

**INTRODUCTION OF NEW STOCKS INTO THE QUOTA  
MANAGEMENT SYSTEM ON 1 OCTOBER 2006**

**CONSULTATION DOCUMENT**

**9 August 2005**



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# INTRODUCTION

- 1 In accordance with sections 17B(3) and 19(7) of the Fisheries Act 1996 (the Act), the purpose of this document is to consult on behalf of the Minister of Fisheries on those species or stocks proposed for introduction into the Quota Management System (QMS) on 1 October 2006 (refer Table 1). The Ministry of Fisheries (MFish) requests that you provide your comments on the introduction of these species or stocks into the QMS, their proposed Quota Management Areas (QMAs), fishing year, unit of measure and assessment of the legislative criteria, as outlined in this document.
- 2 MFish requests that you provide your written comments in response to this consultation document no later than **16 September 2005**. Your comments should be in response to the proposals for the species or stocks outlined in Table 1 in relation to:
  - The assessment of the legislative criteria;
  - The QMAs, including alternative options, for each stock;
  - The fishing year for each stock; and
  - The unit of measure for the expression of TACCs and ACE (greenweight).

- 3 Please send your written comments on this document to:

Kristin Philbert, Ministry of Fisheries, P O Box 1020, Wellington, or email to [kristin.philbert@fish.govt.nz](mailto:kristin.philbert@fish.govt.nz).

**Table 1: MFish proposed list of species/stocks to be introduced into the QMS on 1 October 2006**

Species (code)	Scientific name
Deepwater clam (PZL)	<i>Panopea zelandica</i>
Knobbed Whelk (KWH)	<i>Austrofusus glans</i>

**Table 2: MFish proposed list of stocks not to be made subject to the QMS, and be removed from Schedule 4C of the Fisheries Act 1996**

Species (code)	Scientific name
Cockle (COC 10)	<i>Austrovenus stutchburyi</i>
Pipi (PPI 10)	<i>Paphies australis</i>
Tuatua (Tua 10)	<i>Paphies subtriangulata</i>

- 4 MFish proposes that the fishing year for all stocks and species is 1 October to 30 September, with the TACC and ACE expressed as greenweight. The proposed QMAs for each stock and an assessment of the legislative criteria relating to QMS introduction are outlined in each of the species-specific sections within this document.
- 5 MFish will provide final advice to the Minister later this year on whether or not those species outlined in Table 1 will be recommended for introduction into the QMS on 1 October 2006 once consultation has occurred and submissions have been considered.
- 6 If you have any questions regarding the consultation document, or wish MFish staff to attend a meeting/hui to discuss the information, you are encouraged to contact the

person responsible for the relevant fisheries outlined in the list below, or contact your nearest MFish office:

Jodi Mantle, P O Box 19747, Auckland (09) 820 7687	(Northern Inshore)
Scott Williamson, Private Bag 14, Nelson (03) 545 8770	(Central Inshore)
Rose Grindley, Private Bag 1926, Dunedin (03) 474 2689	(Southern Inshore)

## Background

- 7 There are around 100 species of aquatic life commercially harvested in New Zealand that are presently managed outside the QMS. Since 30 September 1992 there has been a moratorium on the issuance of new non-QMS permits to commercially harvest these species, other than tuna. The permit moratorium was intended to (1) prevent expansion of non-QMS fisheries prior to QMS introduction, (2) avoid the creation of incentives to ‘race for catch history’, and (3) mitigate risks to stock sustainability. However, the prolonged presence of the permit moratorium has caused some management issues, such as (1) inhibiting the development of new and under-developed fisheries, and (2) preventing MFish from issuing permits to allow fishers to land non-QMS stocks.
- 8 With the passage by Parliament of amendments to the Fisheries Act 1996, as of 1 October 2004, a number of significant changes have been made. The relevant legal tests relating to the introduction of species into the QMS have changed and for the majority of species the moratorium on issuing new commercial fishing permit has been removed. The fisheries management framework that will be put into effect within the next few years involves the full implementation of the QMS and likely changes to the way any remaining non-QMS fisheries are managed.
- 9 While MFish supports the introduction of commercially valuable species into the QMS, it should be remembered that introduction would not necessarily lead to expansion of commercial harvests. The QMS meets the Act’s purpose ‘to provide for the utilisation of fisheries resources while ensuring sustainability’, which includes mitigating the impact fishing activity may have on stocks already considered vulnerable. The requirement to ensure sustainability applies equally to species managed outside the QMS. However, MFish considers that the QMS framework provides better means for ensuring sustainability, enhancing fisheries for all resource users.
- 10 The introduction of species or stocks into the QMS allows the Crown to meet its obligation to Māori under the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 (the Settlement Act). The Settlement Act established that the Treaty of Waitangi Fisheries Commission would be allocated, on behalf of Māori, 20% of all quota for further stocks introduced into the QMS.
- 11 In addition, when management measures are considered, including Total Allowable Catches (TACs) and TACCs, for species or stocks to be introduced into the QMS, consideration will also be given to the Crown’s settlements with individual iwi. These settlements contain provisions regarding species prohibited from commercial harvest and rights of first refusal over any residual Crown-held quota for particular shellfish species.

## Next Steps

- 12 The next steps in the process of determining whether species or stocks listed in Table 1 above will be introduced into the QMS on 1 October 2006 are as follows:
- a) Following the consultation time period, ending **16 September 2005**, MFish will submit final advice and recommendations to the Minister of Fisheries on each species or stock's QMAs, fishing year, unit of measure and the assessment of the legislative criteria.
  - b) If the Minister agrees that a species or stock should be introduced into the QMS, then a Declaration Notice will be published in the *Gazette* that will contain each species or stock's introduction date, QMAs, fishing year and unit of measure. Table 2 outlines the indicative combined timeframe involved in introducing species or stocks into the QMS on 1 October 2006.
  - c) For those stocks that are gazetted for introduction into the QMS, MFish will consult next year on the proposed management measures that will apply, including the total allowable catch and allowances.

**Table 3: Indicative combined timeframe for 1 October 2006 QMS introductions**

<b>Task</b>	<b>Date</b>
Consultation with stakeholders	Ends 16 September 2005
Final advice paper to the Minister	By 2 November 2005
Section 18 QMS declaration notified in the Gazette	24 November 2005
Notification of eligible catch (etc)	31 January 2006
Objection period	1 February 2006 – 28 April 2006
Objection assessment complete	14 May 2006
Notification of PCH (etc)	19 May 2006
Appeal Period	22 May 2006 – 15 August 2006
PCH transfer period	16 August 2006 – 12 September 2006
Notification of quota allocation	29 September 2006

## Outline of the Consultation Document

- 13 This document was compiled in accordance with s 10 of the Act, which requires decisions to be based on the best available information and decision makers to consider any uncertainty in the information available and to be cautious when information is uncertain, unreliable, or inadequate. Section 10 states 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 the Act. Uncertainty or inadequacies of information are noted throughout this document when they arise.
- 14 The next section of this document, titled 'Quota Management Areas', outlines the statutory obligations and policy principles used by MFish to determine proposed QMAs.

- 15 A further section titled “Assessment of Legislative Criteria” explains the factors to be taken into account by the Minister when making a determination on whether or not to introduce a species into the QMS. The process for introducing species into the QMS has changed significantly as a result of changes made to the Fisheries Act 1996 that came into effect on 1 October 2004. New legislative provisions have replaced the previous requirement for the Minister to have regard to the costs and benefits of introducing a species into the QMS. An explanation of the new legislative requirements is set out in the section on “Assessment of Legislative Criteria”.
- 16 The remainder of this document consists of a section on each species or stock proposed for QMS introduction on 1 October 2006, and includes the following:
- **Summary of Proposals** – summarises MFish’s proposals and alternative options for each stock;
  - **Assessment of Legislative Criteria** – outlines the results of MFish’s assessments of the legislative criteria, which consider the best available information, including various reports produced by the National Institute of Water and Atmospheric Research (NIWA) on contract to MFish;
  - **Stocks and Areas** – describes each stock and issues considered when proposing QMAs;
  - **Proposed Quota Management Areas** – outlines MFish’s proposed QMAs for each stock;
  - **Fishing Year** – outlines MFish’s proposed fishing year for each stock; and
  - **Unit of Measure** – outlines MFish’s proposed unit of measure for each stock.

