Ministry for Primary Industries
Manatū Ahu Matua

Review of Sustainability Controls for Surf Clam Stocks in QMA 7

MPI Discussion Paper No: 2016/03

Prepared for consultation by the Ministry for Primary Industries

ISBN No: 978-1-77665-146-7 (online)
ISSN No: 2253-3907 (online)

14 January 2016

New Zealand Government

Growing and Protecting New Zealand

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1 Submission Information

The Ministry for Primary Industries (MPI) welcomes written submissions on any or all of the proposals contained in the Consultation Document. All written submissions must be received by MPI no later than 5pm on 11 February 2016.

Written submissions should be sent directly to:

Inshore Fisheries Management
Ministry for Primary Industries
P O Box 2526
Wellington 6011

or emailed to FMsubmissions@mpi.govt.nz

1.1 OFFICIAL INFORMATION ACT 1982

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

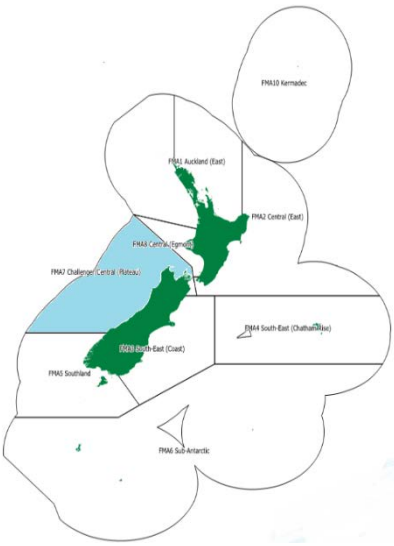

Figure 1: The Quota Management Area (QMA) for each of four surf clam stocks under review (PDO 7, SAE 7, MMI 7 and DAN 7)

2 Executive Summary

The Ministry for Primary Industries (MPI) is seeking information and views from tangata whenua and stakeholders to inform a review of catch limits for four surf clam stocks in QMA 7 (see Figure 1).

There are seven main species of subtidal surf clams in New Zealand: *Paphies donacina* (PDO), *Crassula*[1] *aequilatera* (SAE), *Mactra discors* (MDI), *Mactra murchisoni* (MMI), *Dosinia anus* (DAN), *Dosinia subrosea* (DSU), and *Bassina yatei* (BYA).

New abundance survey information indicates the level of biomass for some species of surf clams in QMA 7 are capable of supporting higher catches, while ensuring sustainability. In this paper, the Total Allowable Catch (TAC) for PDO, SAE, MMI and DAN in QMA 7, are being reviewed.

MPI proposes the following options for the upcoming fishing year (Table 1):

Table 1. Proposed management settings for four surf clam stocks in QMA 7.

Stock Options	Total Allowable Catch (t)	Total Allowable Commercial Catch (t)	Allowances		
			Māori Customary (t)	Recreational (t)	Other sources of fishing – related mortality (t)
PDO 7					
Option 1 (*status quo*)	**52**	**50**	**1**	**1**	**0**
Option 2	**200**	**188**	**1**	**1**	**10**

[1] This species was previously known as *Spisula aequilatera* but is now known as *Crassula aequilatera* as a correction to the classification. Powell, A.W.B. 1979: New Zealand Mollusca: Marine, Land and Freshwater Shells. Collins, Auckland 500p (p.414)

SAE 7					
Option 1 (*status quo*)	**112**	**112**	**-**	**-**	**0**
Option 2	**235**	**223**	**-**	**-**	**12**
MMI 7					
Option 1 (*status quo*)	**61**	**61**	**-**	**-**	**0**
Option 2	**144**	**137**	**-**	**-**	**7**
DAN 7					
Option 1 (*status quo*)	**15**	**15**	**-**	**-**	**0**
Option 2	**133**	**126**	**-**	**-**	**7**

Because of their sub-tidal location, surf clam stocks (with the possible exception of PDO) are generally inaccessible to customary and recreational fishing methods. Therefore, there is no new information to suggest that the existing sector allowances for Maori customary and recreational (i.e. PDO 7) require amendment or need to be provided for.

