Priority – High

Security Level – In Confidence

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Minister
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Ministry for Primary Industries
Manatū Ahu Matua

11 September 2015

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Challenger Scallop Harvest Plan

Purpose:

To seek your decision on the Challenger Scallop Enhancement Company 2015/16 Harvest Plan for scallops in the Challenger Quota Management Area (SCA 7) fishery.

Minister	Action Required:	Minister's Deadline
Minister for Primary Industries	**Note** you are required to decide whether to approve the Challenger Scallop Enhancement Company 2015/16 Harvest Plan. **Agree to** direct MPI to prepare a letter to the Challenger Scallop Enhancement Company reflecting your decision regarding the harvest plan	As soon as practicable.
CC Associate Minister for Primary Industries		

Contact for telephone discussion (if required)

	Name	Position	Work	After Hours
Deputy Director General	Scott Gallacher	Deputy Director General, Regulation and Assurance	s 9(2)(a)	
Director	Dave Turner	Director, Fisheries Management	s 9(2)(a)	
Responsible Manager	Steve Halley	Inshore Fisheries Manager	s 9(2)(a)	
Principal Author	s 9(2)(a)	Fisheries Analyst	s 9(2)(a)	

Key Messages

1. The Challenger Scallop Enhancement Company (CSEC) has submitted its recommendations for this season's scallop harvest plan. You are required to decide whether to approve these recommendations.

2. In 2014 you approved measures aimed at rebuilding the SCA 7 fishery, which have since been implemented. Despite these measures, this year's survey confirms the biomass of scallops, particularly in the Marlborough Sounds, has continued to decline (by 20% since last year). The current biomass of scallops is likely to be close to the lowest recorded both in the Sounds and across SCA 7 more generally.

3. There are likely to be reasons other than fishing for this decline. However, the risk of fishing damaging the future viability of the stock increases with decreasing biomass.

4. CSEC proposes to take an overall catch of 34.7 t (meat weight) of scallops from the Marlborough Sounds, and a further 15 t from Tasman Bay. This equates to a 34% exploitation rate for the Sounds. Further, some of the bay by bay catch limits in CSEC's harvest plan for the Sounds correspond to 45 to 50% exploitation rates.

5. The Ministry for Primary Industries (MPI) recommends an exploitation rate of 22% or less as being appropriate for the Sounds to provide the opportunity for a rebuild of scallop population. This is based on data showing that at higher exploitation rates, scallop biomass trends downwards.

6. Consequently, MPI does not support the catch proposal for the Marlborough Sounds. It considers the overall catch from the Sounds should not exceed 23 t (equating to an exploitation rate of 22%) given the continuing trend of declining biomass in the Sounds.

7. CSEC has stated it does not support the use of exploitation rates in this fishery. MPI has discussed the scientific reasons why exploitation rate is the best approach to determine catch limits with CSEC and considers CSEC's concerns are not substantiated.

8. Irrespective of exploitation rate, CSEC is proposing to increase this year's catch limit by from 30 to 34.7 t even though the biomass has declined by 20%. MPI does not consider that such an increase is appropriate given the ongoing decline, lack of enhancement and current low level of biomass of scallops in SCA 7.

Recommendations

9. MPI recommends that you:

a) **Note** you are required to decide whether to approve the Challenger Scallop Enhancement Company 2015/16 Harvest Plan

Noted

Either

b) **Agree** to approve the harvest plan

Agreed / Not Agreed

Or (preferred)

c) **Decline** to approve the harvest plan until the catch limit for the Marlborough Sounds is reduced to a maximum of 23 tonnes

(See new Rec) **Agreed / Not Agreed**

And

Direct MPI to prepare a letter to CSEC reflecting your decision regarding the harvest plan.

Agreed / Not Agreed

d) Request CSEC to resubmit a revised harvest plan in line with my expectations expressed in my letter to them last season.

e) MPI officials to re-engage with CSEC in advance of any submission of a revised plan

Scott Gallacher
Deputy Director-General
Regulation and Assurance
for the Director-General

PP.

Hon Nathan Guy
Minister for Primary Industries

10 / 9 / 2015

Background

Issue

10. CSEC operates in the SCA 7 fishery under an enhancement programme approved by the Minister of Fisheries. A memorandum of understanding between CSEC and MPI sets out annual information requirements and operational procedures associated with that programme.

