

REVIEW OF POTTING DEFINITIONS - INITIAL POSITION PAPER

Executive Summary

- 1 This paper proposes amending the commercial and amateur fishing regulations to explicitly allow the potting method to be used to take a larger number of species than provided for now. The paper considers two options:
 - Option 1: Amend the regulations to allow the potting method for taking the following species in addition to those already allowed: octopus, blue cod, paddle crabs, deepwater crabs, and hagfish.
 - Option 2: Amend the regulations to allow the potting method to be used to take any species.
- 2 The regulations already allow commercial and amateur potting for rock lobsters, commercial potting for blue cod in BCO 5, and amateur use of ring pots and pull pots. Potting for other species is not excluded in the regulations, but the definition of a “rock lobster pot” in the regulations is very broad and has been interpreted to apply to pots used to target other species unless a separate pot definition is provided.
- 3 The rock lobster pot definition is acting as a barrier to the development of potting fisheries and is potentially constraining the ability of fishers to maximise the value they attain from their fishing right. A rock lobster pot is required to have escape gaps, which limits the pot’s effectiveness when used to target other species. Potting methods have relatively limited environmental impacts and can also result in a higher quality fish product. These characteristics can increase the value of the fish in the marketplace and the value of the fishing experience for amateur fishers.
- 4 Additionally, some fishers already use pots to target species like paddle crabs, hagfish and deepwater crabs. These fishers are unaware that the rock lobster pot definition applies to their activity and that their pots are likely to be unlawful.
- 5 MFish considers the intention of the rock lobster pot regulations was to protect undersize rock lobster and not to constrain the use of pots to take other species. MFish requests input from tangata whenua and stakeholders on the proposed options.

Regulatory Impact Analysis Requirements

- 6 A Regulatory Impact Statement was prepared for this paper and reviewed internally by MFish.

The Issue

- 7 Potting fisheries for species other than rock lobster is constrained by the regulations. In the absence of definitions for most non-rock lobster pots¹, the rock lobster pot definition in the commercial and amateur regulations² has been interpreted to apply to most fishing pots. This means that all pots, unless specifically defined³, that can catch and hold or store rock lobster must meet specific escape aperture requirements or they are unlawful. These aperture requirements may render pots less successful, or even useless, for catching other species if marketable fish can easily escape through the apertures. Commercial and recreational fishers currently use, or would like to use, pots that do not meet the rock lobster pot specifications to take species other than rock lobster, such as paddle crab and blue cod in some areas.
- 8 The rock lobster pot specifications were developed to minimise mortality of undersize rock lobsters, not to constrain other potting fisheries. MFish is aware that commercial pot fishery development for non-rock lobster species has been constrained by the rock lobster pot definition. Recreational fishing activity has not been constrained to a great degree, as potting for species other than rock lobster and blue cod is relatively limited. However, the interpretation of the rock lobster pot definition has the potential to limit the methods that recreational fishers are allowed to use.
- 9 Enforcement of the rock lobster pot definition has caused confusion among fishers as to what types of pots may be lawfully used to take non-rock lobster species. Under the status quo, the rock lobster pot definition creates a conflict between enforcement of the commercial and amateur regulations and the objective of value maximisation. This situation also detracts from credible fisheries management.
- 10 MFish considers the negative impacts on other fisheries are unintended and undesirable and pots should be authorised wherever possible, subject to the best available information. The impacts of potting on many species of captured target and bycatch fish can be minimal. Fish are frequently alive and in good condition when taken with pots and where legally possible, can be returned to the sea with a high likelihood of survival. Pots also have a limited impact on the benthic environment.

¹ A pot is an enclosed device where fish actively enter and are captured.