However, MPI requests input from customary and recreational submitters on their level of harvest of these four species, the potential of their harvest in the future and how that could be provided for. MPI will use this information to assess whether the allowances for Maori customary and recreational should be adjusted.

3 Purpose

3.1 NEED FOR ACTION

Quota holders have provided MPI with updated information about surf clam abundance and distribution in QMA 7. The information is from a biomass survey carried out in November 2015 in the Cloudy Bay part of QMA 7[2] that indicates the TACs for some species in the Cloudy Bay area of QMA 7 should be adjusted. The Shellfish Working Group (SWG) has reviewed the survey methodology and results, and considers the information robust to inform a review of the TAC.

3.2 MANAGEMENT APPROACH

The draft National Fisheries Plan for Inshore Shellfish[3] categorises surf clams as "Group 4" fisheries. Stocks in Group 4 are sought after by some sectors, but fishing pressure is relatively low. Biological vulnerability of stocks in this Group is variable. The management approach for these stocks provides for development opportunities, while minimising management costs and monitoring catch to ensure sustainability of the stocks.

The TACs for surf clams can be varied under section 13 of the Fisheries Act 1996 (the Act). Section 13(2) of the Act sets out requirements for setting a TAC where a reliable estimate of the current biomass of the stock ($B_{CURRENT}$) and the level of biomass that can produce the maximum sustainable yield (B_{MSY}), is known. Alternatively, where current biomass and B_{MSY} are not known, section 13(2A) of the Act provides for the Minister to use the best available information to set a TAC that is not inconsistent with the objective of maintaining the stock at or above, or moving the stock towards or above, the B_{MSY} level.

[2] White, L., Millar, R,, Farrington,, G. Breen, B., and Selvaraj, S. 2015. Stock Assessment of surf clams in Cloudy Bay, NZ. Applied Ecology New Zealand Report 15/02. 76p

[3] The Draft National Fisheries Plan for Inshore Shellfish is a working document being used to guide management of shellfish stocks by the Ministry for Primary Industries. The plan will be refined further before being submitted for the Minister's approval under s11A of the Fisheries Act 1996.

Key indicators used to set and vary management settings include abundance survey information. The previous abundance survey for QMA 7 surf clam stocks was conducted in 1993[4], which were used to set the TAC when they entered the Quota Management System (QMS).

4 Background Information

4.1 BIOLOGICAL CHARACTERISTICS OF SURF CLAMS

Surf clams is a collective term for seven species of bivalve clams. The four surf clam species under review represent the three families of subtidal surf clams that occur in New Zealand: Veneridae, (DAN); Mactridae, (MMI & SAE); and Mesodesmatidae, (PDO).

These species occupy what is commonly referred to as the 'surf zone'. This zone is a high energy habitat, which is also highly productive, with regular wave action that results in a mobile sandy seafloor and the frequent resuspension of sediment. High reproduction rates and rapid growth can establish substantial populations. On the other hand, surf clam populations can be subject to localised catastrophic mortality from erosion during storms, high temperatures and low oxygen levels during calm summer periods, blooms of toxic algae and excessive freshwater outflow.

Surf clams are found in and immediately beyond the surf zone of exposed sandy beaches. They are distributed sub-tidally to depths of 10 m, and each species generally has a distinct depth zone. The various surf clam species follow the same order of depth succession throughout New Zealand, but the depth distribution of each species may vary between locations.

Maximum age has been estimated from shell sections and from the numbers of age classes and this estimate used to infer the probable rate of natural mortality (M), however, it is difficult to get reliable estimates of M for this fishery.

4.2 COMMERCIAL FISHERY

Although surf clam stocks overseas support major fisheries, New Zealand's surf clam fisheries are still developing. Prior to being put in the QMS, only a few commercial fishers held permits to target surf clams and there were also difficulties in adapting overseas dredge design to suit the New Zealand fishery.