11. SCA 7 has been in decline since the early 2000s. Tasman Bay has not been fished commercially since 2006 and Golden Bay since 2011. For several years the scallop harvest has been largely dependent on the wild fishery in the Marlborough Sounds.

12. In 2014 you agreed to measures aimed at rebuilding the fishery, including reducing the Total Allowable Commercial Catch for the fishery from 747 t to 400 t (meat weight) and signalling that a further review, along with other measures, may be required in 2016 if the fishery did not rebuild. At your direction, MPI has also reviewed the survey methods and assessment for the fishery to ensure they are robust, and worked with CSEC to ensure roles and responsibilities under the MoU are clear.

13. Under its enhancement programme, and the MoU with MPI, CSEC submits an annual harvest plan to you each season. CSEC has submitted its harvest plan for 2015/16 with recommendations for this season's scallop harvest. You are required to decide whether to approve these recommendations.

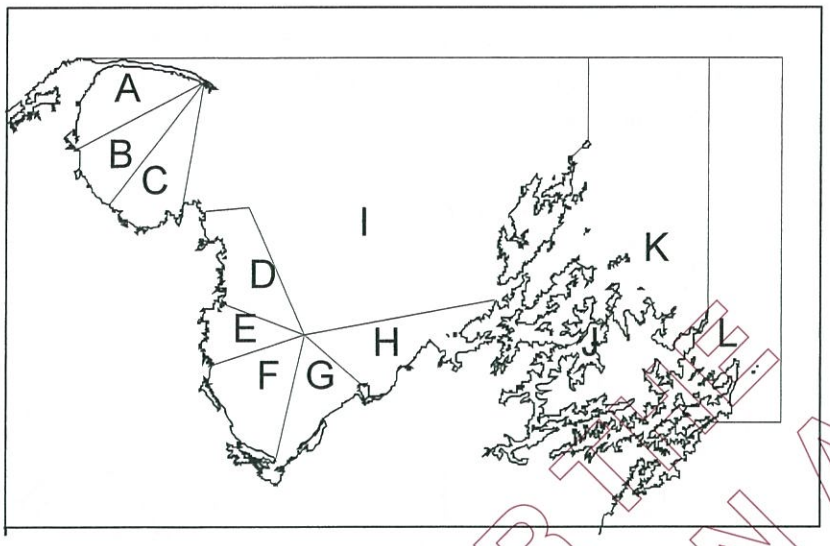
14. CSEC proposes to take an overall catch of 34.7 t (meat weight) of scallops from the Marlborough Sounds, and a further 15 t from Tasman Bay. MPI does not support the catch proposal for the Marlborough Sounds. It considers the overall catch from the Sounds should not exceed 23 t given the continuing trend of declining biomass in the Sounds.

Survey Results

15. CSEC conducts an annual biomass survey to estimate SCA 7 biomass and yield for the coming fishing season. NIWA has been contracted to undertake these surveys since 1999. MPI provides an independent science observer for the survey. The survey does not cover all of SCA 7, but is targeted to areas CSEC considers hold densities that could support commercial fishing.

16. The SCA 7 biomass from this year's survey is estimated to be 203 t (meat weight, projected to 1 September 2015) as follows;

- Marlborough Sounds (sectors K and L – see map below) 102 t
- Tasman Bay (sector H) 72 t
- Golden Bay and the rest of Tasman Bay (sectors A to G) make up the remaining 15% of the biomass at low densities.



17. The survey results confirm the recruited biomass in Golden Bay and Tasman Bay remains at very low levels since the large declines in the early 2000s. There is a small but encouraging new biomass of scallops present in sector H of Tasman Bay.

18. Last season, only the Marlborough Sounds held commercially fishable densities of scallops. The 2014 assessment estimated a meat weight of 125 t of take-able sized scallops in the Sounds.

19. This season, recruited biomass in the Sounds has dropped a further 20% to 102 t. The scallop biomass in the Sounds is likely to be at its lowest level since 1997. This has been reflected in declining catch and biomass (see Figures 1 and 2).