² Regulation 3 of the commercial regulations specifies that a rock lobster pot means a pot, whether baited or not, that is capable of catching and holding or storing rock lobsters; and includes other devices capable of catching, holding, and storing rock lobsters. Regulation 3 of the amateur regulations defines rock lobster pot in a slightly different way, but the interpretation and application is similar. Regulation 79 of the commercial regulations and regulation 25B in the amateur regulations requires rock lobster pots to have escape apertures and provides the required aperture specifications with respect to number, placement, and dimensions.

³ Three other types of pots are defined in the regulations: blue cod pots in the Southland area, and ring pots and pull pots in the amateur fishing regulations. The regulations relevant to use and possession of these types of pots are presented in Appendix 1.

Summary of Options

Option 1 – Status quo

- 11 The interpretation and application of the commercial and amateur regulations would continue with most pots falling under the definition of rock lobster pots. All rock lobster pots are required to have escape apertures with the appropriate specifications. The only exceptions are lawful Southland blue cod pots (BCO 5), pull pots or ring pots. The current regulations would be applied and enforced even if fishers intend to use pots to take species other than rock lobster.

Option 2 – Limited authorisation of potting gear

- 12 Option 2 is a conservative approach to pot authorisation. MFish would recommend amending the commercial and amateur regulations to allow potting only in fisheries for which pot specifications would be defined or deemed not needed. Option 2 maintains the pot specifications for rock lobster and adds authorisation for blue cod, octopus, paddle crab, deepwater crab and hagfish pots as follows⁴:

Constrained fishery species	Areas	Commercial pot specifications	Recreational pot specifications
Octopus	All	Entry blocked so that fish have to force their way into pot	Entry blocked so that fish have to force their way into pot
Blue cod	1, 2, 3, 4, 7, 8	48 mm minimum mesh size	None
Paddle crab	All	None	None
Deepwater crab	All	None	None
Hagfish	All	None	None

- 13 Snapper pots are not initially proposed for authorisation in Option 2 because the effects of potting on undersize snapper are unknown.

Option 3 – Permissive authorisation of potting gear

- 14 Option 3 would recommend amending the commercial and amateur regulations to allow potting for any species. Specifications could be developed and added to the regulations for other species if MFish determines

⁴ Option 2 recommends amending the commercial and amateur regulations to stipulate: (1) in addition to rock lobster and notwithstanding regulations 79 (commercial) and 25B (amateur), fishers may use a pot to take octopus, blue cod, paddle crab, deepwater crab or hagfish only; (2) no commercial fisher shall use a pot to take blue cod unless the pot is constructed entirely of square steel mesh in which the spaces are not less than 48 mm in width; and (3) no commercial fisher/person shall use a pot to take octopus unless the entrance to the pot is covered and secured by a latch or similar device so that octopus have to force their way into the pot.

they are needed, but pots would be authorised and lawful in every instance. Option 3 proposes to authorise pots for any species, including those below, which would be subject to the following specifications⁵:

Constrained fishery species	Areas	Commercial pot specifications	Recreational pot specifications
Snapper	All	None	None
Octopus	All	Entry blocked so that fish have to force their way into pot	Entry blocked so that fish have to force their way into pot
Blue cod	1, 2, 3, 4, 7, 8	48mm minimum mesh size	None
Paddle crab	All	None	None
Deepwater crab	All	None	None
Hagfish	All	None	None
All other potting fisheries	Unknown	Unknown	Unknown

Rationale for Management Options

- 15 This proposal seeks to remove unnecessary constraints on potting fisheries and clarify the regulatory rock lobster pot definition for compliance purposes. MFish considers the rock lobster pot definition was not intended to constrain fisheries for other species, but rather to enable rock lobsters below the minimum legal size (MLS) to escape from the pot prior to harvest. The escape aperture allows any rock lobsters that are undersize to leave the pot.
- 16 It is important to maintain the specifications for rock lobster pots as they relate to the rock lobster MLS. The MLS is a fisheries management tool used chiefly to ensure future recruitment to fish stocks by allowing a proportion of individuals within the stock to reach sexual maturity and breed before being harvested.
- 17 The rock lobster pot aperture specifications were based on scientific evidence that suggested: (1) undersized rock lobsters caught and released from pots were vulnerable to predation in the pot and after release, and (2) undersized rock lobsters could be damaged during sorting after capture. Apertures allow undersize rock lobster to escape from pots prior to harvest and minimise predation and handling-related mortality.