In addition, the cost of entry to surf clam fisheries is relatively high because of the required shellfish sanitation surveys[5]. Before harvesting can begin, each harvest area must meet specific shellfish sanitation requirements overseen by MPI Verification Services. Applications require ongoing monthly and annual testing, and annual reporting.

The QMA 7 surf clam fishery is a dredge fishery operating in the inshore zone in the upper South Island (refer Figure 1). The dredge includes a hydraulic clam pump and scoop harvester, and is considered to have minimal environmental impact due to the surf zone environment.

[4] Cranfield, H. J., Doonan, I. J. and Michael, K. P. (1994) Dredge surveys in Cloudy Bay, Marlborough. New Zealand Fisheries Technical Report No. 39.
[5] New Zealand Legislation: Animal Products (Regulated Control Scheme - Bivalve Molluscan Shellfish) Regulations 2006

The various species of surf clam tend to inhabit separate depths and, therefore, represent zonation by species allowing a good degree of targeting. Surf clams are also on Schedule 6 of the Act, which allows for return to the water from which they were caught.

Fishing in QMA 7 has been concentrated on a localised area of Cloudy Bay. The area was fished at low levels between the 1980s and the late 1990s. Little fishing occurred until 2002, but since that time landings have steadily increased. Surf clams entered the QMS on 1 April 2004.

Surf clams have the potential to be a substantial export fishery. The QMA 7 fishery is predominantly for SAE and PDO. Small quantities of MMI and DAN are also taken.

Table 2. Reported catch landings (tonnes) for surf clams in QMA 7 by species and year

	Fishing year	2010/11	2011/12	2012/13	2013/14	2014/15
Species	**PDO**	39	17	30	39	54
	SAE	17	83	161	192	240
	MMI	17	47	33	5	9
	MDI	0	0	0	0	0
	DAN	2	5	4	1	0.3
	DSU	0	0	0	0	0
	BYA	0	0	1	1	1

4.3 RECREATIONAL FISHERY

Because of their sub-tidal location surf clam stocks, with the possible exception of PDO, are generally inaccessible to customary and recreational fishing methods. On occasions, it may be possible to hand gather PDO (deep water tuatua) in shallow water at low spring tides, while other surf clams can sometimes be gathered after stranding's following storm events. This is considered to be natural mortality as the majority of stranded shellfish die, regardless.

There are no specific controls regarding recreational fishing for surf clams. Fishers can take a combined daily bag limit of 50 shellfish per person per day for shellfish species that do not have a specific limit. There are no estimates of recreational take for QMA 7 surf clams, however, MPI considers harvest to be minimal.

4.4 MĀORI CUSTOMARY FISHERY

Information currently held by MPI on Māori customary catch of surf clams within QMA 7 is uncertain. Tangata whenua in the Tasman/Golden Bay and Marlborough Sounds area are still operating under regulations 51 and 52 of the Fisheries (Amateur Fishing) Regulations 2014 (the Amateur Regulations), which does not require the reporting of customary permits or catches.

4.5 OTHER SOURCES OF FISHING-RELATED MORTALITY

No allowance to account for other sources of fishing-related mortality is currently set for surf clam stocks in QMA 7. Other sources of fishing-related mortality includes any mortality of surf clams that results from various factors associated with fishing, but not reported as catch. This can include incidental damage to surf clams, and also covers any component of catch that is unlawfully taken.

When the original TACs were set, MPI did not make an allowance for other sources of fishing-related mortality for surf clam stocks. The level of mortality from this source was estimated to be low given the size of the proposed TACs.

The quantity of surf clam mortality as a result of interaction with commercial dredges (but not being caught) as a proportion of damaged surf clams in earlier gear trials prior to 1990 ranged between 0 – 21%. Currently, incidental morality is considered likely to be low, due to advances in technology and hydraulics that have likely reduced the level of fishing-related mortality[6].

In the absence of information specific to the QMA 7 fishery, MPI is proposing an allowance for other sources of fishing-related mortality that is equivalent to approximately 5% of the proposed TAC for each surf clam stock. MPI seeks any further information stakeholders may have on other sources of fishing related mortality.