## Quota Management Areas

- 17 In proposing QMA boundaries for species or stocks to be introduced into the QMS, MFish considered the two statutory obligations set out in the Act:
- As far as practicable, the same QMAs should be maintained for different species (s 19(2)); and
  - A separate QMA may be set for the waters surrounding the Chatham Islands if the stock can be managed effectively as a unit (s 19(3)).
- 18 In addition, MFish has developed a set of principles to assist in defining practicable QMAs, as outlined in Table 3. MFish used the statutory obligations and those principles relevant to each stock to propose QMAs it considers being sensible and effective as long-term stock management boundaries.

**Table 4: Principles in setting proposed QMAs**

<b>PRINCIPLES</b>		<b>FISHERIES MANAGEMENT OUTCOMES</b>	
1.	Management areas should be based principally on the biological characteristics of the stock.	•	Sustainability requirements of the Act (based around “stock”) are met.
2.	The stock boundaries should take into account the existing characteristics of the fishery (known fisheries, relevant fisheries management issues).	•	Sensible stock boundaries.
		•	Simplified allocation of quota.
		•	Reduced business compliance costs.
3.	Where practicable, QMAs for species that are taken together in the same fisheries should be aligned.	•	Integrated management of interrelated-stocks.
		•	Reduced complexity and business compliance costs.
4.	QMAs with new boundaries may be appropriate for species with populations whose distributions do not align with existing QMA boundaries.	•	Sensible stock boundaries.
		•	Sustainability requirements of the Act are met.
		•	Improved control of harvest and reduced risk to the aquatic environment.
5.	Subject to the principles noted above QMAs should be as large as possible.	•	Reduced complexity and business compliance costs.
		•	Flexibility for exercise of customary rights.

19 It is acknowledged that there may be compelling reasons to set QMAs that are different from the boundaries of the biological stock, and, of course biological stock boundaries may not be easy to identify and may vary over time. In some instances it will be appropriate to set a QMA that encompasses more than one biological stock, and move to smaller units of management using the measures in the Act as more becomes known about the boundaries of a biological stock. Smaller units of management can be implemented using fisheries plans, the QMA subdivision provisions and catch splitting arrangements contained within the Act. Smaller units of management may be particularly applicable for some ‘sedentary’ species. MFish took these issues into consideration when proposing QMAs for each stock.

## **Assessment of Legislative Criteria**

20 The Minister of Fisheries must make a determination in order to introduce a stock or species into the QMS. In making a determination the Minister is required to consider the criteria specified in s 17B of the Act. MFish has developed a decision path that sets out the criteria the Minister must consider. A description of the decision path and the relevant considerations is set out below.

### ***The decision path***

21 The Act specifies separate starting points for those species listed on Schedule 4C of the Act (s 17B(5)) and those species not listed on that Schedule (s 17B(1)). A specific determination under s 17B(1) is required in respect of those species not listed on the Schedule. There are also a number of additional considerations for both Schedule 4C (stocks and species subject to s 93 permit moratorium) and non-Schedule 4C species about the use of measures in s 11 (s 17B(2)) and about management of highly migratory species outside New Zealand fisheries waters (s 17B(6)).

22 Deepwater clam and knobbed whelk stocks proposed for introduction into the QMS on 1 October 2006 are listed on Schedule 4C.

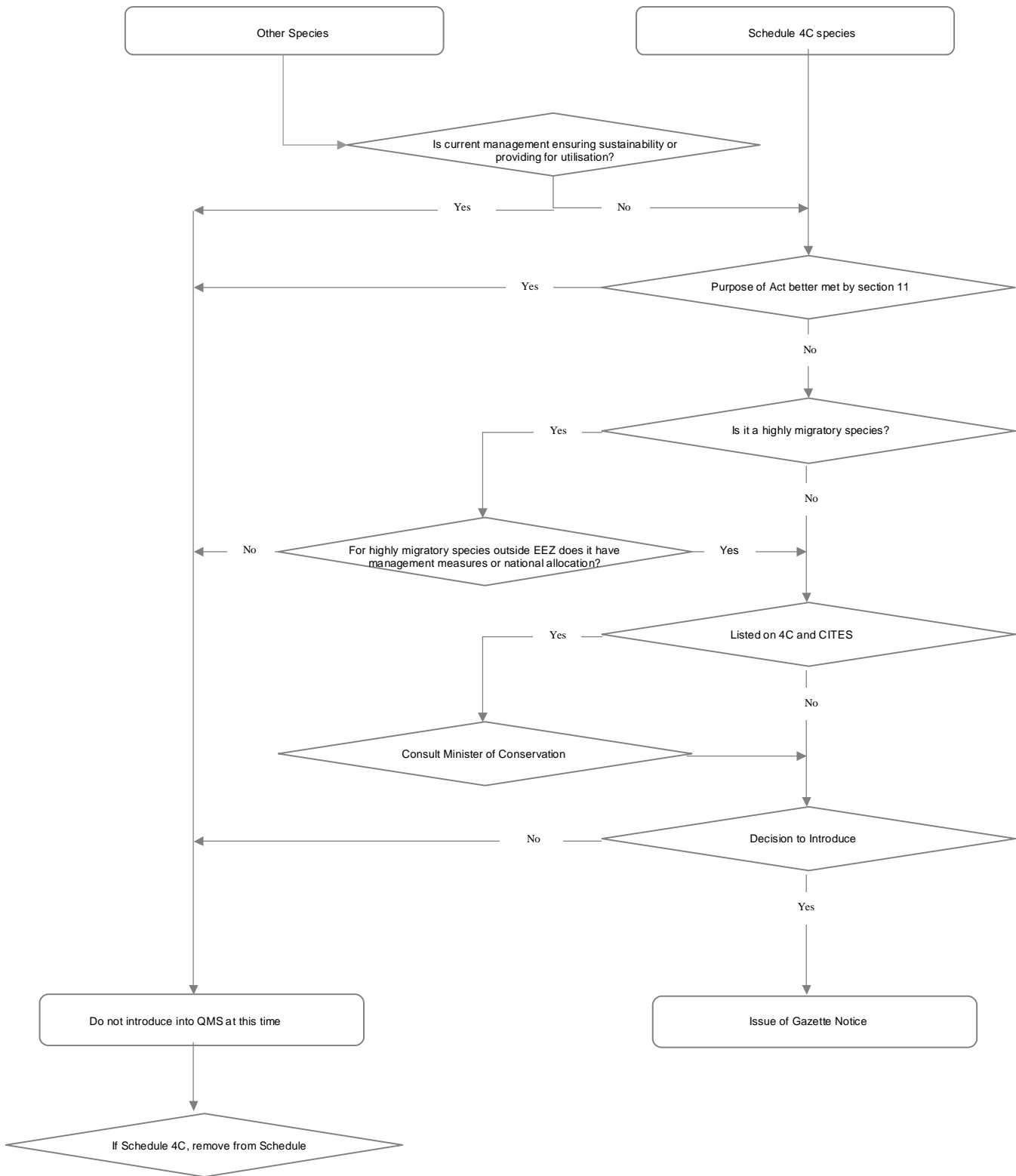
### ***Sustainability and utilisation determination***

23 The Act specifies that for species not listed on Schedule 4C, the first step in the process is for the Minister to determine whether or not the current management

framework is ensuring sustainability or providing for utilisation. For the Minister to proceed with introduction of a species or species he must be satisfied that current management is not ensuring the sustainability or not providing for the utilisation of the stock or species (see s 17B(1)). If satisfied that one or other of the criteria in s 17B(1) is met, the Minister must also then consider additional factors as identified in the decision path, which are discussed below.

- 24 In order to test whether the management framework is meeting one or other of the two legislative criteria in s 17B(1), MFish will consider the factors outlined below in the context of the stock or species being considered for introduction. MFish will have regard to the effectiveness of current management measures in terms of both the current known status of the stock or species and also the reasonably foreseeable future status of the stock under that management.

**Figure 1 The Decision Path for QMS Introduction**



### *Ensuring sustainability*

- 25 The Fisheries Act defines ensuring sustainability as –
- a) Maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations; and
  - b) Avoiding, remedying or mitigating any adverse effects of fishing on the aquatic environment:
- 26 Accordingly, MFish consider that two factors can be considered to determine whether the current management framework is ensuring sustainability.
- a) Whether the current management framework is maintaining (or is likely to maintain) the potential of the stock to meet the reasonably foreseeable needs of future generations. The key indicator is whether the stock is overfished or fished unsustainably to the point where it will not or is likely to not meet the reasonably foreseeable needs of future generations. The analysis will determine the reasonably foreseeable needs of future generations on a case-by-case basis having regard to the characteristics of the stock or species.
  - b) The second factor is whether fishing for the non-QMS stock under the current management framework is having an adverse effect on the aquatic environment. The analysis will consider effects on related species, habitats of significance for fisheries management, and on biodiversity. This factor is likely to be relevant only for a target stock or species. Determination of whether an impact of fishing is adverse will be based in part on any outcome standards in place for the stock or species (ie a Population Management Plan or National Plan of Action) and an assessment of the individual circumstances of the fishery on a case-by-case basis.