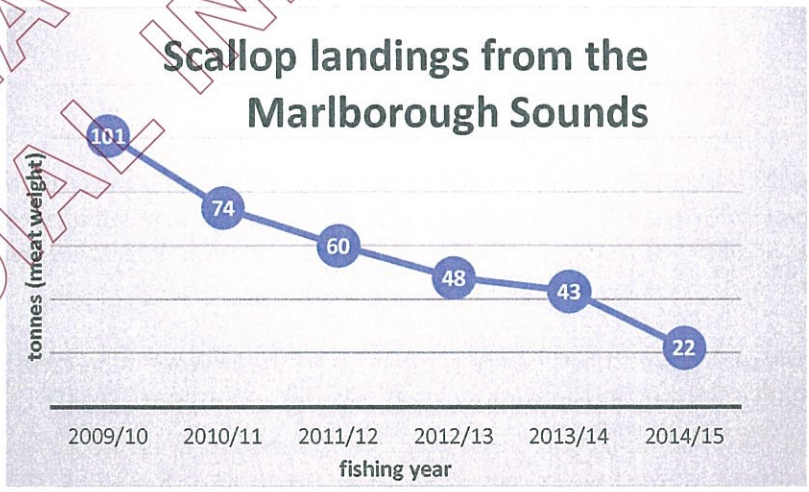


Figure 1: Commercial catch landings of Scallops from the Marlborough Sounds by year.

20. The downward trend in biomass is reflected in the decreased extent of fishable area for scallops in the Marlborough Sounds. For example, the Pelorus Sound, which

has supported significant catch in the past, is now only producing a modest number of scallops. This overall decline in numbers of beds and density of scallops has resulted in scallop fishing effort, both recreational and commercial, being concentrated into a smaller area.

