC by 8% and decrease the TACC only	Option 3A Reduce the TAC by 19% and decrease the TACC only	Option 3B Reduce the TAC by 19% & decrease the TACC & Recreational Allowance
TAC	319 tonnes	293 tonnes	257 tonnes	257 tonnes
TACC	190 tonnes	164 tonnes	128 tonnes	134 tonnes
Recreational Allowance	20 tonnes	*Unchanged*	*Unchanged*	14 tonnes
Customary Allowance	20 tonnes	*Unchanged*	*Unchanged*	*Unchanged*
Other Fishing Mortality	89 tonnes	*Unchanged*	*Unchanged*	*Unchanged*

Table 2: *TAC and Allowance Options for CRA 3*

OPERATION OF MANAGEMENT PROCEDURES FOR THE 2009-10 FISHING YEAR

92. Two agreed (CRA 7 and CRA 8) and one proposed (CRA 4) management procedures have been operated to guide TAC setting for the 2009-10 fishing year.

93. The NRLMG believes implementing the catch limits generated by the management procedures is consistent with the Act. In all cases, operation of the relevant management procedure results in a TAC that moves the stock to a level at or above Bmsy, or that is not inconsistent with this objective.

CRA 4 (WELLINGTON/HAWKE BAY ROCK LOBSTER FISHERY)

Management Options and Rationale for CRA 4

Option 1 – Set the CRA 4 TAC and TACC based on the operation of the CRA 4 Management Procedure

94. Under Option 1, the TAC for CRA 4 would be reduced from 771 tonnes to 460 tonnes, and the TACC would be reduced from 577 tonnes to 266 tonnes, from 1 April 2009. The allowances set for customary Maori, amateur and other fishing mortality would remain unchanged.

95. The proposed variations result from operation of the proposed CRA 4 Management Procedure. The operation of the CRA 4 Management Procedure represents the best available information to guide TAC setting for CRA 4 fishery in 2009-10 (refer Consultation Paper 1).

Option 2 – Maintain the current TAC and allowances for CRA 4

96. Under Option 2, the current CRA 4 TAC and allowances would be retained for the 2009-10 fishing year.

97. Available information suggests the current CRA 4 TAC may be unsustainable but information is uncertain. Under Option 2 a CRA 4 stock assessment would be completed in 2009 to provide information on the status of the fishery and to assess a range of alternative TAC setting options.

Assessment of Management Options for CRA 4

98. Assessment of the management options against statutory criteria is set out in *Attachment 1* to this consultation paper. Key considerations and impacts are discussed below.

CRA 4 Sustainability Indicators and Stock Status

99. No reliable estimate of Bmsy is currently available for CRA 4. A proxy target, Bref, has been agreed by the MFish Plenary and is the autumn-winter vulnerable stock size associated with the period 1979-88. Bmin is the autumn-winter vulnerable stock size associated with the lowest observed abundance in the CRA 4 fishery.

100. No new stock assessment has been conducted in 2008 so information on current stock size is uncertain:

a) the 2005 stock assessment indicated stock abundance was well above the Bmin and Bref. The median expectation was that stock size would decline slightly over the subsequent three years but would remain above Bref. Uncertainty around these median predictions was very high

b) CPUE is considered a good indicator of relative abundance in CRA 4; seasonal CPUE information suggests current stock size is probably above Bmin but may now be below Bref.

c) CRA 4 commercial stakeholders did not harvest the full TACC in 2004-05, 2005-06 or 2006-07 and voluntarily shelved ACE in 2007-08 and 2008-09. Given the decline in CPUE over the same period, the NRLMG considers it probable the TAC is not sustainable.

Assessment of Option 1– Set CRA 4 TAC and TACC based on Operation of the CRA 4 Management Procedure

101. The proposed decrease in TAC is not inconsistent with the objective of moving the stock to Bmsy. The proposed decrease would increase CRA 4 stock size. Ongoing application of the CRA 4 Management Procedure is expected to meet sustainability criteria by maintaining stock size above the proxy target, Bref, and Bmin with high probability.

102. The proposed decrease would not result in any negative impacts on the marine environment. Fishing methods used to harvest rock lobster (potting and hand gathering) are low impact; they result in minimal bycatch and low impact on the benthic environment when compared to other fishing methods. In addition, the estimated average annual level of fishing effort (470 thousand potlifts) expected from application of the CRA 4 Management Procedure is less than the effort expended in all past years except 1996 to 2000 and 2003, and therefore is unlikely to result in any increase in negative impacts on the marine environment.

103. The NRLMG considers the proposed TAC decrease would improve fishing opportunities for all sectors by increasing stock size and catch rates. Ongoing application of the CRA 4 Management Procedure is expected to deliver an average annual catch larger than the current estimated catch and an annual average commercial CPUE higher than the current commercial CPUE

104. The NRLMG proposes achieving the full TAC decrease by reducing only the TACC. Reducing only the TACC provides greatest certainty that stock size will increase, as information on catch and catch rates in customary Maori and amateur fisheries is scarce and uncertain (although information on customary catch is improving). CRA 4 commercial stakeholders support this approach but emphasise the need to ensure catches by other sectors remain within the allowances provided to ensure the TACC cut does not become a re-allocation of available catch.

105. Using 2007 export information, the value of 311 tonnes of rock lobster (i.e., the proposed reduction to the TACC) is approximately $12.6 million. The NRLMG notes, that the voluntary commercial catch limit applied by the CRA 4 commercial sector for 2008-09 is 240 tonnes. The proposed TACC would therefore potentially result in 26 tonne more rock lobster being landed by commercial stakeholders in 2009-10 than in 2008-09.

Assessment of Option 2 – Maintain the current TAC and allowances for CRA 4

106. The NRLMG considers it highly likely that, if the full TACC were to be taken in the 2009-10 fishing year, stock size in CRA 4 would decline. Autumn-winter CPUE declined between 2004 and 2007 despite reducing commercial landings. The most recent autumn-winter CPUE showed a slight increase with commercial catch limited to less than half the TACC.

107. The decline in stock size would be reduced or prevented if commercial stakeholders continued to implement voluntary commercial catch reductions. Voluntary commercial catch reductions are not guaranteed and may not even be possible to achieve within the decision-making timeframe. CRA 4 commercial stakeholders support, and are anticipating statutory TAC and TACC reductions (guided by the CRA 4 Management Procedure), and therefore have not initiated voluntary ACE shelving discussions for the 2009-10 fishing year.

108. The decline in stock size would be reduced or prevented if commercial stakeholders could not, or chose not, to harvest the full TACC for economic reasons. Recent information suggests that harvesting the full TACC may not be economically viable; the current CPUE is 0.573 kg/potlift and the fishery failed to catch the TACC in 2005 when the CPUE was slightly above 0.7 kg/potlift. However, the economic environment has changed significantly since 2005 making drawing any conclusions about the likely commercial harvest in 2009-10 difficult.

109. A reduction in stock size in 2009-10 would affect utilisation value by:

a) reducing fishing opportunities for customary Maori and amateur fishers in the short – medium term

b) increasing the likelihood of a relatively larger cut to the CRA 4 TAC and TACC in 2010-11 than might be applied in 2009-10 under Option 1 and, potentially, the average annual catch and average catch rates achievable in the short-medium term

c) reducing responsiveness to changes in abundance in the fishery, and thereby creating uncertainty.