⁵ Option 3 recommends amending the commercial and amateur regulations to stipulate: (1) notwithstanding regulations 79 (commercial) and 25B (amateur), fishers may use any pot, but not a rock lobster pot, to take any species other than rock lobster; (2) [as in Option 2] no commercial fisher shall use a pot to take blue cod unless the pot is constructed entirely of square steel mesh in which the spaces are not less than 48 mm in width; and (3) [as in Option 2] no commercial fisher/person shall use a pot to take octopus unless the entrance to the pot is covered and secured by a latch or similar device so that octopus have to force their way into the pot.

- 18 MFish does not propose to change any regulations pertaining to rock lobster fisheries in this action, but instead intends to address constraints on other potting fisheries that are created by the interpretation of the rock lobster pot definition in the commercial and amateur regulations.
- 19 MFish proposes two options to the status quo. Option 2 would authorise potting only for those fisheries where MFish has established pot specifications or has determined that pot specifications are not needed. This option would remove most constraints on known developing potting fisheries, and have minimal impacts on the affected stocks or on rock lobster fisheries.
- 20 Option 3 is a permissive approach that would remove existing and potential constraints on potting fisheries. Option 3 would amend the commercial and amateur regulations to authorise pots for all species. Regulatory requirements would remain unchanged for rock lobster pots. Pot specifications could be developed for other species as needed, but would not be required for pots to be considered lawful.
- 21 MFish seeks input on the options and the likely impacts of the proposed pot specifications. MFish also requests information from tangata whenua and stakeholders on:
- a) the degree to which commercial and recreational potting fisheries for non-rock lobster species are constrained by the current regulatory definition of rock lobster pots
 - b) whether technical specifications, such as escape apertures or minimum mesh sizes, are needed for pots used to take species other than rock lobster
- 22 Regulatory amendments resulting from this proposal, if any, would take effect on 1 June 2009.

Assessment of Management Options

Option 1 – Status quo

Impacts summary

- 23 All fishing pots, with the exception of lawful (1) commercial and recreational blue cod pots in the Southland area (BCO 5), (2) pull pots, and (3) ring pots would be considered rock lobster pots for enforcement purposes. The practical result of this interpretation is that all undefined pots used to take other species would have to meet the rock lobster pot escape aperture requirements.
- 24 MFish has been notified that commercial fishers would like to take the following species with pots:
- snapper
 - octopus

- 25 MFish informed prospective snapper and octopus pot fishers that any pots used to take these species were considered unlawful without the required apertures, even though the apertures would render the snapper and octopus pots less effective, or perhaps even useless, for catching these species as legal and marketable fish could escape through the apertures. No further development activities have taken place for snapper and octopus potting.
- 26 Prospective pot fishers could apply for a special permit to trial potting gear for snapper, octopus or additional species other than rock lobster. Section 97 of the Fisheries Act 1996 (the Act) authorises the MFish chief executive to issue a special permit for the purposes of carrying out trials and experiments with fishing gear. This may provide fishers with an opportunity to try different pots to determine what specifications would be appropriate for taking non-rock lobster species, as specified in the conditions of the special permit. However, use of special permits would not provide a long-term solution as the rock lobster pot definition would still constrain the fisheries after the term of the permit expires.
- 27 MFish is also aware that the interpretation of the rock lobster pot definition renders most pots currently used in some commercial fisheries unlawful. This creates enforcement difficulties and some confusion about the regulations among fishers in the following fisheries:
- blue cod (other than BCO 5)
 - paddle crab
 - deepwater crab
 - hagfish
- 28 Most pots currently used in these fisheries are unlawful because they do not have the required escape apertures. However, MFish and fishers consider the pots in use are an acceptable method to catch these other species. The pots do not capture significant amounts of rock lobster or otherwise negatively impact on rock lobster fisheries in an unacceptable manner. Enforcement of the commercial regulations is unreasonable in these fisheries. This situation diminishes credible fisheries management and the status quo is undesirable.