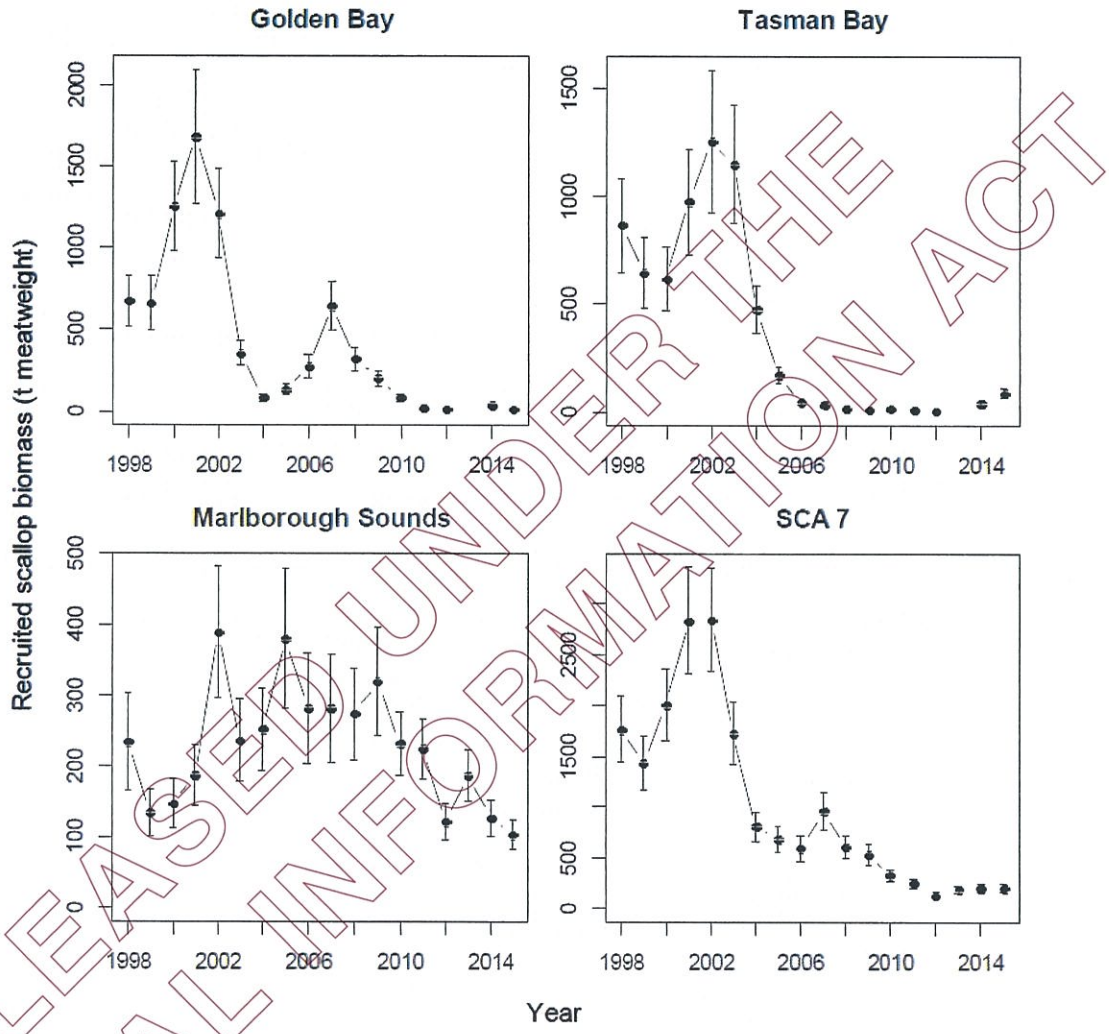


Figure 2: Summary of biomass trends by location and for SCA7. Biomass declined to negligible levels in Tasman Bay by 2006, in Golden Bay by 2011, and is, in 2015, at its lowest recorded level in the Marlborough Sounds (note: surveys in the Sounds have covered a smaller area since 2008, survey areas in other parts of the fishery are also not consistent).

21. There are likely to be reasons other than the impact of fishing for the observed declines in the abundance of scallops. For example, an MPI investigation has identified that scallops is Pelorus Sound are stressed and showing various indicators of poor condition and health, including the presence of the disease *Perkinsus*.

22. While the underlying causes of the decline may be wider than fishing, the risk of fishing damaging the future viability of the stock increases as the biomass and distribution of scallops decreases.

Sustainable catch level

Legislative context

23. The Fisheries Act 1996 requires that decisions relating to the sustainable utilisation of a fisheries resource should be based on the best available information; decision makers should consider any uncertainty in the information available and should be cautious when information is uncertain, unreliable, or inadequate; and that the absence of, or any uncertainty in, any information should not be used as a reason for postponing or failing to take any measure to achieve the purpose of this Act.

24. The purpose of the Fisheries Act is to provide for the utilisation of fisheries resources while ensuring sustainability. In the context of this fishery, ensuring sustainability means maintaining the potential of the SCA 7 resource to meet the reasonably foreseeable needs of future generations and avoiding, remedying or mitigating any adverse effects of fishing on the aquatic environment. The information principles of the Act referred to above relate to all persons exercising or performing functions, duties, or powers under the Act in relation to the utilisation of fisheries resources or ensuring sustainability.

25. For most fisheries s13 of the Act applies and gives greater clarity to sustainability decisions by referencing the setting of the TAC to Bmsy. However, SCA 7 is managed under s14 which provides you with greater discretion in terms of target levels for the stock and as a consequence the level at which the TAC is set. As a result the SCA 7 TAC is currently set at a level that does not constrain catch. The enhancement plan and the catch limits set under the harvest plan are the means for ensuring the fishery is managed to achieve the purpose of the Act.

Yield estimates

26. Previously a Current Annual Yield (CAY)[1] approach was used to calculate the sustainable scallop yield for the fishery. However, since 2014, this approach is no longer considered appropriate by the MPI-chaired Shellfish Working Group (SWG - made up of independent expert shellfish scientists responsible for reviewing research), for the following reasons:

- The input values used in the standard equations to estimate CAY are over 15 years old and do not include incidental effects of dredges, which have been found to be substantial and important for estimating sustainable yield.
- Incorporating such incidental effects always decreases the estimate of sustainable yield relative to the biomass.
- Empirical analysis of fishery performance within SCA 7 has shown that the exploitation rates implied by the standard CAY equations have led to biomass declines.

[1] CAY calculates the maximum catch available for the year based on an estimate of the fishable biomass.

27. The SWG has, therefore, recommended exploitation rates be used that have previously been associated with a generally increasing biomass in the Sounds part of the fishery (22%).