110. CRA 4 tangata whenua and fishing stakeholders are keenly aware of the decline in stock size and fishing opportunities in the fishery. Delaying action for one year may not be seen as acceptable or credible.

NRLMG Initial Position on CRA 4

111. Based on the available information and the evaluation set out above, the NRLMG's initial position is in favour of Option 1: decrease the TAC for CRA 4 as specified by the proposed CRA 4 Management Procedure, and decrease only the TACC to achieve the required reduction in catch.

112. The NRLMG has identified no reason why the Minister should not use the results of the proposed CRA 4 Management Procedure to guide statutory TAC setting decisions.

CRA 7 (OTAGO ROCK LOBSTER FISHERY)

Management Options and Rationale for CRA 7

Option 1 – Set the CRA 7 TAC and TACC based on the operation of the CRA 7 Management Procedure

113. Under Option 1, the TAC for CRA 7 would increase from 143.88 tonnes to 209 tonnes from 1 April 2009 as specified by the CRA 7 Management Procedure. To achieve this new TAC, the CRA 7 TACC would be increased from 123.88 tonnes to 189 tonnes. The allowances set for customary Maori, recreational and other fishing mortality would not be changed.

114. The CRA 7 Management Procedure was adopted by the Minister in March 2008 to guide TAC setting in CRA 7. The procedure is described in detail in *Attachment 2* to this consultation paper.

Option 2 – Maintain the current TAC and allowances for CRA 7

115. Under Option 2, the current CRA 7 TAC and allowances would be retained for the 2009-10 fishing year (refer Table 1, page 17).

116. There is no clear basis for recommending alternative TAC options for CRA 7 in the 2009-10 fishing year; consequently, under Option 2, the management approach to CRA 7 TAC setting would need to be revised.

Assessment of Management Options for CRA 7

117. Assessment of the management options against statutory criteria is set out in *Attachment 1* to this consultation paper. Key considerations and impacts are discussed below.

CRA 7 Sustainability Indicators and Stock Status

118. An estimate of Bmsy is available for CRA 7 but is uncertain. A proxy target, Bref, has been agreed previously by the MFish Plenary and is the annual vulnerable stock size associated with the period 1979-81. Bref represents a larger stock size than the uncertain Bmsy estimate and therefore is a more conservative target stock size. The Bmin used for stock assessment was the lowest stock size estimated by the stock assessment model, and for the management procedure evaluations was ½ Bref.

119. A stock assessment was last performed for CRA 7 in 2006. The 2006 stock assessment results indicated stock size in 2005-06 was approximately 1.7 times Bref.

120. Standardised CPUE is considered to be a good indicator of relative stock size in CRA 7 and is the abundance indicator used in the CRA 7 Management Procedure. Standardised CPUE has increased in the last two fishing years, indicating that stock size has increased (Figure 1).

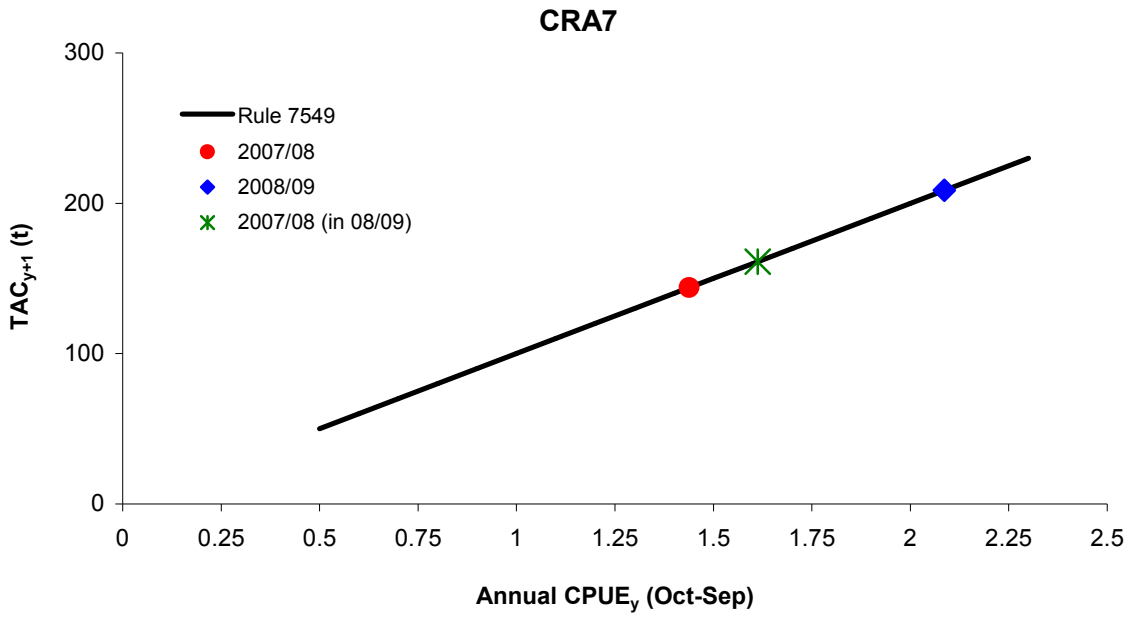


Figure 1: C*urrent (2008-09) CPUE (2.09 kg/pot lift) and 2007–08 CPUE values (one calculated in December 2007 and the most recent calculated at the end of October 2008). Figure 1 also shows a graphical representation of the CRA 7 Management Procedure, showing TAC in the next year as a function of CPUE in the current year.*

Assessment of Option 1 – Vary the CRA 7 TAC and TACC based on Operation of the CRA 7 Management Procedure

121. The proposed increase in TAC would not pose a risk to sustainability. The CRA 7 Management Procedure is responsive to variability in the stock size and is designed to maintain stock size well above Bref with high probability. The procedure is expected to maintain a stock size of 1.5 times Bref and to maintain stock size above Bmin with over 99% probability.

122. The proposed increase would not result in any increase in negative impacts on the marine environment. Rock lobster fishing methods are low impact and the NRLMG considers it unlikely the proposed change to the TAC will have a demonstrable adverse effect on protected species, the benthos or biological diversity.

123. The NRLMG proposes allocating the full TAC increase to commercial only as best available information suggests existing customary Maori and recreational allowances are not being caught. *Table 3* below shows the current non-commercial allowances for CRA 7 and the best available estimates of non-commercial catches.

CRA 7	Customary Allowance	Recreational Allowance	Other Fishing Mortality	Total Non-Commercial
Allowances	10 tonnes	5 tonnes	5 tonnes	20 tonnes
Estimated Catches	1 tonne	4.51 tonnes	1 tonne	6.51 tonnes

Table 3: *Current Non-Commercial Allowances and Estimated Catches for CRA 7.*

124. Amateur representatives to the NRLMG note that increased fishing activity in CRA 7 may have increased amateur catches beyond the current CRA 7 recreational allowance. There is no data to confirm or quantify amateur catch increases at this time. In compiling advice, the NRLMG has relied on the catch data provided to and accepted by the MFish Plenary.

125. The NRLMG notes that the bag limit, not the recreational allowance, constrains amateur catch. Amateur fishers in CRA 7 are not seeking a daily bag limit increase at this time. Any risk associated with underestimating amateur catch is mitigated by:

a) the estimated aggregate non-commercial catches being less than half the current aggregate non-commercial allowances

b) the operation of the management procedures - the abundance indicator used in the procedure measures the impact *all* fishing has on abundance and varies the proposed TAC accordingly.