### *Providing for utilisation*

- 27 The Fisheries Act 1996 defines utilisation as enabling people to provide for their cultural, social and economic well-being. MFish consider that two factors can be considered to determine whether the current management framework is adequately providing for utilisation.
- a) The first factor is whether the current management framework is not providing for well-being by inhibiting and or preventing access. Enabling people to provide for their well-being must entail (at the least) the provision of the opportunity for utilisation, within the bounds of ensuring sustainability and subject to any additional statutory obligations, including treaty settlement legislation. To unnecessarily deny access is to disable the ability of a class of people to provide for their well-being, which is contrary to the utilisation obligation in the purpose of the Act. MFish considers that providing open, or unrestrained, access to stocks is consistent with this utilisation obligation. There are few constraints on access for recreational and customary uses, other than for sustainability concerns and allocations between sectors. This intent, in relation to commercial fishing, is reflected in s 91 of the Act, which states “the chief executive must issue to every person who applies for a fishing permit under this Act an appropriate fishing permit ...”. A critical test is therefore whether this current management framework is providing for access.

- b) The second assessment is whether the current management framework enables people to provide for their social, economic and cultural well-being. The first step in “enabling”, as required under the Act, is to provide the opportunity for utilisation via access to the resource, within the bounds of ensuring sustainability (as stated above). The second step is to create a framework that provides the opportunity for stakeholders through their access to provide for their social, economic and cultural well-being. Accordingly, an assessment needs to be made of how well the current management framework provides for well-being. Relevant considerations include, the degree of current or likely rent dissipation, overcapitalisation, and conflict between sector groups that are promoted by the current management framework.

### **Schedule 4C**

- 28 Schedule 4C contains a list of species which remain covered by a moratorium on the issue of fishing permits and where allocation of quota will be on the basis of catch history if the stock is introduced into the QMS before 1 October 2009.
- 29 Parliament’s intent in creating Schedule 4C was to ensure species considered as having sustainability concerns were adequately managed before they were considered for introduction into the QMS. Those species on Schedule 4C were identified as being subjected to a sustainability risk in an open access environment post 1 October 2004.
- 30 The process for introducing species listed on Schedule 4C is not the same as for other species. Because Parliament has already identified there is a sustainability risk for the species listed on the Schedule, the Minister is not required to make a determination of whether the current management framework will ensure sustainability or provide for utilisation (s 17B(5)). The Minister can determine to introduce a species listed on Schedule 4C into the QMS, subject to consideration of the additional requirements specified in the Act – those requirements are identified in the decision path and discussed below.
- 31 If the Minister proposes to introduce a species listed on the Schedule 4C that is also listed on CITES then the Minister must consult with the Minister of Conservation (s 17B(7)). None of the species proposed for introduction in this document are listed on CITES.
- 32 If the Minister determines not to introduce a species listed on the Schedule 4C following the statutory consultation process the outcome is the removal of the species from the Schedule (s 17B(5)(b)). This will also result in removal of the moratorium on issuing permits for the species. In addition, removal from Schedule 4C will mean that catch history will still be used as the basis for quota allocation if the species is subsequently introduced to the QMS before 1 October 2009 (see s 29A(2)(a)).

### **Purpose of Act better met by use of section 11 measure**

- 33 The Act requires the Minister to introduce a stock into the QMS unless the purpose of the Act would be better met by setting one or more sustainability measures under s 11 (see s 17B(2)). The critical question is whether s 11 measures on their own, as compared to the QMS, will be better able to meet the purpose of the Act for the stocks

or species concerned. It is acknowledged that management under the QMS could also include use of s 11 measures, such as use of method restrictions or area closures.

- 34 Section 11 outlines a non-exhaustive list of sustainability measures that the Minister may apply to a stock. There are potentially an infinite number of types and combinations of management measures that could be considered under s 11. Generically, MFish considers the QMS is the best framework available within the Act to provide for the utilisation of fisheries resources while ensuring sustainability (purpose of the Act) regardless of the measure chosen (based on the analysis outlined below).
- 35 The test under s 17B(2) is therefore to identify whether there is any information to suggest that the generic analysis outlined below does not apply to the particular stock or species, and that management using measures under s 11 on their own would better achieve the purpose and principles of the Act. In particular, MFish notes that a significant limitation of s 11 is that it does not address utilisation considerations. It is not lawful to use a s 11 measure to meet a utilisation obligation. Where utilisation factors arise, the QMS will invariably be the most efficient means of addressing those factors.

### *Sustainability*

- 36 The Act requires stocks to be managed in order to meet the reasonably foreseeable needs of future generations. The sustainability requirement holds whether stocks are managed within or outside the QMS. However, as mentioned, MFish considers the QMS best ensures stock sustainability because of its useful measures (particularly the balancing regime) and incentives (via quota allocations), neither of which are present in the non-QMS framework.
- 37 Section 11 of the Act outlines a number of potential sustainability measures, although the list is not exhaustive. The non-QMS framework can restrain individual catch levels, and therefore manage stocks sustainably, through a combination of input controls, such as area closures and gear and method restrictions. The non-QMS framework also includes the ability to set a Catch Limit (CL) or Commercial Catch Limit (CCL), which is a ceiling on the level of commercial harvest of a fishery.
- 38 However, the setting of a CCL can exacerbate adverse impacts on the fishery and aquatic environment when competition within the fishery becomes excessive. In this situation, a CCL creates an 'olympic style' fishery whereby fishers compete for access until the CCL is reached. The time fishers have to 'race to catch fish' is constrained more as harvest effort increases.
- 39 A CCL can have a different effect on a bycatch fishery. In the event the bycatch is taken as an inevitable consequence of a target fishery, and the bycatch fishery CCL has been reached, causing the fishery to be closed, access to the more valued target fishery may then be constrained, thus reducing its value to fishers. However, a CCL applied to a bycatch fishery can also cause a 'race to catch' the target species before the fishery is closed due to the bycatch CCL being reached.
- 40 Fishers typically respond to a CCL or regulatory input controls by investing in vessels and/or gear that circumvent the intended effect of imposing the regulations. The

consequence is that the fishery becomes over-capitalised and inefficient, and, therefore, impacts on peoples' ability to provide for their well-being.

- 41 The QMS balancing regime strongly discourages the over catch of a TACC while at the same time providing flexibility for those times when catch of a species cannot be avoided, and the fisher does not have authority to catch the species. Overfishing is controlled by graduated administrative incentives based around the payment of deemed values. Over-fishing thresholds, and the ability to restrict harvest via legislative conditions imposed on fishing permits for both QMS and non-QMS stocks, act to prevent fishers who have over caught their ACE from fishing in areas where over catch raises particular sustainability concerns.
- 42 Method restrictions are a common fisheries management tool. A method restriction constrains the range of harvest methods that can be used for fishing purposes. They can be used to deal with a variety of sustainability issues such as limiting the effects of fishing on the benthos (e.g. restricting harvesting to use of handgathering in place of dredges in vulnerable environments) or to address bycatch issues for seabirds (e.g. use of tori lines) or catch of juveniles species (e.g. mesh size restrictions). However, the tool is not effective in managing fishing effort of the available fishing methods or constraining the quantum of catch taken.
- 43 Area based controls are designed to deal with issues relating to matters such as maintaining biodiversity (e.g. closure at Spirits Bay), protecting habitats of particular significance for fisheries management (e.g. closure of areas with juvenile stocks), and managing the effects of localised depletion (e.g. temporary closure of customary fishing grounds). However, area closures do not adequately manage the areas open to fishing. One potential outcome is for closures to concentrate fishing effort into the remaining areas thereby increasing the risk to the sustainability of the stock or species.
- 44 A number of measures relating to a species' biological characteristics or reproductive capacity are available under s 11. The measures relate to the species size, sex, or state. The purpose of such measures is often to ensure that sufficient of the population reaches maturity so that the sustainability of the stock is ensured. Examples include a restriction on the taking of berried female rock lobster or paua less than 125mm in size. The measures can be effective in managing the portion of the stock that is available to fishing, in particular in the case of size limits.
- 45 Section 11 also provides for the setting of a fishing season. In some jurisdictions overseas fishing seasons are used as way of constraining fishing effort, for example the number of fishing days. In New Zealand those stocks or species with a fishing season, the season is usually determined on the basis of optimal condition of the resource (as in the case of scallops), or the impacts on a protected species with the closure of the fishery due to a protected species interaction. A fishing season in itself may not be effective in managing total catch, and certainly not very effective in achieving utilisation obligations under the Act.
- 46 Introduction of all stocks with sustainability and/or utilisation concerns will result in the price of quota for target stocks being based, in part, on the price of quota for bycatch stocks. While this outcome may add operating costs in a mixed fishery, it will focus incentives on the management of species groups, rather than solely on target stocks. Furthermore, this situation will require fishers to face more accurately the costs of their operations' impacts on bycatch stocks. Where sustainable catch

limits for bycatch stocks constrain the catch of target stocks, stock value and vulnerability will need to be considered together. Fishers will have increased incentives to minimise their catch of vulnerable stocks, or their impacts on the aquatic environment, by adopting environmentally sensitive technologies and fishing practices.