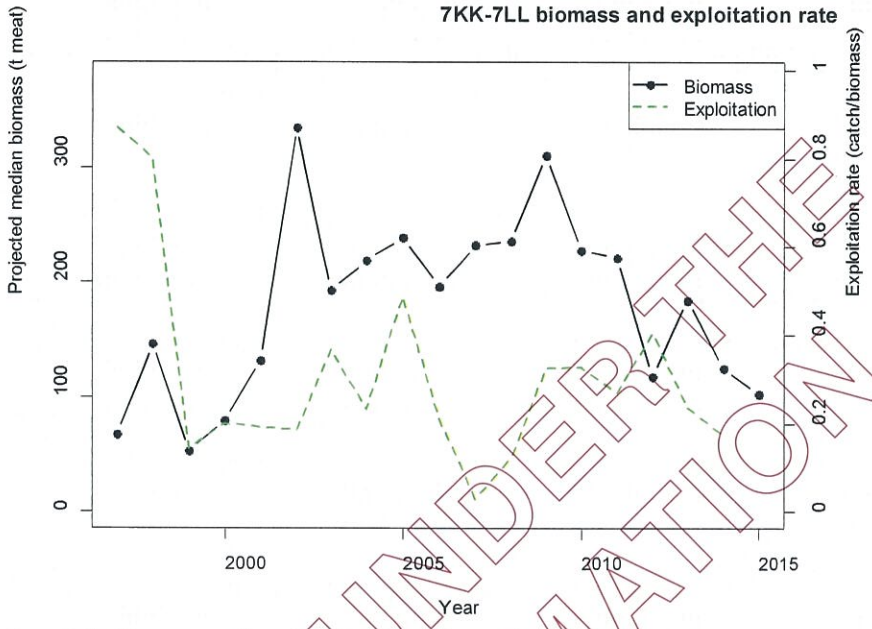


Figure 3: Trends in biomass and exploitation rate for sectors 7KK and 7LL in the Marlborough Sounds. Mean exploitation rate was 0.22 (22%) from 1999 to 2008 (associated with increasing biomass trend), and was 0.29 (29%) from 2009 to 2014 (associated with decreasing biomass trend).

28. Over time, all things being equal, at an exploitation rate of 22% or less the biomass in the Sounds should rebuild. Conversely, at a rate of 29% or more, the biomass is more likely to decrease.

29. Using an exploitation rate of 22% provides a yield of 23 t for the Sounds for this season, based on the estimated biomass from this year's survey of 102 t.

CSEC Recommendations

30. CSEC's proposed harvest plan is attached to this briefing. CSEC recommends a total 34.7 t commercial harvest from the Sounds. This corresponds to a 34% overall exploitation rate given the estimated biomass is 102 t.

31. A further 15 t is proposed to be taken from Sector H in Tasman Bay and from exploratory fishing in Sector I.

32. To avoid localised depletion, caps on the quantities taken from specific areas within the Sounds are also proposed, as follows:

- Guards/Titirangi 15 t
- Ships Cove/Long Is 10.7 t
- Deiffenbach Point 3 t
- Rest of Sounds 6 t.

33. Under the proposed plan CSEC have indicated that they will not harvest scallops from Ketu Bay or Wynnings Bank this season.

34. CSEC state in their recommendations that they do not agree with using the 22% exploitation rate approved by the SWG. CSEC prefer the CAY method, and consider that exploitation rate should be applied on a bay by bay basis. They also consider the SWG erred because "international" scallop fisheries that use the exploitation rate method harvest only the adductor muscle and do not include the roe (i.e. the exploitation 'weight' is lower in these fisheries).

MPI assessment

35. As set out in the MoU, the SWG is the appropriate forum for reaching conclusions on fisheries science questions, and its meetings are the primary opportunity for establishing the science on which the harvest plan is to be based. CSEC participated in this year's SWG process at both the survey design stage and the assessment of results stage.

36. The SWG specifically considered the use of CAY and also whether bay by bay exploitation rates could be estimated.

37. It found that the CAY method is not appropriate and should not be used for this fishery. The SWG also concluded there is insufficient data to determine bay by bay exploitation rates. MPI has since requested CSEC provide data that would support a bay by bay approach, but none has yet been provided.

38. As only data sourced from the Sounds fishery is used to establish the exploitation rate for the Sounds, CSEC's concern regarding international fisheries using scallop adductor meat weight rates is not relevant because the exploitation rate for the Sounds is calculated using both the adductor muscle and the roe.