126. Additionally, the CRA 7 Management Procedure is designed to maintain the CRA 7 stock well above the target stock size and consequently provide good fishing opportunities for all sectors.

127. Using 2007 export information, the value of the 65.12 tonne increase in commercial catch is estimated to be $2.6 million.

Assessment of Option 2 – Maintain the current TAC and allowances for CRA 7

128. Compared with Option 1, retaining the current TAC and allowances for CRA 7 would likely:

a) result in a stock size well in excess of the target stock size

b) result in increased fishing opportunities in the non-commercial fisheries

c) constrain utilisation in the commercial fishery and result in an opportunity cost of $2.6million.

129. The NRLMG believes that choosing not to implement the results of an agreed management procedure without an explicit reason would also reduce stakeholder confidence in the application of management procedures. Such a decision may also affect development and implementation of management procedures for other fisheries in New Zealand.

NRLMG Initial Position on CRA 7

130. Based on the available information and the evaluation set out above, the NRLMG's initial position is in favour of Option 1: increase the TAC for CRA 7 as specified by the CRA 7 Management Procedure and allocate the increased catch to the TACC. The NRLMG has identified no reason why the Minister should not use the results of the previously agreed procedure to guide statutory TAC setting decisions.

CRA 8 (SOUTHERN ROCK LOBSTER FISHERY)

Management Options and Rationale for CRA 8

Option 1 – Vary the CRA 8 TAC and TACC based on Operation of the CRA 8 Management Procedure

131. Under Option 1, the TAC for CRA 8 would be increased from 1053 tonnes to 1110 tonnes from 1 April 2009 as specified by the CRA 8 Management Procedure. To achieve this new TAC, the CRA 8 TACC would be increased from 966 tonnes to 1023 tonnes. The allowances set for customary Maori, recreational and other fishing mortality would not be changed.

132. The CRA 8 Management Procedure was adopted by the Minister in March 2008 to guide TAC setting in CRA 8. The procedure is described in detail in *Attachment 2* to this consultation paper.

Option 2 – Maintain the current TAC and allowances for CRA 8

133. Under Option 2, the current CRA 8 TAC and allowances would be retained for the 2009-10 fishing year (refer Table 1, page 17).

134. There is no clear basis for recommending alternative TAC options for CRA 8 in the 2009-10 fishing year, consequently, under Option 2, the management approach to CRA 8 TAC setting would need to be revised.

Assessment of Management Options for CRA 8

135. Assessment of the management options against statutory criteria is set out in *Attachment 3* to this consultation paper. Key considerations and impacts are discussed below.

CRA 8 Sustainability Indicators and Stock Status

136. An estimate of Bmsy is available for CRA 8 but is uncertain. A proxy target, Bref has been agreed previously by the MFish Plenary and is the annual vulnerable stock size associated with the period 1979-82. The uncertain Bmsy estimate represents a slightly larger stock size than Bref (at 1.14 times Bref) and therefore is the more conservative target stock size. The Bmin used for stock assessment was the lowest stock size estimated by the stock assessment model, and for the management procedure evaluations was ½ Bref.

137. A stock assessment was last performed for CRA 8 in 2006. The stock assessment results indicated stock size in 2005-06 was approximately 2.0 times Bref and 1.75 times *Bmsy*.

138. Standardised CPUE is considered to be a good indicator of relative stock size in CRA 8 and is the abundance indicator used in the CRA 7 Management Procedure. Standardised CPUE has increased in the last two fishing years, indicating that stock size has increased (Figure 2).

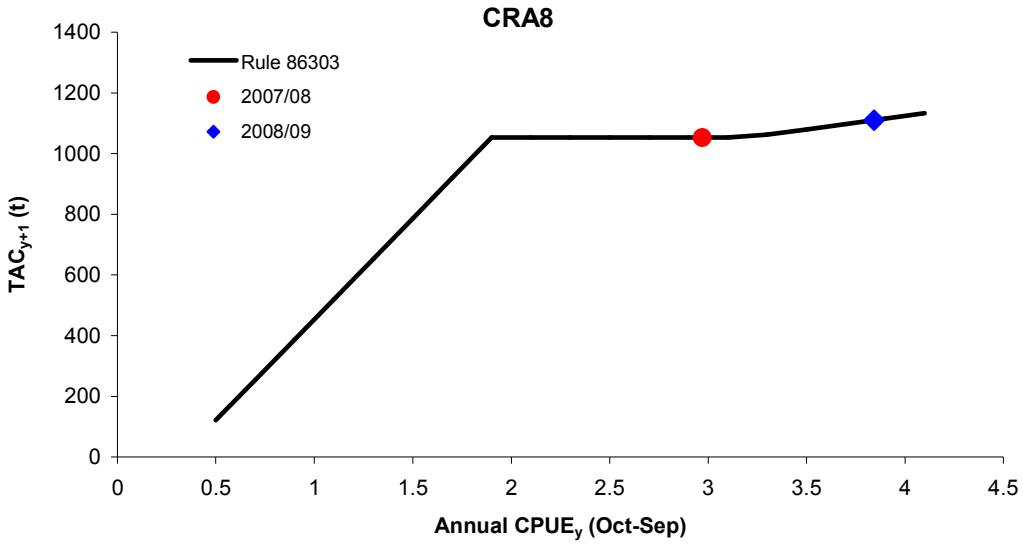


Figure 2: T*he 2007–08 and 2008–09 CPUE values. Figure 2 also shows a graphical representation of the CRA 8 Management Procedure, showing TAC in the next year as a function of CPUE in the current year.*

Option 1 – Vary the CRA 8 TAC and TACC based on Operation of the CRA 8 Management Procedure

139. The proposed increase in TAC does not pose a risk to sustainability. The CRA 8 Management Procedure is conservative and is designed to maintain stock size well above the Bref and Bmsy targets with high probability. The procedure is expected to maintain a long-term average stock size of 2.0 times Bref and to maintain stock size above Bmin with over 99% probability.

140. The proposed increase would not result in any increase in negative impacts on the marine environment. Rock lobster fishing methods are low impact and the NRLMG considers it unlikely the proposed change to the TAC will have a demonstrable adverse effect on protected species, the benthos or biological diversity.

141. The NRLMG proposes allocating the full TAC increase to commercial only as best available information suggests existing customary Maori and recreational allowances are not being caught. *Table 4* below shows the current non-commercial allowances for CRA 8 and the best available estimates of non-commercial catches.

CRA 8	Customary Allowance	Recreational Allowance	Other Fishing Mortality	Total Non-Commercial
Allowances	30 tonnes	29 tonnes	28 tonnes	87 tonnes
Estimated Catches	2 tonne	20.1 tonnes	18 tonne	40.1 tonnes

Table 4: *Current Non-Commercial Allowances and Estimated Catches for CRA 8.*

142. Amateur representatives to the NRLMG note that increased fishing activity in CRA 8 may have increased amateur catches beyond the current CRA 8 recreational allowance. Recreational catch surveys have been undertaken in the Fiordland Marine Area but there is no data to confirm or quantify catch increases across the whole CRA 8 fishery at this time. In compiling advice, the NRLMG has relied on the catch data provided to and accepted by the MFish Plenary.