- 47 MFish considers that the level of information on stocks and harvest effort will be improved in the QMS environment because of the incentives created by quota allocations, particularly in undeveloped and under-developed fisheries that are likely to be 'proved up' in order to substantiate any consideration of increasing harvest levels. Improvements in the level of available information should also benefit the long-term sustainability of stocks and the environment.
- 48 QMS introduction should incline commercial fishers to take more interest in the management of fisheries, given their investments. MFish continues to advocate the development of fisheries plans to improve the management of fisheries, and notes that quota allocations can facilitate the formulation of participant-initiated management arrangements. The incentives quota holders have to take an interest in a fishery's management, coupled with non-commercial interests, may prove invaluable in the long-term management of the fishery.

### *Utilisation*

- 49 MFish considers that because the QMS better provides for sustainable utilisation, it is the best framework for enabling people to provide for their social, cultural and economic well-being.
- 50 The non-QMS framework does not ration commercial access to a fishery, except by way of the current permit moratorium, because fishing permits are granted upon request. The non-QMS framework also fails to allocate access rights between generations, which inherently results in claims of unfairness. This failing of the non-QMS framework requires the Government to intervene in the resolution of any future access issues.
- 51 As the non-QMS framework does not define commercial fishers' catch from year to year, it fails to provide them with incentives to maximise the value of a fishery, which then inhibits investments and impedes consideration of management for the future.
- 52 The allocation of quota provides a significantly better access right than non-QMS fishing permits because it is based on a secure proportion of the TACC allocated in perpetuity. Commercial fishers can retain indefinitely their proportions of the TACC, thus providing certainty and security when planning long-term operations and investments. Quota's security of tenure provides a means of capitalising the value of future harvesting rights in the fishery. The possibility of trade makes this capital value an asset that holders will wish to enhance.
- 53 The QMS provides the best opportunity for people to pursue economic well-being by allowing quota to be purchased by the most efficient users of the resource. Because quota is divisible, meaning that it can be divided more narrowly, fishers can match quota holdings with their operations through buying and selling. Similarly, the transferability of quota allows less efficient users to exit a fishery by selling their quota and receiving a return on their investment. Lastly, quota's tradability provides

the means for inter-generational transfers. The QMS allows for a smooth re-allocation of access rights, via quota trading, from one generation to the next without requiring Government involvement.

- 54 QMS introduction is generally preferred because it facilitates the entry of Māori into commercial fisheries and allows the means for the Crown to meet its obligations to Māori under the Deed of Settlement 1992. Transferable commercial access to Māori is not available under non-QMS management.
- 55 Although no trade in quota occurs between customary and recreational users, these user groups benefit from QMS stocks being sustainably managed and from the Minister considering their interests when setting the TAC and allowances. The QMS operates to place a cap on commercial catch and applies an economic incentive to constrain overcatch by commercial fishers; thereby supporting customary and/or recreational interests in the stock.
- 56 In addition, since customary and recreational groups have an explicit allowance for a stock on the setting of a TAC under the QMS, they are in a better position to provide their input into its management by way of a fisheries plan or other means. The overall benefits of QMS introduction for the customary and recreational users are derived from improvements to the management of the species or stock.

### ***Highly migratory species considerations***

- 57 If a species proposed for introduction is a highly migratory species, despite meeting the other legislative requirements noted above, the species cannot be introduced into the QMS outside of New Zealand's Exclusive Economic Zone except to give effect to - a national allocation to New Zealand by an international fisheries organisation in relation to that stock; or any other management measures to which New Zealand has agreed, made by an international fisheries organisation in relation to that stock (s 17B(6)). In the absence of these factors, introduction of a highly migratory species is limited to the stock within the EEZ.



# COCKLE, PIPI AND TUATUA IN FMA10

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## Summary of Proposals

- 1 MFish proposes that:
  - a) The Minister determine that cockle, pipi and tuatua in Fisheries Management Area (FMA) 10 not be made subject to the QMS, and that;
  - b) Cockle, pipi and tuatua in FMA 10 be removed from Schedule 4C of the Fisheries Act 1996.

## Assessment Legislative Criteria

### *Schedule 4C*

- 2 Cockle, pipi and tuatua were placed on Schedule 4C, which retains a moratorium on issuing fishing permits to target these non-QMS species, on the basis that targeting of these species was likely to increase under an open access regime and these species are susceptible to the effects of over-fishing.
- 3 From 1 October 2005, management of cockle, pipi and tuatua will occur within the QMS and these species will be removed from Schedule 4C. The exception is FMA 10 (refer Figure 1) stocks of these species. These stocks were excluded from QMS introduction during the October 2005 round<sup>1</sup> because cockle, pipi and tuatua are believed to be absent in FMA 10. Further, any suitable habitat in FMA 10 is encompassed within the Kermadec Marine Reserve, which extends 12 nautical miles from all islands in FMA 10. Cockle, pipi and tuatua in FMA 10 will remain listed on Schedule 4C until the Minister makes a determination under s 17B(5)(a) of the Act that these stocks should not be subject to the QMS.
- 4 MFish considers there is no basis for these FMA 10 stocks to be introduced into the QMS as the circumstances surrounding these stocks means that no sustainability or utilisation concerns are raised. Moreover, the purpose of the Act is better met by retaining the sustainability measure that is currently in place and which prohibits targeting of non-QMS species in FMA 10<sup>2</sup>.
- 5 Although the Minister decided not to include cockle, pipi or tuatua in FMA 10 in the October 2005 round of QMS introductions, he has not, definitively, made the required determination under ss 17B(5)(a) of the Act<sup>3</sup>. MFish proposes he now make such a determination, thereby allowing these stocks to be removed from Schedule 4C.
- 6 Following notification of his decision in the *Gazette*, cockle, pipi and tuatua in FMA 10 will be managed under default open-access management arrangements.

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<sup>1</sup> Introduction of New Stocks into the QMS on 1 October 2005. MFish Final Advice Paper. 10 December 2004.

<sup>2</sup> Regulation 18A of the Fisheries (Auckland and Kermadec Areas Commercial Fishing) Regulations 1986 prohibits targeting of non-QMS species in FMA 10.

<sup>3</sup> Introduction of New Stocks into the QMS on 1 October 2005. Minister's Decision Letter. February 2005.

Given the absence of these species in the fishable waters of FMA 10, MFish does not anticipate that any landings of these species will occur.

### ***Use of section 11 tool***

- 7 MFish considers that no active management of cockle, pipi or tuatua in FMA 10 is required as these species are unlikely to be found in FMA 10, and all suitable habitat in FMA10 is encompassed within the Kermadec Marine Reserve. No landings of cockle, pipi or tuatua have been reported for FMA 10.
- 8 In addition, if cockle, pipi or tuatua were to be found outside the area encompassed within the Kermadec Marine reserve, regulation 18A of the Fisheries (Auckland and Kermadec Areas Commercial Fishing) Regulations 1986 prohibits targeting of non-QMS species in FMA 10.
- 9 These generic s 11 sustainability measures already in place for FMA 10, meet the purpose of the Act better than QMS introduction.