4.6 PREVIOUS REVIEW

The most recent review of the management settings for surf clams in QMA 7 occurred upon the introduction of surf clams to the QMS in 2004[7]. Maximum Constant Yield[8] (*MCY*) estimates were calculated from abundance estimates from a randomised dredge biomass survey conducted in 1994. The TACs for surf clam stocks in this area have not been revisited since they were set 2004.

4.7 SCIENCE INFORMATION

The best available information on abundance upon which to base TAC setting for QMA 7 surf clams is the new biomass survey and the catch landing history of the fishery.

4.7.1 Biomass survey

A biomass survey was conducted in November 2015 in QMA 7 in the Cloudy Bay area, excluding 500 m either side of the diversion and 1km north of the mouth of the Waiau River. The survey extended from 0 to 8 m water depth (from Chart Datum).

The survey has been reviewed by the SWG and biomass estimates and *MCY* estimates have been determined. All biomass estimates were calculated with a precision greater than the MPI target coefficient of variation of 20%. *MCY* estimates have been calculated for each of the four main species (Table 3) under varying estimates of fishing mortality ($F_{0.1}$).

Table 3. Mean values and 95% confidence intervals of MCY (t) of four surf clam species in QMA 7 based on variable estimates of $F_{0.1}$ [9]

Species	Biomass (t)	Value of $F_{0.1}$	Mean MCY	95% Confidence Intervals	
				Lower	Higher
PDO	1541	0.36	138.7	95.2	182.2
		0.52	200.3	137.5	263.2
SAE	887	1.06	235.0	168.3	301.8
		1.37	303.8	217.5	390.1
MMI	1009	0.43	108.4	84.9	132.0
		0.57	143.7	112.5	175.0
DAN	1270	0.25	79.4	60.2	98.6
		0.42	133.4	101.2	165.6

[6] Beentjes, M.P., and S.J. Baird. 2004. Review of dredge fishing technologies and practice for application in New Zealand. New Zealand Fisheries Assessment Report 2004/37.

[7] Cranfield, H.J., and K.P. Michael (2002): Potential area boundaries and indicative TACs for the seven species of surf clam. NIWA Unpublished report to the Ministry of Fisheries, 14p.

[8] $MCY = 0.25 * F_{0.1} * B_{0.}$. $F_{0.1}$ is the fishing mortality rate at which the increase in equilibrium yield per recruit in weight per unit of effort is 10% of the yield per recruit produced by the first unit of effort on the unexploited stock. B_0 is an estimate of the virgin recruited biomass.

[9] Estimates of $F_{0.1}$ were calculated based on natural mortality rates from the Wellington west coast and Cloudy Bay. Cranfield, H.J., Michael, K.P., and D.R. Stotter. 1993. Estimates of growth, mortality, and yield per recruit for New Zealand surf clams. New Zealand Fisheries Assessment Research Document 93/20.

MCY is considered the maximum constant catch that can be caught each year that is estimated to be sustainable at all probable future levels of species biomass. For all species, $F_{0.1}$ was calculated using growth data from Cloudy Bay in the South Island.

Caveats

Due to the uncertainty in $F_{0.1}$ values, the choice of which *MCY* estimates to use from Table 3 should be guided by the review of surf clam catch limits that was undertaken in QMA 8 in 2013. In that instance, for all species other than SAE, MPI considered a less conservative approach was reasonable to estimate a suitable *MCY*. Sustainable catch limits were based on $F_{0.1}$ values towards the higher end of the $F_{0.1}$ value range. Due to high uncertainty in the $F_{0.1}$ values for SAE, however, the SWG has advised using the lower $F_{0.1}$ values when estimating a sustainable *MCY* for this species.

The SWG considers it is also appropriate to account for catch that has already come out of Cloudy Bay when estimating *MCY*, but more work needs to be done on how best to do this.