Option 1 (Status Quo) - Summary of impacts

Option 1 impacts on:

Species	Stock status⁶	Commercial potting fisheries	Recreational potting fisheries
Snapper	None	Utilisation constrained	None

⁶ See Appendix 2 for a discussion of the impacts of each proposed option on the stock status for each species.

Option 1 impacts on:

Species	Stock status⁶	Commercial potting fisheries	Recreational potting fisheries
Octopus	None	Utilisation constrained	None
Blue cod (except BCO 5)	None	Approximately 55 fishers would incur costs to alter or replace pots	Unknown number of fishers would incur costs to alter or replace pots
Paddle crab	None	Approximately 11 fishers would incur costs to alter or replace pots	Unknown number of fishers would incur costs to alter or replace pots
Deepwater crab	None	One fisher would incur costs to alter or replace pots	None
Hagfish	None	Approximately four fishers would incur costs to alter or replace pots	None

Snapper

- 29 Snapper stocks are managed in the quota management system (QMS) and are some of the largest and most valuable coastal commercial and recreational fisheries in New Zealand. Snapper also form important fisheries for customary Maori purposes, but the annual catch is unknown.
- 30 *Commercial and recreational fisheries* – The primary methods for taking snapper in the commercial fishery are trawl and long line. Recreational fishers generally take snapper with hook and line. All snapper stocks have an MLS and commercial and recreational fishers must return undersize fish to the water to minimise mortality. Option 1 constrains utilisation of snapper with pots since commercial fishers are restricted from using pots that are configured to take snapper, i.e., pots without rock lobster escape apertures. MFish is not aware of any recreational potting fisheries for snapper, so Option 1 is unlikely to have an impact on recreational fishers.

Octopus

- 31 Octopus stocks are managed as an open access non-QMS fishery and TACs have not been established. Octopus are caught as bycatch across a large number of fisheries including rock lobster and blue cod pot, and bottom trawl and longline fisheries for a variety of species.

32 *Commercial fisheries and recreational fisheries* – Option 1 restricts utilisation of octopus to a bycatch fishery since commercial fishers are restricted from using pots to effectively take them. MFish is not aware of any recreational potting fisheries for octopus.

Blue cod

33 Blue cod stocks are managed in the QMS and are important to inshore commercial, recreational and customary fishers.

34 *Commercial fisheries* – The commercial blue cod fishery is chiefly a pot fishery, and the majority (nearly 57%) of landings come from the Southland area (BCO 5). The Chatham Islands commercial fishery is also significant (approximately 30% of blue cod landings). Catches of non-target species are minor and are generally restricted to octopus and conger eel. All blue cod stocks have an MLS and commercial fishers must return undersize fish to the water.

35 The BCO 5 commercial pot authorisation and specifications were based on research in the Southland area that found seabird predation was a threat to juvenile fish when they were returned to the water following capture in pots. To reduce this predation threat, protect reproductive capacity and to maximise yield from the fishery, a minimum mesh size of 48 mm was introduced to BCO 5 in 1994 to allow undersize fish to escape through the mesh.⁷ MFish considers the existing pot specifications are important management tools for the sustainability of the BCO 5 fishery. Mesh size restrictions have not been established in any other blue cod quota management area.