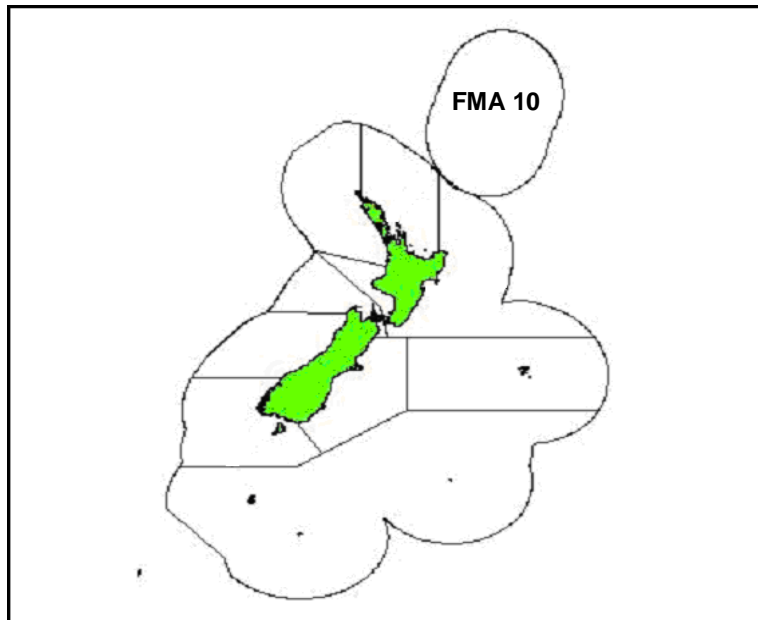
### ***Highly migratory species considerations***

- 10 This consideration is not relevant to cockle, pipi or tuatua.

### ***CITES listing***

- 11 Cockle, pipi or tuatua are not listed on CITES, so the Minister of Fisheries does not have to consult with the Minister of Conservation when making this determination (s 17B(7) refers).

**Figure 1** Map showing FMA 10.



# DEEPWATER CLAM (PZL)

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## Summary of Proposals

- 1 The Ministry of Fisheries (MFish) proposes that:
  - a) Deepwater clam (*Panopea zelandica*), also known as king clam, geoduc and geoduck, be introduced into the Quota Management System (QMS) on 1 October 2006;
  - b) The Quota Management Areas (QMAs) be PZL 1 (FMA 1), PZL 2 (FMA 2), PZL 3 (FMA 3), PZL 4 (FMA 4), PZL 5 (FMA 5 & FMA 6 combined), PZL 7 (FMA 7), PZL 8 (FMA 8) and PZL 9 (FMA 9). See Figure 1;
  - c) The fishing year be 1 October to 30 September; and
  - d) The unit of measurement be greenweight.

## Assessment Legislative Criteria

### **Schedule 4C**

- 2 Deepwater clam is listed on Schedule 4C of the Fisheries Act 1996 (the Act). Accordingly, no new fishing permits can be issued for the commercial harvest of the species.
- 3 The listing of species on Schedule 4C provides an interim measure to restrict commercial access until a decision is made to manage the species under the QMS framework, or to provide for open access outside the QMS. Deepwater clam has been listed on Schedule 4C as there are potential sustainability risks under an open access management regime.

### **Catch information and harvest methods**

- 4 The non-QMS moratorium on the issuing of fishing permits to new entrants has restricted commercial access to deepwater clam since 1992. To coincide with the revocation of the 1992 permit moratorium in October 2004, deepwater clam was listed on Schedule 4C to continue to prohibit the issue of fishing permits. As such, no commercial fishing permits to target deepwater clam have been issued since 1992.
- 5 Despite the past and current restrictions on the commercial access to deepwater clam, there are reported catches of this species taken under special permits as part of investigative research. The largest catches were recorded between 1988–93 (Table 1) and were mainly taken from Golden Bay, with small catches coming from Tasman Bay and the Marlborough Sounds. Further exploratory catch was taken in the Bay of Plenty, in the waters between Cape Farewell and Cape Foulwind, and on the Kapiti Coast. A small bycatch was taken as a result of trawl activity in the Canterbury Bight in 1992–93, 2000–01 and 2001–02 fishing years.

- 6 A single special permit for deepwater clam has been granted in FMA 7 for the 2004–2006 period. While this permit includes a condition that authorises the permit holder to sell deepwater clams, it does not confer any future access rights to the deepwater clam fishery.

**Table 1: Deepwater clam (probably *Panopea zelandica*) landings (kilograms) by fishing year reported from 1988-89 to 2004-05. Source: Catch Effort Landing Returns (CELR) and Catch Landing Returns (CLR) forms**

Fishing Year	FMA 1	FMA 3	FMA 7	Total
1988-89	0	0	15 282	15 282
1989-90	315	0	95 232	95 547
1990-91	0	0	29 293	29 293
1991-92	0	725	31 394	32 119
1992-93	0	53	0	53
1993-94	0	0	0	0
1994-95	0	0	0	0
1995-96	0	0	0	0
1996-97	0	0	0	0
1997-98	0	0	0	0
1998-99	0	0	0	0
1999-00	0	0	0	0
2000-01	0	146	0	146
2001-02	3	68	0	71
2002-03	0	0.5	0	0.5
2003-04	0	0	1 444	1 444
2004-05	0	0	2 944	2 944
<b>Total</b>	<b>318</b>	<b>992.5</b>	<b>175 589</b>	<b>176 899.5</b>

\* No catch history recorded from FMA 2, FMA 4, FMA 5, FMA 6, FMA 8, FMA 9 and FMA 10.

- 7 Deepwater clam occur mainly in shallow waters (5-25 m, with the most dense regions appearing to be anywhere between 8-15 m)) in sand and mud off sandy ocean beaches throughout New Zealand including Stewart Island. However, there is little precise information on the specific distribution of deepwater clam beds. While this species is widely distributed, local populations are likely to be patchy in nature. There are no estimates of current or reference biomass, or sustainable yield for harvestable deepwater clam populations.
- 8 Deepwater clam catches have been primarily taken using underwater breathing apparatus (UBA) and hand gathering with water-jets. This method involves liquefying the substrate using high-pressure water to locate and extract individuals within the top 30-50 cm of the substrate. This method has been permitted based on a restriction on the amount of deepwater clam that can be fished, as well as a restriction on the water-pressure that can be used. Some small catches of deepwater clam are also taken by trawl as by-catch.
- 9 Regulations currently prohibit the use of UBA in all commercial fisheries. Only shallow populations of deepwater clam are likely to be accessible without using UBA. Consideration of the use of UBA to harvest deepwater clam will be developed during the process of considering sustainability measures for deepwater clams should this

species be brought into the QMS. This may be coordinated with a review for other shellfish species such as paua, kina and rock lobster.

- 10 Deepwater clam is a valued commercial species, particularly on the international market. If a decision is made not to introduce deepwater clam into the QMS, then this species will be removed from Schedule 4C and commercial harvesting will be permitted under an open access regime. MFish considers there is a risk that commercial fishing effort for deepwater clam would increase under open access if market demand increases. Given the localised, patchy distribution of deepwater clam, an increase in unconstrained fishing effort could give rise to sustainability concerns in both existing and new harvest areas.
- 11 Retaining deepwater clam on Schedule 4C is not a strategy that best meets the purpose of the Act. With the removal of this species from Schedule 4C, there are two management options in which to manage this species. The options are to either manage the species under the QMS framework or outside the QMS under an open access regime. Current information suggests there is a need for active management of deepwater clam.

### ***Use of section 11 tool***

- 12 MFish contends the localised distribution characteristics of deepwater clam mean they are susceptible to the effects of fishing in an open access environment. This species is sedentary in nature and forms discrete beds. Research on deepwater clam populations in Golden Bay suggest the species is relatively long-lived (up to 85 years) and recruitment is variable between years. Furthermore, deepwater clam are protandric developing first as males with a proportion of the population becoming female as they grow/age. This results in changes in sex ratios when populations are divided into age classes with the majority of the larger/older deepwater clam being female. Given that the large siphon holes are the easiest to find when harvesting and large siphon holes mean large/old deepwater clam, then fisheries actively target female deepwater clam resulting in a population skewed towards males with the females remaining being small. This has serious consequences for the sustainability of natural populations. These attributes indicate deepwater clam is likely to be susceptible to localised depletion.
- 13 Water-jet fishing can have potential adverse effects on the aquatic environment and affect biological diversity. MFish considers there is significant risk of an increase in the adverse environmental effects of this fishing method if fishing effort is unconstrained.
- 14 There is no quantitative information on non-commercial harvest levels of deepwater clam. No deepwater clam catches were recorded in the three national telephone/diary surveys of recreational fishers during 1996, 2000 and 2001. Nevertheless, non-commercial catches of deepwater clam are likely to be negligible, as individuals are found in a habitat infrequently dived and the method of extraction is not used within the non-commercial fishery.
- 15 MFish anticipates there would be an increase in catches of deepwater clam under open access, which may pose a risk to the sustainability of the stock if fishing is unconstrained.