If the higher *MCY* estimates for each species (other than SAE) are used, then the equivalent exploitation rates, using the biomass estimates in Table 3, range from 10.5% for DAN to 14% for MMI. The exploitation rate for SAE ranges from 26.5% using the lower *MCY* estimate to 34% using the higher *MCY* estimate. The SWG considers that, due to our current limited knowledge of the dynamics of surf clam species, an exploitation rate of 34% carries a higher level of risk.

The SWG also notes that, overall, the estimates of biomass and subsequent estimates of yield are likely to be cautious because:

- Surf clams are known to exist in the rest of QMA 7 outside the surveyed sites (e.g. Clifford Bay and Rabbit Island) and;
- The analysis was undertaken assuming a survey dredge efficiency of 100%, which is likely to be an over estimate. As a result the survey may underestimate biomass.

5 Legal Considerations

5.1 SETTING MANAGEMENT MEASURES

For discussion of section 13 considerations, refer to section 3.2 above. Given indications that the current biomass for each of SAE 7, PDO 7, DAN 7 and MMI 7 is relatively high, MPI considers the proposed increases to catch limits are not inconsistent with the objective of maintaining the stock at or above B_{MSY}, or moving the stock towards or above B_{MSY}.

Under s 13(2A) the Minister must also have regard to the interdependence of stocks, the biological characteristics and any environmental conditions affecting the stock. Refer to section 4 above for discussion of these considerations.

5.2 FURTHER CONSIDERATIONS

Section 12(1)(b) of the Act requires that the Minister provide for the input and participation of tangata whenua and have particular regard to kaitiakitanga before setting or varying a TAC. MPI met with Te Waka a Maui me Ona Toka Forum on 12 November 2015 to provide for input into the development of the proposals contained in this document.

Sections 9(a) and (b) require the Minister to take into account that associated or dependent species be maintained at or above a level that ensures their long-term viability, and that the biological diversity of the aquatic environment should be maintained. Section 9(c) requires

the Minister to take into account that habitat of particular significance for fisheries management should be protected. MPI does not consider the area where surf clams are harvested to be an area requiring protection given it is subject to regular natural disturbance through wave action and storms.

The key environmental interactions associated with the surf clam fishery are discussed below with reference to the likely impacts of the proposed management options.

5.2.1 Seabirds and marine mammals

There is no information to suggest the surf clam fishery results in adverse interactions with seabirds. MPI does not anticipate any significant change to this assessment based on the proposed TAC adjustments.

While dolphins, including Hector's dolphins, and New Zealand fur seals occur in the general region of Cloudy Bay, there is no information to suggest that the surf clam fishery interacts with these mammals or has any adverse effect on the population.

5.2.2 Benthic impacts

Previous research[10] has concluded that use of hydraulic dredges in the surf clam fishery has little adverse effect on the surf zone substrate where surf clams are found. There is little evidence of dredge tracks on the substrate within 20 minutes of use and no evidence within 24 hours. These shallow water environments are subject to frequent natural disturbance and tend to recover faster from the effects of mobile fishing compared to those in deeper water. Similarly, the species that live in these systems must adapt to turbulence and shifting sand.

MPI notes that surf clams will play a role in the coastal marine food webs, however, there is very limited information on this matter.

5.2.3 Fish bycatch

Given the specialist fishing method and the slow speed with which dredging is undertaken, bycatch is limited to low numbers of other species of molluscs and some echinoderms. Limited numbers of flatfish and paddle crab can, on occasion, be captured in the dredge. An increase in the TAC is likely to result in increased dredging effort, however, this effort is localised in sanitation areas and any increase in bycatch is likely to be modest.

6 Proposed Response

Table 4. Proposed management settings for four surf clam stocks in QMA 7.

Stock Options	Total Allowable Catch (t)	Total Allowable Commercial Catch (t)	Allowances		
			Māori Customary (t)	Recreational (t)	Other sources of fishing – related mortality (t)
PDO 7					
Option 1 (*status quo*)	**52**	**50**	**1**	**1**	**0**
Option 2	**200**	**188**	**1**	**1**	**10**
SAE 7					
Option 1 (*status quo*)	**112**	**112**	**-**	**-**	**0**
Option 2	**235**	**223**	**-**	**-**	**12**

[10] Beentjes, M.P., and S.J. Baird. 2004. Review of dredge fishing technologies and practice for application in New Zealand. New Zealand Fisheries Assessment Report 2004/37.