143. The NRLMG notes that the bag limit, not the recreational allowance, constrains amateur catch. Amateur fishers in CRA 8 are not seeking a daily bag limit increase at this time. Any risk associated with underestimating amateur catch is mitigated by:

a) the estimated aggregate non-commercial catches being less than half the current aggregate non-commercial allowances

b) the operation of the management procedures - the abundance indicator used in the procedure measures the impact *all* fishing has on abundance and varies the proposed TAC accordingly.

144. Additionally, the CRA 8 Management Procedure is conservative and designed to maintain the CRA 8 stock well above the target stock size and consequently provide good fishing opportunities for all sectors.

145. The export value of the 57 tonne increase in CRA 8 commercial catch of lobsters is $2.3 million.

Option 2 – Maintain the current TAC and allowances for CRA 8

146. Compared with Option 1, retaining the current TAC and allowances for CRA 8 would likely:

a) result in a stock size well in excess of the target stock size

b) result in increased fishing opportunities in the non-commercial fisheries

c) constrain utilisation in the commercial fishery and result in an opportunity cost of $2.3 million.

147. The NRLMG believes choosing not to implement the results of an agreed management procedure without an explicit reason would also reduce stakeholder confidence in the application of management procedures. Such a decision may also affect development and implementation of management procedures for other fisheries in New Zealand.

NRLMG Initial Position on CRA 8

148. Based on the available information and the evaluation set out above, the NRLMG's initial position is in favour of Option 1: increase the TAC for CRA 8 as specified by the CRA 8 Management Procedure and allocate the increased catch to the TACC. The NRLMG has identified no reason why the Minister should not use the results of the previously agreed procedure to guide statutory TAC setting decisions.

STOCK ASSESSMENT DRIVED TAC REVIEWS

149. Periodic stock assessments are undertaken for rock lobster stocks without current management procedures. In 2008, the stock assessment for CRA 3 was updated.

150. For a detailed description of the CRA 3 stock assessment, refer to the MFish Rock Lobster Plenary Report (attached to the NRLMG 2008 Annual Report as Annex 2*)*

CRA 3 (GISBORNE ROCK LOBSTER FISHERY)

Management Options for CRA 3

151. The management options for CRA 3 are summarised in Table 2 above.

Option 1 – Maintain the current TAC and allowances for CRA 3 (Status Quo)

152. Under Option 1, the current CRA 3 TAC and allowances would be retained for the 2009-10 fishing year (refer Table 2, page 17). A CRA 3 Management Procedure would be developed in 2009. The procedure would be designed to restore the fishery to an agreed specified target and would be used to guide statutory TAC setting for CRA 3 from the 1 April 2010.

Option 2 – Reduce the CRA 3 TAC by 8% and adjust only the TACC

153. Under Option 2, the TAC for CRA 3 would be reduced from 319 tonnes to 293 tonnes from 1 April 2009. To achieve this new TAC, the TACC would be reduced from 190 to 164 tonnes. The allowances for customary Maori, recreational, and other fishing mortality would remain unchanged. As with Option 1, a CRA 3 Management Procedure would be developed in 2009 and used to guide statutory TAC setting for CRA 3 from the 1 April 2010.

Option 3A – Reduce the CRA 3 TAC by 19% and adjust only the TACC

154. Under Option 3A, the TAC for CRA 3 would be reduced from 319 tonnes to 257 tonnes from 1 April 2009. To achieve this new TAC, the TACC would be reduced from 190 tonnes to 128 tonnes. The allowances for customary Maori, recreational, and other fishing mortality would remain unchanged. As with Option 1, a CRA 3 Management Procedure would be developed in 2009 and used to guide statutory TAC setting from the 1 April 2010.

Option 3B – Reduce the CRA 3 TAC by 19% and adjust the TACC and the recreational allowance

155. Under Option 3B, the CRA 3 TAC would be reduced from 319 tonnes to 257 tonnes from 1 April 2009 (as proposed under Option 3A). To achieve this new TAC, the TACC would be reduced from 190 tonnes to 134 tonnes and the recreational allowance would be reduced from 20 tonnes to 14 tonnes. The allowances for customary Maori and other fishing mortality would

remain unchanged. As with Option 1, a CRA 3 Management Procedure would be developed in 2009 and used to guide statutory TAC setting for CRA 3 from the 1 April 2010.

Rationale for Management Options for CRA 3

CRA 3 Sustainability Indicators

156. A Bmsy reference point has been calculated for CRA 3. The Bmsy calculation is sensitive to the period chosen to represent mean recruitment, which varies substantially over the period for which estimates are available; this causes uncertainty in Bmsy. The NRLMG and MFish Plenary therefore consider this Bmsy estimate unreliable as a target stock size for the fishery.

157. The current Bref for CRA 3 is the stock size associated with a standardised autumn-winter CPUE of 0.75 kg/potlift. This target level was selected for the fishery as it represented a desirable and economically sustainable catch rate for the commercial fishery. It was also noted to be beneficial to other fishery stakeholders as it represented a larger stock size than the Bref used previously.

158. Bmin is set at the the lowest stock size estimated by the stock assessment model.

CRA 3 Stock Status

159. The 2008 CRA 3 stock assessment incorporated best available relevant information including new growth rate information, and updated commercial CPUE and length-frequency information. An important feature of the new stock assessment is that it incorporates a "regime shift" in growth. Analysis of the new growth rate information showed that a change in growth rates has occurred between two CRA 3 research data sets: one dataset encompasses 1975-81 and the other 1996-2006. Growth rates are slower in the latter dataset.

160. The stock assessment results indicate that current stock size is just above Bmin and well below Bref. Under current catches and recent recruitments the assessment model predicts a 75% probability that stock size will decline over the next four years.

Rationale for Option 1 – Maintain the current TAC and allowances for CRA 3 (status quo)

161. Option 1 is considered a viable option because a plan is already in place to rebuild CRA 3.

162. The CRA 3 Multi-stakeholder Fishing Forum (the CRA 3 Forum), a group comprising customary Maori, amateur and commercial fishing stakeholders in CRA 3, has been working to develop a CRA 3 Fisheries Plan. Although not yet finalised and approved by the Minister, the Draft CRA 3 Fisheries Plan notes that its priority goals are to rebuild the CRA 3 stock to target stock size and to manage the stock so that large fluctuations in catch are reduced. To achieve these goals, the CRA 3 Forum plans to work with stock assessment scientists to identify an appropriate management procedure to guide TAC setting from 1 April 2010. The NRLMG has prioritised research resources in 2009 to support development of the management procedure.

163. Management procedures have been successfully used to guide TAC setting in CRA 7 and CRA 8 since 1996. Management procedures were used first to rebuild the fisheries from low stock sizes and then to maintain the stocks at target levels with high probability. A CRA 3 Management Procedure would provide a mechanism to rebuild the CRA 3 fishery. The procedure would:

a) have a high level of support because it would be chosen by CRA 3 tangata whenua and fishery stakeholders from a large selection of procedures that were evaluated for performance against sustainability criteria

b) be tested using a model of the CRA 3 fishery system based on the 2008 CRA 3 stock assessment model

c) be tested for robustness to uncertainties in information to ensure the procedure was robust to these uncertainties.

Rationale for Option 2 – Reduce the CRA 3 TAC by 8% and adjust only the TACC

164. Available information suggests the CRA 3 stock is below target stock size and is likely to decline further under current catch levels. Furthermore, current stock size is estimated to be just over Bmin. Option 2 is considered a desirable option because it immediately reduces the TAC to a level that is considered likely to prevent stock decline.