- 16 Under an open access regime input controls such as competitive catch limits, area, method, and seasonal controls would provide the main tools that could limit deepwater clam harvest levels. However, these tools are unlikely to be sufficient to prevent localised depletion of this species. For example, having area restrictions would mean some pockets of deepwater clam would be protected while others areas can be fished down, potentially leading to localised depletion. Seasonal controls are likely to focus intensive effort during short periods of time on deepwater clam populations without necessarily ensuring the long-term sustainability of populations.
- 17 Under s 11 the Minister can set a catch limit for stocks outside of the QMS, when there are sustainability concerns for this stock. In the absence of a property right it is likely fishers will ‘race to catch’ as much as they can from localised populations until the catch limit is reached. In contrast the QMS provides a framework that enables people to invest in, and develop, a fishery when they choose to do so, where a TAC has been set.
- 18 The QMS provides greater incentives to commercial fishers to develop and manage the fishery sustainably through the provision of secure property rights. The establishment of a defined stock also provides greater opportunity for better planning and organisation around management of the stock by all stakeholders, including non-commercial fishers. In addition, the QMS provides the most effective means of providing for the utilisation interests of all sectors, through the setting of a TAC, allocating the resource between sectors, and the application of measures that effectively constrain commercial catches. It is noted that management under the QMS could also include use of s 11 measures, such as the retention of method restrictions.
- 19 The QMS also has inherent incentives to mitigate the potential effects of fishing on the aquatic environment and on other fisheries sectors through adopting environmentally appropriate technologies and fishing practices. This is of particular relevance with the proposed method of water-jet fishing for the harvest of deepwater clam.
- 20 In conclusion MFish contends that management of deepwater clam under the QMS better meets the purpose of the Act, than if managed under an open access framework.

### ***Highly migratory species considerations***

- 21 This consideration is not relevant to deepwater clams.

### ***CITES listing***

- 22 Deepwater clam is not listed in any appendices to the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), so the Minister of Fisheries does not have to consult with the Minister of Conservation when considering introducing deepwater clam into the QMS.

### **Stock and Areas**

- 23 There are two New Zealand *Panopea* species, *P. zelandica* and *P. smitha*. While these species are very similar in size and appearance, *P. smithae* is understood to burrow deeper in the sediment than *P. zelandica* and occurs at greater depths on

coarse shell bottoms. MFish considers the differences in distribution characteristics of these two species mean it is unlikely *P. smithae* will be harvested instead of *P. zelandica*.

- 24 There have been no biological studies to determine if deepwater clam have separate biological stocks. The species are broadcast spawners. Deepwater clam are likely to have a two to three week larval stage and it is unclear whether this may or may not lead to intermixing of populations.
- 25 The National Institute of Water and Atmosphere (NIWA) noted that adopting more than one management area will allow for the possibility that there is more than one biological stock and will help avoid the impact of any localised depletion through too much catch coming from a small part of the stock. Accordingly, NIWA recommends that the standard Fishery Management Areas (FMAs) be adopted.
- 26 The FMAs are likely to be discrete enough to cater for management on a regional scale, on the basis that the number of populations that may be utilised, either commercially or non-commercially, within these areas is likely to be limited. Similarly, the biological characteristics of the species are more likely to give rise to a preference for management on a scale not larger than a FMA.

## Proposal

- 27 MFish proposes that deepwater clam be introduced into the QMS from 1 October 2006.

## Proposed Quota Management Areas

- 28 The Act sets out two statutory matters that need to be considered when defining QMAs:
  - As far as practicable, the same QMAs must be maintained for different species (s 19(2)); and
  - A separate QMA may be set for a stock in the waters surrounding the Chatham Islands if the stock in that area can be managed effectively as a unit for fisheries management purposes (s 19(3)).
- 29 In addition to the statutory matters above, MFish has developed a set of principles to assist in defining practical QMAs, which is set out in the Introduction section of this paper. In considering these statutory matters and principles, MFish considers that the following are key factors in defining QMAs for deepwater clam:
  - a) There are no known biological or other reasons to suggest any particular partitioning of stocks;
  - b) Larger QMAs that align with associated fisheries provide administrative savings and greater flexibility for right holders to decide the most efficient way to use the resource and meet the requirements of the Act; and
  - c) There is unlikely to be any development of a deepwater clam fishery within FMA 10, given the lack of potential habitat accessible to fishers outside the

12 nautical mile limit of the existing marine reserve. Consequently, it is appropriate to retain FMA 10 outside the QMS as a non-QMS fishery. MFish recommends deepwater clam be removed from schedule 4C for FMA 10.

## **Proposals**

### *Panopea zelandica 1 (PZL 1) (FMA 1)*

- 30 This proposed QMA extends from North Cape to Cape Runaway. Deepwater clam has been reported from localities in the Hauraki Gulf to the Bay of Plenty where some historical investigations have occurred. The exposed ocean beaches of East Northland (eg, Great Exhibition Bay, Rangaunu, Doubtless Bay) offer habitat that may hold populations of deepwater clam. Oceanographic currents and coastal geomorphology are likely to influence the distribution of deepwater clam at both North Cape and Cape Runaway.
- 31 MFish notes alternative QMAs have been used for other shellfish species, which have the common boundary of Te Arai Point (cockle, oysters, pipi, scallops and tuatua). Generally, FMA 1A extends from North Cape to Te Arai Point, Pakari Beach, incorporating the east coast of Northland. FMA 1B covers an extensive area extending from Te Arai Point, Pakari Beach to Cape Runaway, incorporating the Hauraki Gulf and Bay of Plenty.

### *Panopea zelandica 2 (PZL 2) (FMA 2)*

- 32 This proposed QMA extends from Cape Runaway to the coast adjacent to Porirua. It is likely that the availability of suitable habitat for deepwater clam may limit fishing for this species to a number of discrete locations within the proposed QMA (eg, Poverty Bay, Hawke Bay).

### *Panopea zelandica 3 (PZL 3) (FMA 3)*

- 33 This proposed QMA extends from the Clarence River mouth (Marlborough) to Slope Point on the Catlins coast (Southland). It includes Pegasus Bay, the Mernoo Bank and the Canterbury Bight, areas where deepwater clam is likely to be found reasonably continuously.

### *Panopea zelandica 4 (PZL 4) (FMA 4)*

- 34 This proposed QMA encompasses the Chatham Islands and the eastern Chatham Rise. Deepwater clam has not been recorded from the waters around the Chatham Islands to date. Further, it is unlikely that recruitment of juveniles from the mainland would occur to any significant extent. MFish considers that given the characteristics of this species, any deepwater clam population that may be found in the waters around the Chatham Islands can be effectively managed as a separate stock.

### *Panopea zelandica 5 (PZL 5) (FMA 5 and 6 combined)*

- 35 MFish notes there is unlikely to be any development of a deepwater clam fishery within FMA 6. In such circumstances, MFish usually sets larger QMAs to reduce management costs. MFish proposes to combine FMAs 5 and 6 in proposing a QMA

for the PZL 5 stock. MFish considers the combination of these two FMAs to form a single management unit appropriate. The proposed QMA extends from Slope Point on the Catlins coast to Awarua Point, Westland, and includes all southern waters of New Zealand and the sub-Antarctic islands.

*Panopea zelandica 7(PZL 7) (FMA 7)*

- 36 This proposed QMA extends from the Clarence River to Awarua Point. This QMA is likely to capture the principle populations within the one management area. However, this species is unlikely to be found in any abundance south of Cape Farewell, given the marked difference in habitat. However, some populations are likely to occur on the western side of Farewell Spit. Accordingly much of the fishing effort is likely to be based around the top of the South Island.