39. MPI recommends an exploitation rate of 22%, or less, as being appropriate for the Sounds to provide an opportunity for a rebuild of the scallop population. This is based on data showing that at higher exploitation rates scallop biomass trends downwards. On this basis the overall catch for the Sounds should not exceed 23 t (equating to an exploitation rate of 22%).

40. In addition to this overall exploitation rate for the Sounds, some of the bay by bay catch caps in CSEC's harvest plan correspond to 45 to 50% exploitation rates. These far exceed the 22% exploitation rate considered by the SWG to be appropriate for the Sounds and, as a consequence, pose a high risk that the biomass of scallops in some or all of the these bays will decline. MPI considers exploitation rates for individual bays should not exceed 30% (within the overall 22% exploitation rate). Bay by bay rates will vary depending on localised abundance.

41. Last year, CSEC's harvest plan recommended a 30 t catch limit for the Sounds from a biomass estimate of 125 t. Actual harvest was 21.5 t, which equates to an actual exploitation rate for the season of 18%. This highlights that even at low exploitation rates, recovery of the fishery will only trend upwards over time, and in some years it may even decline due to environmental variability.

42. This year the harvest plan recommends a 35 t limit from the Sounds from a biomass estimate of 102 t. MPI is concerned that, while the biomass has declined by 20%, CSEC's proposal increases the catch limit by 15% compared with last season. MPI does not consider that such a limit is appropriate given the reduced state of the fishery.

Attempts to reach agreement

43. In the cover letter to the harvest plan, CSEC has suggested MPI has been unwilling to meet to discuss differences around the proposed catch limits.

44. Over the past few months MPI has gone to considerable effort to engage with CSEC to reach agreement on these issues. MPI scientists have also reviewed the information presented to the SWG and confirmed the conclusions on which MPI's advice is based. MPI has offered CSEC the opportunity to table any new or additional information that was not available to the SWG when it met. No such information has been provided.

45. MPI has also offered potential solutions whereby information gathered by the fleet during the season could be used to 'prove up' the yield of scallops in the Sounds beyond MPI's recommended 23 t. If robust data is collected showing a higher yield is appropriate for particular bays, then MPI would review this data to determine if a higher catch cap is appropriate.

46. To-date CSEC has rejected this approach on the basis it does not provide sufficient certainty for the fleet. It is clear that CSEC's catch level recommendations are, at least partly, driven by economic factors.

47. While these are important considerations, it is in the long term interests of all participants in this important shared fishery to ensure sufficient scallops are left in the water to support the rebuild of a fishery that has been in decline for several years.

48. MPI has also offered to discuss part funding of next year's biomass survey of the Sounds, given its importance as a shared fishery. At this stage, CSEC has not responded to this offer.

Non-Commercial Access

49. The MoU requires that CSEC provide, as part of its recommendations, provision for non-commercial access to the fishery. This year's plan contains no specific provision for non-commercial access. The plan does not specify if the fleet will adhere to previous voluntary closed areas such as Bay of Many Coves, Croiselles Harbour or Pig Bay. However, CSEC stated at consultation meetings (held as a requirement of the MoU) for recreational interests, the public and iwi that these voluntary agreements would remain in place.

50. Following these consultation meetings, recreational groups made submissions in writing on CSEC's proposals to both CSEC and MPI. Four submissions were received from separate fishing and boating clubs expressing concern for the state of the fishery and CSEC's proposed 34% exploitation rate.

51. Representatives of the recreational fishing groups had attended SWG meetings as observers when the results of the biomass survey were reviewed. They have based their submissions on the outcome of the SWG conclusions, arguing that an exploitation rate of around 15% for the Sounds or closure of the fishery would be appropriate.

52. These submitters have now jointly written to you (MIN15-0132), and have released a media statement that the CSEC recommended harvest levels are excessive. They have sought your assurance that any decision on harvest levels will be based on science.

Next Steps

53. The measures that you approved in 2014 have not yet resulted in a rebuild of the SCA 7 fishery. Whichever option you prefer for the 2015/16 harvest plan, MPI considers that it should discuss options for future management of SCA 7 with CSEC. CSEC has successfully operated under the enhancement plan for SCA 7 in the past, but the small biomass of the fishery in recent years means that we cannot assume that this continues to be the best approach.

54. Once MPI has canvassed options with CSEC, MPI will brief you and ask whether you would like MPI to undertake formal consultation on one or more options.