165. The 2008 stock assessment results indicate reducing the TAC by 8% to 293 tonnes provides a 50% expectation that stock size in 2012 would be greater than current stock size. Achieving the decrease by cutting only the TACC provides the greatest probability that the desired reduction in catch will be achieved. The size of the cut to the TACC is moderate and designed to lessen the short term impact on commercial utilisation values whilst ensuring good conditions for implementation of a management procedure from 1 April 2010.

166. The management procedure development process planned for 2009 would still be used to capture cross-sector agreement around rebuild specifications, and would be implemented from 1 April 2010.

Rationale for Option 3A – Reduce the CRA 3 TAC by 19% and adjust only the TACC

167. The larger cut proposed in Option 3A provides a higher probability (88%) that stock size will increase by 2012 at a constant TAC of 257 tonnes. It also provides greater certainty that stock size will remain above Bmin (92%). Achieving the decrease by cutting only the TACC provides certainty that the desired reduction in catch will be achieved. The cut has a larger short-term impact on commercial utilisation values.

Rationale for Option 3B – Reduce the CRA 3 TAC by 19% and adjust the TACC and the recreational allowance

168. Option 3B proposes the same cut as Option 3B but "shares the pain" of the cut by pro-rating the cut across the TACC and recreational allowance.

Assessment of Management Options for CRA 3

169. Assessment of the management options against statutory criteria is set out in *Attachment 3* to this consultation paper. Key considerations and impacts are discussed below.

Assessment of Option 1 – Maintain the current TAC and allowances for CRA 3 (status quo)

Sustainability and Environment

170. Of the options put forward, Option 1 poses the greatest risk to the health of the CRA 3 fish stock. Stock assessment results suggest stock size is just above Bmin and is likely to decline at current catch levels. Bmin represents the lowest stock size from which the CRA 3 fishery has previously recovered.

171. The risks associated with Option 1 are mitigated by the expectation that the current TAC would be retained for one year only. A TAC adjustment is expected in 2010 when the CRA 3 Management Procedure becomes available to guide TAC setting.

172. Note: All the options presented would not result in negative fishing impacts on the marine environment. Fishing methods used to harvest rock lobster (potting and hand gathering) are low impact; they result in minimal bycatch and have a low impact on the benthic environment when compared to other fishing methods. In addition, fishing effort under all options is expected to be lower than the long-term average for the CRA 3 fishery.

Utilisation Value

173. Of the options put forward, the NRLMG believes Option 1 also poses the greatest overall risk to utilisation values associated with the CRA 3 fishery.

174. In real terms, impacts on utilisation value are difficult to assess because of the intended application of a management procedure from 2010. Compared to other options, commercial stakeholders in particular, but also amateur fishers (cf. option 3B), are likely to benefit in the very short-term by retaining their existing catching rights in 2009 and by having time to prepare for any reductions in catch limits that may occur in 2010. However, because stock size is expected to decline at current catch levels, in the short-medium term fishers may be affected by a reduced stock size, or by subsequent and more severe catch limit cuts, or by a longer timeframe to achieve the desired stock rebuild.

Credibility and Acceptance

175. The NRLMG considers retaining the current TAC for even one year is the least credible option because of the proximity of current stock size to Bmin.

176. All the options presented in this paper are consistent with the management procedure approach set out in the Draft CRA 3 Fisheries Plan and being progressed by the CRA 3 Forum. Option 1, however, poses the greatest risk to the stock, given the timeframe to implement the approach.

Assessment of Option 2 – Reduce the CRA 3 TAC by 8% and adjust only the TACC

Sustainability and Environment

177. Option 2 poses less risk to the health of the CRA 3 fish stock than Option 1. Stock assessment projections indicate a median expectation that stock size would be the same after the four-year projections horizon under a TAC of 293 tonnes.

178. The probability of falling below Bmin over the four year projection horizon of the stock assessment is higher than desirable (at approximately 40%) but is mitigated by the intended application of a management procedure from 2010.

Utilisation Value

179. Option 2 also poses less overall risk to utilisation values associated with the CRA 3 fishery than Option 1. Compared with Options 3A and 3B, Option 2 is the "medium impact" option on stakeholder utilisation values.

180. The short-term impact on commercial stakeholders would be a 26 tonne decrease in TACC. Using 2007 export information, the value of the 26 tonne decrease in commercial catch of lobsters is estimated to be $1.1 million. The short-term impact on customary Maori and amateur fishing stakeholders is considered to be neutral.

181. Longer-term, the impact of the reduction is likely to be beneficial for all fishers. The proposed cut, along with application of a management procedure from 2010, is likely to:

a) reduce the severity of catch limit cuts when a management procedure to rebuild the stock is implemented, or the timeframe associated with the rebuild, when compared with Option 1

b) improve fishing opportunities for all sectors by growing the stock size

c) improve the certainty of outcomes by being more responsive to changes in stock size.

Credibility and Acceptance

182. Reducing the TAC in 2009 is considered a more credible option than Option 1 given current information on the status of the stock. The NRLMG notes that, in general, tangata whenua and fishery stakeholders are supportive of TAC adjustments based on good science.

183. Amateur fishing representatives to the NRLMG note that amateur fishers in CRA 3 have expressed dissatisfaction with current amateur catch rates in the fishery and, with new information available to guide TAC setting, would prefer to see a TAC cut in 2009 to begin a rebuild of the stock.

184. Commercial stakeholders in CRA 3 have noted their belief that the 2008 stock assessment is somewhat pessimistic, citing the increasing trend in standardised CPUE as evidence that stock size is growing at current catch levels. CRA 3 commercial stakeholders have indicated support for Option 2 – a moderate cut to the TAC in 2009 plus the application of an agreed management procedure from 2010. They have noted a willingness to bear the full cost of the TAC cut but emphasise the need to ensure catches by other sectors remain within the allowances provided to ensure the cut does not become a re-allocation of available catch.

185. The NRLMG acknowledges that there is significant uncertainty in information on the CRA 3 fishery and, in particular, that the stock assessment projections are sensitive to the period chosen from which to estimate future recruitment. However, the stock assessment is considered robust by the Rock Lobster Fisheries Assessment Working Group (RLFAWG) and MFish Plenary, and represents the best information currently available on the status of the CRA 3 fishery.

Assessment of Option 3A – Reduce the CRA 3 TAC by 19% and adjust only the TACC

Sustainability and Environment

186. Option 3A poses the least risk to the health of the CRA 3 fish stock of all the options. The probability that stock size will increase over a four year timeframe with a constant TAC of 257 tonnes is approximately 88%.

187. The probability of falling below Bmin is 8% and is consistent with desired performance against sustainability indicators.

Utilisation Value

188. Option 3A has the largest short-term impact on commercial utilisation values.

189. The short-term impact on commercial stakeholders would be a 62 tonne decrease in TACC. Using 2007 export information, the value of the 62 tonne decrease in commercial catch is estimated to be $2.5 million. The short-term impact on customary Maori and amateur fishing stakeholders is considered to be neutral.