MMI 7					
Option 1 (*status quo*)	**61**	**61**	**-**	**-**	**0**
Option 2	**144**	**137**	**-**	**-**	**7**
DAN 7					
Option 1 (*status quo*)	**15**	**15**	**-**	**-**	**0**
Option 2	**133**	**126**	**-**	**-**	**7**

6.1 OPTION 1 (*STATUS QUO*)

Under Option 1, the existing TAC would be retained. The TACC or allowances for customary Māori, recreational or other sources of fishing related mortality would be retained in line with the *status quo*.

The current TACs were established in 2004 when surf clams were first put into the QMS. While TACCs were based on *MCY* estimates from 1994 and historic commercial landings, the SWG considers these estimates should be treated with caution. The surf clam fishery is a developing fishery and these settings may no longer be appropriate or consistent with the recent biomass survey.

This option takes a cautious approach to change, and places little weight on the new abundance information. MPI considers it appropriate to review the TAC to ensure that, based on best available information, it is set at a level that is not inconsistent with the objective of maintaining or moving the stock biomass towards or above B_{MSY} as well as providing for development opportunities and enabling utilisation.

Overall, Option 1 is less consistent with this objective than Option 2 because it unnecessarily limits development and utilisation opportunities.

Impact
The available information suggests there is potential for increased economic benefits that would not be realised under Option 1. The most recent biomass estimates indicate the fishery for some surf clam stocks could support further fishing.

MPI considers that retaining the TACC for PDO 7 and SAE 7 will constrain development of the fishery, where species abundance has been shown to be much greater than the current management settings allow for. Retaining the current TACs and TACCs may result in opportunity loss through unnecessarily constrained catch.

Similarly, Option 1 does not adjust the allowances for Maori customary or recreational take. MPI has insufficient information to assess whether or not these allowances adequately provide for non-commercial harvest. Consequently, MPI requests input from submitters on the impact of retaining the existing allowances on customary and recreational fishers.

6.2 OPTION 2

Option 2 proposes an increase to the TAC for four surf clam stocks to enable greater sustainable utilisation (refer to Table 5).

Table 5. Option 2 proposed TACs, sector and other fishing-related mortality allowances and TACCs (tonnes) for four surf clam stocks in QMA 7.

Stock	Total Allowable Catch (t)	Total Allowable Commercial Catch (t)	Allowances		
			Māori Customary (t)	Recreational (t)	Other sources of fishing – related mortality (t)
PDO 7	200	188	1	1	10
SAE 7	235	223	-	-	12
MMI 7	144	137			7
DAN 7	133	126	-	-	7

Option 2 is based on the *MCY* estimates from the November 2015 biomass survey and takes into account the uncertainties associated with the survey. The surf clam *TAC*s proposed reflect the lower mean *MCY* (Table 3) for PDO 7, SAE 7, MMI 7, and DAN 7. And, for SAE 7, given the concern associated with the $F_{0.1}$ values and concern associated with a 34% exploitation level, set at the lower $F_{0.1}$ value.

MPI notes that the TACs are being proposed for the whole of QMA 7 based on the limited biomass survey area, but also notes that the fishery will be constrained to those parts where approved sanitation areas are established. MPI also notes that $F_{0.1}$ calculation of the estimates assumes 100% dredge efficiency, which make the proposed catch limits more cautious.

While Option 2 poses a greater sustainability risk to the surf clam stocks than Option 1, this risk is considered to be low. MPI considers that Option 2 is not inconsistent with maintaining or moving the stock to a level at or above B_{MSY}. Under Option 2 there will be greater fishing impacts on the benthic environments (see Environment Impacts section) that have been given sanitation clearance, however these areas are naturally subject to regular and high levels of disturbance through wave action and storm events.