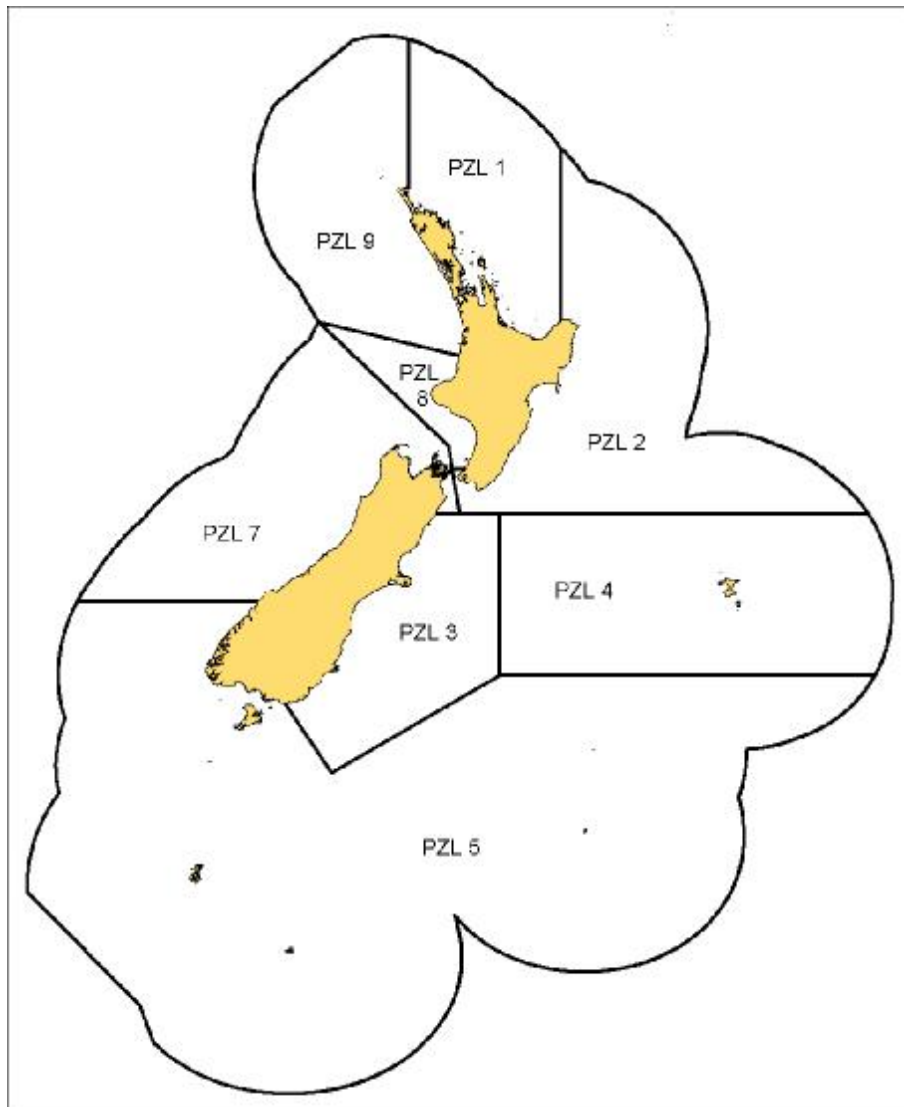
*Panopea zelandica 8 (PZL 8) (FMA 8)*

- 37 This proposed QMA extends from the Porirua coast north to Tirua Point, south of Kawhia Harbour. Other bivalve species referred to as surf clams are known to exist along the Kapiti coast, and it is likely that deepwater clam is similarly located along part of this coast. However, the exposed nature of this coast would limit access to the resource.

*Panopea zelandica 9 (PZL 9) (FMA 9)*

- 38 This proposed QMA extends from Tirua Point to North Cape. MFish considers that this stretch of coast is sufficiently large to encompass a QMA in its own right rather than possibly combine it with FMA 8 to form a single North Island west coast stock.

**Figure 1** Map of proposed deepwater clam Quota Management Areas



### **Fishing Year**

39 The proposed fishing year for deepwater clam be from 1 October to 30 September.

### **Unit of Measure**

40 MFish proposes that the unit of measure for deepwater clam be greenweight. Deepwater clams are not typically processed at sea, and are more than likely to be sold in a whole state.

# **KNOBBED WHELK (KWH)**

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## **Summary of Proposals**

- 1 The Ministry of Fisheries (MFish) proposes that:
  - a) Knobbed whelk (*Austrofusus glans*) stocks be introduced into the Quota Managements System (QMS) on 1 October 2006;
  - b) The Quota Management Areas (QMAs) be KWH 1 (FMA 1), KWH 2 (FMA 2), KWH 3 (FMA 3), KWH 4 (FMA 4), KWH 5 (FMA 5), KWH 6 (FMA 6), KWH 7A (FMA 7 Clarence River to Bush End Point, Farewell Spit), KWH 7B (FMA 7 Bush End Point, Farewell Spit to Awarua Point), KWH 8 (FMA 8) and KWH 9 (FMA 9). See Figure 1;
  - c) The fishing year be 1 October to 30 September; and
  - d) The unit of measurement be greenweight.

## **Assessment Legislative Criteria**

### ***Schedule 4C***

- 2 Knobbed whelk is listed on Schedule 4C of the Fisheries Act 1996 (the Act). Accordingly, no new fishing permits can be issued for the commercial harvest of the species.
- 3 The listing of species on Schedule 4C provides an interim measure to restrict commercial access until a decision is made to manage the species under the QMS framework, or to provide for open access outside the QMS. Knobbed whelk has been listed on Schedule 4C as there are potential sustainability risks under an open access management regime.

### ***Catch information and harvest methods***

- 4 The non-QMS moratorium on the issuing of fishing permits to new entrants has restricted commercial access to knobbed whelk since 1992. To coincide with the revocation of the 1992 permit moratorium in October 2004, knobbed whelk was listed on Schedule 4C to continue to prohibit the issue of fishing permits. As such, no commercial fishing permits to target knobbed whelk have been issued since 1992.
- 5 Despite the past and current restrictions on the commercial access to knobbed whelk, there are reported catches of this species taken under special permits as part of investigative research, or catch recorded when whelks have been caught as bycatch.
- 6 While each permit had specific catch limits, no information is available on the specific quantity of knobbed whelks taken under each permit. Some permit holders reported information about the quantity taken collectively for a number of whelk species, while other permit holders did not furnish any information.

- 7 The generic code for all species of whelk landed prior to 1 October 2004 is “WHE”. All species of landed whelk, including the knobbed whelk, were recorded under this code. Table 1 is an accurate reflection of the landing of all whelks, but determining what proportion is knobbed whelk is difficult. However, MFish considers that a large part of the landings recorded on Table 1 will be knobbed whelk. Since 11 November 2004, the code "KWH" has been used on catch effort forms for when knobbed whelk has been landed, and "WHE" remains a valid code for other whelk species.

**Table 1 Landings of whelks (WHE) for the period 1990 – 2003 taken from the landing section of catch effort landing returns—sourced from Fisheries Information System (FIS) (kilograms).**

	<b>FMA 1</b>	<b>FMA 2</b>	<b>FMA 3</b>	<b>FMA 4</b>	<b>FMA 5</b>	<b>FMA 6</b>	<b>FMA 7</b>	<b>FMA 8</b>	<b>Total</b>
1990-91	0	0	0	0	0	0	44 976	0	44 976
1991-92	0	0	0	0	0	0	26 935	0	26 935
1992-93	21	0	18	0	0	0	1 762	0	1 801
1993-94	0	135	0	0	0	0	49 278	0	49 413
1994-95	0	707	545	0	0	0	21 458	593	23 303
1995-96	0	89	178	0	0	0	27 596	0	27 863
1996-97	2	174	144	0	3	0	8 959	0	9 282
1997-98	0	0	102	150	0	0	884	0	1 136
1998-99	0	0	223	2 205	2 470	150	570	0	5 618
1999-00	0	0	2 286	7 953	3 250	790	80	0	14 359
2000-01	0	0	10 467	17 497	3 538	4 765	141	0	36 408
2001-02	0	0	1 474	3 995	515	1 755	2	0	7 741
2002-03	0	0	212	20	4	780	77	0	1 093
2003-04	35	0	491	0		335	4217	0	5 078
<b>TOTAL</b>	<b>58</b>	<b>1 105</b>	<b>16 140</b>	<b>31 820</b>	<b>9 777</b>	<b>8 575</b>	<b>186 935</b>	<b>593</b>	<b>255 006</b>

- 8 There are no estimates of current or reference biomass, or sustainable yield for the knobbed whelk. Knobbed whelk are widely distributed throughout New Zealand, and are found on sandy/silt/mud substrate. It is a scavenger that buries in the substrate when not feeding.
- 9 Knobbed whelk are targeted for harvesting using “baited whelk pots” (potting). Potting is a method that does not have an adverse effect on the aquatic environment or affect biological diversity.
- 10 The knobbed whelk occurs in the same habitat as scallops and oysters (from low water to about 600 m, on fine sand or silty mud substrates). As such the species is often taken as a bycatch in the scallop, dredge oyster and bottom trawl fisheries.
- 11 Dredging can affect the aquatic environment and affect biological diversity. Dredging, especially in areas with high silt levels, is thought to remove settlement surfaces and suspend silt that causes high mortality in newly settled spat, for species such as scallops.
- 12 A wide variety of invertebrates including polychaetes, gastropods, and bivalves occur within the wide depth range of the knobbed whelk, but any specific relationships are undocumented. Whelks have a wide range of invertebrate and vertebrate predators,

for instance bottom feeding fish such as snapper and tarakihi. There may be adverse affects on these relationships if catch levels increase in an open access environment.