190. As with Option 2, the longer-term impact of the reduction, combined with application of a management procedure, is likely to be beneficial, resulting in:

a) reduced severity of catch limit cuts when a management procedure is implemented, or the timeframe associated with the rebuild, when compared with Options 1 and 2

b) improved fishing opportunities for all sectors by growing the stock size

c) improved certainty of outcomes by being more responsive to changes in stock size.

Credibility and Acceptance

191. Reducing the TAC in 2009 is considered a more credible option than Option 1 given current information on status of the stock.

192. As noted, amateur fishing representatives to the NRLMG prefer to see the TAC cut in 2009 to begin a rebuild of the stock. Amateur fishers have noted a preferred rebuild timeframe of five years. The NRLMG notes that Option 3A is the option most likely to achieve this outcome but also notes that cross-sector discussions to agree management objectives (including way and rate of rebuild) are scheduled for 2009, as part of the management procedure development process.

193. CRA 3 commercial stakeholders do not support Option 3A. As already noted, CRA 3 commercial stakeholders consider the 2008 stock assessment somewhat pessimistic and inconsistent with their recent experiences in the fishery. They consider, if this magnitude of cut is considered, the "pain" of the cut should be shared among amateur and commercial stakeholders.

Assessment of Option 3B – Reduce the CRA 3 TAC by 19% and adjust the TACC and the recreational allowance

Sustainability and Environment

194. Option 3B proposes the same reduced TAC as Option 3A but provides less certainty of achieving the desired reduction in catches because of the lack of amateur catch information. Although the amateur allowance would be cut, actual amateur catch is unlikely to be reduced under Option 3A unless dual action is taken to constrain catches (eg, a bag limit reduction). The NRLMG is not proposing a bag limit cut at this time.

Utilisation Value

195. The immediate impact of Option 3B on commercial stakeholders is slightly less than Option 3A. The reduction in TACC is 56 tonnes, which has an associated export value of approximately $2.2 million. Despite the reduction in amateur allowance, amateur fishing values are unlikely to be negatively impacted unless dual action is taken to constrain catches.

196. The immediate impact on customary Maori and amateur fishing stakeholders is considered to be neutral. As with Option 2, the longer-term impact of the reduction, combined with application of a management procedure, is likely to be beneficial, resulting in:

a) reduced severity of subsequent catch limit cuts, or a reduced timeframe to rebuild, when a management procedure is implemented, when compared with Options 1 and 2

b) improved fishing opportunities for all sectors by growing the stock size

c) improved certainty of outcomes by being more responsive to changes in stock size.

Credibility and Acceptance

197. Reducing the TAC in 2009 is considered a more credible option than Option 1 given current information on status of the stock.

198. As noted, amateur fishing representatives to the NRLMG prefer to see the TAC cut in 2009 to begin a rebuild of the stock. They do not consider Option 3B credible as no tangible reduction in amateur catch would be achieved without action to restrain catches. Amateur fishers in CRA 3 do not support a bag limit cut. They consider a bag limit unwarranted because amateur catch levels have already been reduced by the decline in stock size.

199. CRA 3 amateur fishers believe they have been more severely affected by the reduction in stock size than other sectors because they do not have access to smaller lobsters (i.e., customary Maori catch is not size limited and commercial fishers have access to a smaller-size lobsters in winter). The NRLMG notes that both stock assessments and the setting of TACs and allowances take into account the differing size limits on catches. The NRLMG also notes that all fishing sectors in CRA 3 have been affected by declining stock size and there is no information available to assess whether one sector has been more affected than another.

NRLMG Initial Position on CRA 3

200. The NRLMG's initial position is in favour of Option 2: decrease the TAC for CRA 3 by 8% to 293 tonnes and achieve the decrease by decreasing the TACC from 190 tonnes to 164 tonnes, whilst keeping the allowances for customary Maori, recreational and other sources of fishing mortality constant. Option 2 includes development of a management procedure to guide TAC setting in CRA 3 from 1 April 2010.

201. Based on available information and the assessment set out above, the NRLMG believes Option 2 provides the best balance between managing risk to the sustainability of the CRA 3 fishery, uncertainty in available information, and impacts of reduced catch limits on CRA 3 fishers. Option 2 also provides for the development and use of a management procedure to guide TAC setting from 2010. The NRLMG believes the management procedure development process is the appropriate forum for CRA 3 tangata whenua and fisheries stakeholders to agree specific rebuild management objectives, including objectives relating to the way and rate of rebuild.

FINAL REMARKS

202. The NRLMG's initial positions are noted for each fishery. These initial positions are based on the available information and the evaluation set out above.

203. The NRLMG emphasises that this position is preliminary and is provided as a basis for consultation with tangata whenua and stakeholders. The NRLMG invites submitters to provide their comments, with supporting information, for inclusion in this advice. The NRLMG is particularly interested in:

a) any information that might be relevant to the Minister's decision on whether to operate the management procedures for CRA 4, CRA 7 or CRA 8 for the 2009-10 fishing year

b) any information on customary Maori and amateur catches that might provide a basis for alternative catch allocations

c) any other information that might address current uncertainties in information.

204. All submissions received on the proposals will be considered and discussed in final advice to the Minister. A copy of the final advice will be made available to iwi and stakeholders who make a submission on the proposal following announcement of the Minister's decision.

ATTACHMENT 1:

STATUTORY CONSIDERATIONS

205. In considering the proposals set out in this paper, the following statutory considerations have been taken into account.

International Obligations and Treaty of Waitangi Settlement Act 1992 (s 5)

206. **Section 5** of the Act requires the Minister to 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 Act. The NRLMG is not aware of any specific international obligations that would be affected by the proposed TACs and allowances.

207. The NRLMG considers the proposed options are consistent with the obligations relating to the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992. The NRLMG recognises that rock lobster (koura) is an important taonga species. All proposals seek to maintain good fishing opportunities, or improve stock health and therefore improve fishing opportunities, for all sectors including commercial and customary Maori. For CRA 3 and CRA 4 status quo options represent a risk to short-term and long-term customary Maori value. These risks are set out in the main body of the paper.

208. The NRLMG notes that national-level representatives of customary fishing interests are members of the NRLMG and have contributed to the development of the proposals. Some regional-level CRA 3 and CRA 4 customary Maori interests have helped to identify the TAC-setting options presented. The management procedures for CRA 7 and CRA 8 were consulted on in 2007; the NRLMG looks forward to receiving the views of tangata whenua on the operation of these procedures to guide TAC setting for the 2009-10 fishing year.

Purpose of the Act (s 8)

209. **Section 8** of the Act describes the purpose of the Act as being to provide for the utilisation of fisheries resources while ensuring sustainability, and defines the meanings of utilisation and sustainability. The management options presented seek to achieve the purpose of the Act. The options presented seek to achieve sustainable TACs and take into account the respective costs of management versus utilisation benefits.