MPI notes that surf clam biomass has an important role in the coastal marine food webs. This is taken into account in the use of more cautious *MCY* estimates upon which Option 2 is based.

No changes are proposed to the Māori customary allowance as best available information suggests that current settings provide for current levels of catch. Allowances for customary use are not set to constrain catch, but to reflect levels of current utilisation.

The limiting factor for recreational harvest is physical access to surf clam populations. This restricted accessibility has not changed, and therefore no increases to the allowances for recreational fishing is proposed.

MPI requests input from customary and recreational submitters on their level of harvest of these four species, the potential of their harvest in the future and whether the existing allowances provide for the current levels of utilisation. MPI will use this information to assess whether the allowances for Maori customary and recreational should be amended.

Information to determine the setting of the allowance for other sources of mortality for surf clams is uncertain. In the absence of area-specific information, MPI proposes that an allowance be set that equates approximately to 5% of the TACC (rounded up to the nearest

whole number) to account for other sources of fishing-related mortality in each of the surf clam stocks.

Impact
Increasing the TAC will provide an opportunity to allow for greater utilisation and economic benefits obtained from the fishery. The proposed catch limits for these selected stocks will enable industry to develop the surf clam fishery and increase the potential economic value derived from these stocks.

Based on an export price of $8.00 per kilogram provided by industry, a 410 tonne increase in commercial catch (across all four surf clam stocks) is potentially worth approximately $3.3 million annually.

7 Other Matters

7.1 DEEMED VALUES

Deemed values are an economic tool that incentivises commercial fishers not to catch in excess of their individual annual catch entitlements. A discussion of the deemed value rates for SAE 7 and PDO 7 is included in the accompanying consultation document "Review of Deemed Value Rates for Selected Stocks".

7.2 RECREATIONAL CONTROLS

There is no information to suggest a change to recreational controls would be needed and no changes to the recreational daily bag limit are proposed.

7.3 FUTURE MANAGEMENT CONSIDERATIONS

The proposed catch limits of these surf clam stocks, using the current *MCY* estimates, are considered to have a low sustainability risk in the short-medium term. MPI considers further monitoring of the fishery will be needed to maintain confidence in the on-going sustainability of the fishery.

The SWG has recommended moving the QMA 7 surf clam fishery away from an *MCY* management strategy towards an exploitation rate management strategy, and that a new management and research plan be developed for surf clams in 2016.

8 Conclusion

A new biomass survey of surf clams in QMA 7 has provided the most up-to-date information to estimate sustainable yield of four surf clam species. This information suggests there is an opportunity for increased benefits to be derived from the fishery through setting higher catch limits.

Retaining the *status quo* (Option 1) is the most cautious response, but is likely to unnecessarily constrain the fishery, and does not reflect the best available information from the November 2015 survey.

Option 2 recognises that available abundance in the fishery would allow for the opportunity for increased sustainable utilisation. The proposed increase to the TACs will enable greater economic benefits to be derived, and make more annual catch entitlement available for the commercial fishery.

It is proposed that alongside increases to the TACs and TACCs, the allowance for other sources of fishing-related mortality be set at approximately 5% of the proposed TACC for each species.

MPI considers the proposed commercial catch level will not have an adverse impact on the sustainability of the surf clam stocks in QMA 7 in the short to medium-term, or on customary and recreational use opportunities. The proposed TACs will allow greater economic return, and reflect the developing nature of the fishery.

MPI is seeking information and views from tangata whenua and stakeholders to support the development of final advice to the Minister on management settings for surf clams in QMA 7 for the fishing year commencing 1 April 2016.

In particular, MPI requests input from customary and recreational submitters on their level of harvest of these four species, the potential of their harvest in the future and whether the proposed allowances are adequate to provide for current levels of use. MPI will use this information to assess whether the allowances for Maori customary and recreational should be increased.

It is important to note that the Minister has broad discretion in exercising his powers of decision-making. He will make his own independent assessment of the information presented to him before making a final decision on varying a TAC, Maori customary, recreational and other sources of fishing-related mortality allowances, and TACC.