### ***Use of section 11 tool***

- 13 The sedentary nature of knobbed whelk populations means they are susceptible to the effects of fishing, particularly localised depletion.
- 14 As noted earlier, dredging, trawling, and potting can be used to harvest knobbed whelk (although potting and dredging would be methods most likely used for the targeting of this species). The use of each of these methods may increase once restrictions on fishing of knobbed whelk are removed.
- 15 MFish does not have specific and detailed information on the quantities of non-commercial knobbed whelk that are harvested, but believes the current non-commercial (i.e. recreational and customary) catch is likely to be small for knobbed whelk. No knobbed whelk were recorded as being taken, during three national telephone/diary surveys of recreational fishers during 1996, 200 and 2001. MFish notes that while no Maori customary fishing information is currently available, it is understood the knobbed whelk is an element of customary fishing practices, particularly in some parts of the North Island.
- 16 Knobbed whelk are a valued commercial species. In addition this is a low capital cost fishery to enter. The low capital cost to pot inshore provides unlimited restrictions on the number of entrants into this fishery. This exacerbates the access issues discussed below.
- 17 Under an open access regime input controls such as competitive catch limits, area, method, and seasonal controls would provide the main tools that could limit knobbed whelk harvest levels. However, these tools are unlikely to be sufficient to prevent localised depletion of this species. For example, having area restrictions would mean some populations of knobbed whelk would be protected while others areas can be fished down, potentially leading to localised depletion. Seasonal controls are likely to focus intensive effort during short periods of time on knobbed whelk populations without necessarily ensuring the long-term sustainability of populations.
- 18 Under open access commercial fishers would have an incentive to ‘race for catch’, rather than efficiently fish to obtain the best value from the fishery.
- 19 Under s 11 the Minister can set a catch limit for stocks outside of the QMS, when there are sustainability concerns for this stock. In the absence of a property right it is likely fishers will ‘race to catch’ as much as they can from localised populations until the catch limit is reached. In contrast the QMS provides a framework that enables people to invest in, and develop, a fishery when they choose to do so, where a TAC has been set.
- 20 The QMS provides greater incentives to commercial fishers to develop and manage the fishery sustainably through the provision of secure property rights. The establishment of a defined stock also provides greater opportunity for better planning and organisation around management of the stock by all stakeholders, including non-commercial fishers. In addition, the QMS provides the most effective means of

providing for the utilisation interests of all sectors, through the setting of a TAC, allocating the resource between sectors, and application of measures that effectively constrain commercial catches. It is acknowledged that management under the QMS could also include use of s 11 measures, such as the retention of method restrictions.

- 21 The QMS also has inherent incentives to mitigate the potential effects of fishing on the aquatic environment and on other fisheries sectors through adopting environmentally appropriate technologies and fishing practices.
- 22 The conclusion MFish contends that management of knobbed whelk under the QMS better meets the purpose of the Act, than if managed under an open access framework.

### ***Highly migratory species considerations***

- 23 This consideration is not relevant to knobbed whelk.

### ***CITES listing***

- 24 Knobbed whelk is not listed in any appendices to the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), so the Minister of Fisheries does not have to consult with the Minister of Conservation when considering introducing knobbed whelk into the QMS.

### **Proposal**

- 25 MFish proposes that knobbed whelk be introduced into the QMS from 1 October 2006.

### **Stock and Areas**

- 26 There have been no biological studies that are directly relevant to the recognition of separate stocks of knobbed whelk around New Zealand.
- 27 In a report prepared for MFish in August 2002, the National Institute of Water and Atmosphere (NIWA) recommends that FMAs 1-10 be applied as fishstock boundaries. NIWA advises that adopting more than one management area will allow for the possibility that there is more than one biological stock, and will help avoid the impact of any localised depletion through too much of the catch coming from a small part of the stock.

### **Proposed Quota Management Areas**

- 28 The Act sets out two statutory matters that need to be considered when defining QMAs:
  - As far as practicable, the same QMAs must be maintained for different species (s 19(2)); and
  - A separate QMA may be set for a stock in the waters surrounding the Chatham Islands if the stock in that area can be managed effectively as a unit for fisheries management purposes (s 19(3)).

- 29 In addition to the statutory matters above, MFish has developed a set of principles to assist in defining practical QMAs, which is set out in the Introduction section of this paper. In considering these statutory matters and principles, MFish considers that the following are key factors in defining QMAs for knobbed whelk:
- a) The management of knobbed whelk needs to be aligned with associated fisheries (scallop and oyster), particularly in FMA 7 as this is a bycatch species of these fisheries; the green-lipped mussel boundaries are proposed as the current scallop and oyster boundaries reflect historical development of these fisheries;
  - b) There are no known biological or other reasons to suggest any particular partitioning of stocks;
  - c) Larger QMAs that align with associated fisheries provide administrative savings and greater flexibility for right holders to decide the most efficient way to use the resource and meet the requirements of the Act; and
  - d) There is unlikely to be any development of a knobbed whelk fishery within FMA 10, given the lack of potential habitat accessible to fishers outside the 12 nautical mile limit of the existing marine reserve. Consequently, it is appropriate to retain FMA 10 outside the QMS as a non-QMS fishery. MFish recommends knobbed whelk be removed from schedule 4C for FMA 10.

## **Proposals**

### *Knobbed Whelk KWH 1 (FMA 1)*

30 This proposed QMA extends from North Cape to Cape Runaway.

### *Knobbed Whelk KWH 2 (FMA 2)*

31 This proposed QMA extends from Cape Runaway to the coast adjacent to Porirua.

### *Knobbed Whelk KWH 3 (FMA 3)*

32 This proposed QMA extends from the Clarence River mouth (Marlborough) to Slope Point on the Catlins coast (Southland). It includes Pegasus Bay, the Mernoo Bank and the Canterbury Bight.

### *Knobbed Whelk KWH 4 (FMA 4)*

33 This proposed QMA encompasses the Chatham Islands and the eastern Chathan Rise. Landings in this area since 1997–98 have ranged from less than one tonne to over 17 tonnes in 2000–01.

### *Knobbed Whelk KWH 5 (FMA 5)*

34 This proposed QMA extends from Slope Point (Catlins coast) around the Southland coast, including Stewart Island, to Awarua Point at the northern end of Fiordland.

*Knobbed Whelk KWH 6 (FMA 6)*

35 This proposed QMA takes in the Sub-Antarctic.

*Knobbed Whelk KWH 7A (FMA 7A – north and west of Bush End Point, Farewell Spit to the Clarence River)*

36 This proposed QMA extends from the Clarence River to Bush End Point Farewell Spit. The proposed QMA aligns with the other dredge fisheries within FMA 7.

*Knobbed Whelk KWH 7B (FMA 7B - West Coast South Island)*

37 This proposed QMA extends from Awarua Point, Westland to Bush End Point, Farewell Spit. The proposed QMA aligns with the other dredge fisheries within FMA7.

*Knobbed Whelk KWH 8 (FMA 8)*

38 This proposed QMA extends from the Porirua coast north to Tirua Point, south of Kawhia Harbour.

*Knobbed Whelk KWH 9 (FMA 9)*

39 This proposed QMA extends north from Tirua Point to North Cape. MFish considers that this stretch of coast is sufficiently large to encompass a QMA in its own right.

**Figure 1** Map of proposed knobbed whelk Quota Management Areas.



## **Fishing Year**

40 The proposed fishing year for knobbed whelk be from 1 October to 30 September.

## **Unit of Measure**

41 MFish proposes that the unit of measure for knobbed whelk is greenweight. Knobbed whelk are not typically processed at sea.