Environmental considerations (s 9)

210. **Section 9** of the Act prescribes three environmental principles that the Minister must take into account when exercising powers in relation to utilising fisheries resources and ensuring sustainability.

a) **Section 9(a)** requires that associated or dependent species (i.e., those that are not harvested) should be maintained above a level that ensures their long-term viability. Potting and hand gathering fisheries have a relatively low level of by-catch and the NRLMG is not aware of any interactions between the fisheries and non-harvested species of concern.

b) **Section 9(b)** requires the maintenance of biological diversity of the aquatic environment be taken into account. Potting is the only commercial fishing method used to harvest rock lobsters in CRA 7 and CRA 8. Some information is available on the impact of this

method on the aquatic environment, and Australian research suggests there is little impact on seaweed and other benthic communities, including fragile coral reef ecology, from rock lobster potting. Consequently, the NRLMG considers it unlikely the proposed changes to the TACs and TACCs will have a demonstrable adverse effect on biological diversity in CRA 3, CRA 4, CRA 7 or CRA 8.

c) **Section 9(c)** requires the protection of habitats of particular significance to fisheries management. The proposed changes to TACs and TACCs are unlikely to affect habitats of particular significant to fisheries management; identified habitats of significance have already been provided protection through mechanisms such as the Fiordland Marine Management Act 2005, which prohibits all commercial fishing within the internal waters of Fiordland and introduces protection in an area that is recognised as being internationally important.

Information Principles (S 10)

211. **Section 10** of the Act sets out the information principles, which require that decisions be based on the best available information, taking into account any uncertainty in that information, and applying caution when information is uncertain, unreliable, or inadequate. In accordance with s 10, the absence of information should not be used as a reason to postpone, or fail to take, any measure to achieve the purpose of the Act, including providing for utilisation at levels considered to be sustainable. A thorough review of available information has been undertaken by the NRLMG and the best available information has been used to evaluate the management options presented. The NRLMG has endeavoured to set out the relevant uncertainty in, and inadequacy of, that information so that the appropriate caution can be applied in assessing the proposed management options.

Sustainability Measures (s 11)

212. When setting or varying a sustainability measure, **Section 11(1)** of the Act requires the taking into account of: (i) any effects of fishing on any stock and the aquatic environment; (ii) the existing management controls that apply to the stock or area concerned; and (iii) the natural variability of the stock.

213. The adverse effects of fishing on the aquatic environment are discussed under the Environmental Considerations section.

214. Apart from the existing TAC, TACC and allowances, a range of management controls apply to rock lobster fisheries including minimum legal sizes, daily bag limits for amateur fishers, method restrictions, protection of egg-bearing females, closed areas and closed seasons (CRA 3 and CRA 7 only) .

215. The proposed changes to TACs and TACCs are unlikely to affect these measures. Industry reports, however, that the closed season in CRA 7 may limit the ability of commercial operators to harvest the proposed increased TACC. A proposal to extend the CRA 7 commercial season is currently in the MFish internal prioritisation process.

216. Recruitment to rock lobster stocks is highly variable. This variability was taken into account by the RLFAWG and the NRLMG when developing stock assessment model for CRA 3 and the management procedures for CRA4 4, CRA 7 and CRA 8.

217. **Sections 11(2)** requires regard to: (i) any regional policy statement, regional plan or proposed regional plan under the Resource Management Act 1991; (ii) any management strategy or management plan under the Conservation Act 1987 that apply to the area and are considered relevant; and (iii) sections 7 and 8 of the Hauraki Gulf Marine Park Act 2000.

218. There are seven regional councils with jurisdictional boundaries covering CRA 3, CRA 4, CRA 7 and CRA 8 (Gisborne, Hawke Bay, Horizons, Greater Wellington, Otago, Southland, and West Coast). The NRLMG is not aware of anything in the proposed coastal plans for these councils that would be affected by this proposal.

219. There are six Department of Conservation Conservancies with jurisdictional boundaries covering CRA 7 and CRA 8 (East Coast/Hawke Bay, Wellington, Wanganui, Otago, Southland, and West Coast). The NRLMG is not aware of anything in the proposed strategies for these conservancies that would be affected by this proposal.

220. CRA 3, CRA 4, CRA 7 and CRA 8 fisheries do not intersect with the Hauraki Gulf Marine Park; therefore there are no relevant considerations under the Hauraki Marine Park Act 2000.

221. **Section 11(2A)** requires the Minister to have regard to: (i) any conservation services or fisheries services and any decision not to require conservation services or fisheries services; and (ii) any relevant fisheries plan approved under s 11 of the Act.

222. The NRLMG does not consider that existing or proposed services materially affect this proposal. No decision has been made not to require a service in these fisheries. The NRLMG is not aware of any relevant fisheries plans approved under s 11 of the Act. The NRLMG is aware that Ngati Kahungunu is in the process of developing a fisheries plan relating to Ngati Kahungunu fisheries, which intersect with CRA 4.

223. The NRLMG notes the Fiordland Marine Management Act 2005 requires the Minister must have regard to any advice or recommendations provided by the Fiordland Marine Guardians on any matters covered by the Act. The NRLMG notes the Fiordland Marine Guardians will be consulted on this proposal.

TAC Setting Considerations (s 13)

224. Rock lobster stocks are managed under **Section 13** of the Act. Under s 13(2). the Minister must set a total allowable catch that:

a) maintains the stock at or above a level that can produce the maximum sustainable yield, having regard to the interdependence of stocks; or

b) enables the level of any stock whose current level is below that which can produce the maximum sustainable yield to be altered—

(i) in a way and at a rate that will result in the stock being restored to or above a level that can produce the maximum sustainable yield, having regard to the interdependence of stocks; and

(ii) within a period appropriate to the stock, having regard to the biological characteristics of the stock and any environmental conditions affecting the stock; or]

225. enables the level of any stock whose current level is above that which can produce the maximum sustainable yield to be altered in a way and at a rate that will result in the stock moving towards or above a level that can produce the maximum sustainable yield, having regard to the interdependence of stocks.In the case of *Antons Trawling Company v The Minister of Fisheries* (High Court, Wellington, CIV 2007-485-2199, 28 February 2008) Miller J said that before a TAC could be set under the above provisions the Minister must be provided with an estimate of both current biomass and the biomass that can produce the maximum sustainable

yield. Neither of these figures are available for Rock Lobster so s 13 (2A), which was passed as a consequence of Miller J's decision, becomes applicable.

226. **Section 13(2A)** says that:

(2A) For the purposes of setting a total allowable catch under this section, if the Minister considers that the current level of the stock or the level of the stock that can produce the maximum sustainable yield is not able to be estimated reliably using the best available information, the Minister must—

a) not use the absence of, or any uncertainty in, that information as a reason for postponing or failing to set a total allowable catch for the stock; and

b) have regard to the interdependence of stocks, the biological characteristics of the stock, and any environmental conditions affecting the stock; and

c) set a total allowable catch—

(i) using the best available information; and

(ii) that is not inconsistent with the objective of maintaining the stock at or above, or moving the stock towards or above, Bmsy.

227. It is the NRLMG's view that the TAC variations guided by operation of the CRA 4, CRA 7 and CRA 8 management procedures meet the requirement of being "not inconsistent with" the objective of maintaining the stock at or above, or moving the stock towards or above, Bmsy.

228. For CRA 3, the 2008 Stock Assessment provides an estimate of current biomass. The estimate of Bmsy is considered unreliable therefore a reference period biomass that has been accepted as a suitable proxy target for Bmsy by the RLFAWG and MFish Plenary is used. The NRLMG considers the range of options presented to address low abundance and an unsustainable TAC in CRA 3 to meet the requirement of being "not inconsistent with" the objective of maintaining the stock at or above, or moving the stock towards or above, Bmsy.

229. In considering the way in which and rate at which a stock is moved towards or above a level that can produce maximum sustainable yield under subsection (2)(b) or (c), or (2A) (if applicable), the Minister shall have regard to such social, cultural, and economic factors as he or she considers relevant. Available information suggests CRA 3 and CRA 4 are below target stock size and need rebuilding. Regard is given to social, cultural and economic factors in assessing the TAC options put forward to rebuild these fisheries.

TACC Setting Considerations (s 20 and 21)

230. **Section 20 and 21** specify a number of matters that must be taken into account when setting or varying a TACC. Section 21 requires the Minister to allow for non-commercial Mäori and amateur fishing interests, and other fishing mortality when setting or varying the TACC. The NRLMG notes that information on non-commercial harvest is scarce and uncertain. For CRA 3 and CRA 4, the proposals to reduce only the TACCs result in a greater proportion of the TAC being allocation to customary Maori and amateur fishing interests. An option of pro-rating a proposed CRA 3 TAC reduction across the TACC and the recreational allowance is presented and discussed in the body of the paper.

231. When considering allocation of the proposed TAC increases for CRA 7 and CRA 8, best available information on the harvest needs of customary Maori and amateur fishers is considered, along with risks association with uncertain information.

232. Allowance for other fishing mortality are left unchanged. The allowances are based on best available, but highly unreliable, information about illegal unreported catch in each of the fisheries.

233. **Section 21(4)** also requires that any mātaitai reserve or closures/restrictions under s 186A to facilitate customary Maori fishing be taken into account. Mātaitai reserves and section 186A closures are located within CRA 3, 4, 7 and 8 – the Moremore (Hawke Bay), Puna wai-Toriki (Otago), Tuma Toka and Te Whaka Te Wera (Southland) mātaitai reserves and the Pukerua Bay 186A closure (Wellington). The NRLMG considers that the management options presented in this paper will contribute to sustainable utilisation of rock lobster fishstocks and will benefit abundance both inside and outside mātaitai reserves and s 186A closures. The risks posed to sustainability and utilisation values, including customary Maori utilisation are set out in the body of the paper.

234. **Section 21(5)** also requires that any regulations to prohibit fishing made under s 311 be taken into account when setting allowances for amateur fishing interests. The NRLMG is not aware of any restrictions under s 311 that have been placed on fishing in any area within CRA 3, 4, 7 or 8.

Administrative Issues

235. To implement this proposal would require the publishing of Gazette Notices under s 13 (TACs) and s 20 (TACCs) of the Act, together with some publicity to ensure fishers are aware of the changes.

ATTACHMENT 2:

SPECIFICATIONS OF THE CRA 7 AND CRA 8 MANAGEMENT PROCEDURES

236. Both the CRA 7 and CRA 8 management procedures specify that:

a) the output variable is TAC (tonnes) and that standardised CPUE (kg/pot) is to be used as the input variable,

b) standardised CPUE is to be based on the autumn–winter (AW: April–September) season of the current fishing year and the spring–summer (SS: October–March) season of the previous fishing year, and

c) CPUE is to be standardised according to the recent usage described in annual Fishery Assessment Reports (FARs), using a data extract obtained in November to ensure that sufficient data from the most recent AW season have been entered.

CRA7 Management Procedure Specifications

237. For CRA 7, the management procedure is specified as follows:

a) The TAC is to be set at 100 times the standardised CPUE (Figure A);

b) The management procedure is to be evaluated every year (no "latent year");

c) If the procedure results in a TAC that changes by less than 5%, no change will be made; and

d) If the procedure results in a TAC that changes by more than 50%, the TAC will be changed by 50% only.

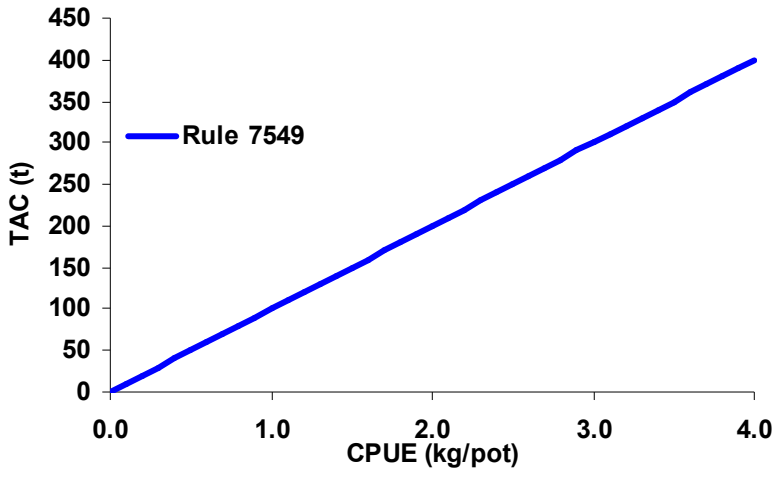


Figure A: *CRA 7 Management Procedure.*

CRA 8 Management Procedure Specifications

238. For CRA 8, the management procedure is specified as follows:

239. The relation between CPUE, indicated by C_y, and TAC, indicated by T_{y+1}, is given in Figure B and in the equations below:

a))

$$T_{y+1} = \begin{cases} h - s_1\left(p_1 - C_y\right)\dfrac{h}{p_1}, & C_y < p_1, \\ h, & p_1 \le C_y \le p_2, \\ h + s_2\left(C_y - p_2\right)\dfrac{h}{p_1}, & C_y > p_2. \end{cases}$$

b) The parameters referred to in the equations above for this management procedure are:

h	p_1	p_2	s_1	s_2
1053	*1.9*	*3.2*	*1.2*	*0.16*

c) The management procedure is to be evaluated every year (no "latent year");

d) If the procedure results in a TAC which changes by less than 5%, no change will be made;

e) There is no limit to the amount by which a TAC may change.

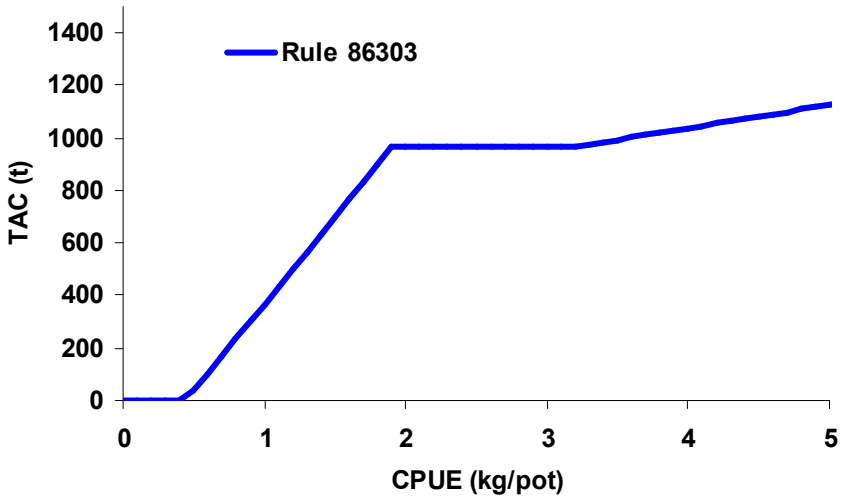


Figure B: *CRA 8 Management Procedure.*

240. Management procedures should not remain in place for longer than about five years without a review, because in five years the operating model used to evaluate management procedures will be obsolete, and fishery performance should be re-evaluated. Such a review was written into the 2002 NSS Management Procedure (Bentley *et al*. 2003). The NRLMG recommends that a review of these management procedures take place in 2012.