36 Option 1 would impact commercial fishers outside of the Southland area (BCO 5) who take blue cod with pots that do not meet the rock lobster pot specifications. Available information indicates that in the 2006-07 fishing year, 55 fishers harvested approximately 713 tonnes of blue cod with cod pots in these areas. Anecdotal information suggests that the pots used outside of BCO 5 do not meet the rock lobster pot specifications. These fishers would be impacted by Option 1 since they would be required to use pots with escape gaps that meet rock lobster pot specifications and these pots are likely to be less effective at catching blue cod. However, under the status quo, blue cod pots that do not meet the rock lobster pot specifications outside of BCO 5 are unlawful.

37 *Recreational fisheries* – Recreational fishers generally use hook and line gear to take blue cod, but charter vessel operators also set cod pots. In addition, commercial fishers often take their recreational blue cod catch with pots under section 111 of the Act. All blue cod stocks have an MLS and recreational fishers must return undersize fish to the water. The amateur regulations also specify individual daily limits. The Southland amateur regulations define a blue cod pot but do not require mesh of a minimum size or escape apertures.

⁷ McGregor, G.A. (1988). Blue cod. *N.Z. Fisheries Assessment Research Document 88/41*. 11p. and Ministry of Agriculture and Fisheries 1986 cod pot trial.

- 38 Option 1 would not impact on recreational blue cod fishers who use lawful pots in the Southland area. Since only the Southland area amateur regulations separately define a blue cod pot, the rock lobster pot definition applies in all other amateur fishing areas, and Option 1 would impact on recreational fishers outside of the Southland area who use pots that do not comply with rock lobster pot specifications. No information is available to suggest how many recreational fishers may be affected.

Paddle crabs

- 39 Paddle crab stocks are managed in the QMS. The paddle crab commercial fishery is predominantly (over 90 percent) a potting fishery, but crabs are also taken as bycatch in trawl, set net and dredge fisheries. Recreational fishing survey data indicate that paddle crabs were seldom caught by recreational fishers historically, but the number of recreational fishers potting for paddle crabs has increased in recent times.

- 40 *Commercial fisheries* – Fishers use a variety of pot types to take paddle crabs. These pots typically do not comply with the rock lobster pot specifications and would be considered unlawful under Option 1. Although paddle crab pots vary in form, they are generally placed close to shore, typically on a sandy beach.

- 41 Paddle crabs are listed on the Sixth Schedule to the Act, which enables fishers to return them to the water if they were caught in pots and are likely to survive. The Sixth Schedule listing provides operators the opportunity to maximise the efficiency of their operations and the value of their catch by returning small or unmarketable fish to the water. The Sixth Schedule listing for paddle crabs was based on information that suggests crabs caught in pots have a good likelihood of survival following capture, thus current potting practices are not likely to pose sustainability concerns to paddle crab stocks.

- 42 Option 1 would impact fishers targeting paddle crab with pots. Available information indicates that in the 2006-07 fishing year, 11 vessels harvested 25 t of paddle crab with pots. Although a relatively small number of paddle crab fishers would be impacted by enforcement of commercial pot regulations, the requirement to alter or perhaps replace paddle crab pots would impose a cost on these fishers since they would be required to use pots that meet the rock lobster pot specifications. In addition, pots that meet the rock lobster pot specifications may be less effective for catching paddle crabs. Finally, requiring paddle crab fishers to use pots compliant with the rock lobster pot specifications would not provide any known benefit to paddle crab stocks.

- 43 *Recreational fisheries* – Option 1 would require recreational fishers who take paddle crab with pots to have the apertures specified in the amateur regulations for rock lobster pots, unless fishers use lawful pull pots or ring pots.

Deepwater crabs

- 44 Deepwater crabs are also caught with pots, generally in depths from 500 metres to 1500 metres. A developing commercial fishery for deepwater crabs is underway and there is no known recreational harvest of deepwater crabs.
- 45 *Commercial fisheries* – The developers of the deepwater crab pot fishery have trialled a number of types of pots to determine the most effective design. These pots do not comply with the rock lobster pot specifications and would be considered unlawful under Option 1. Deepwater crabs are listed on the Sixth Schedule to the Act, which enables fishers to return these fish to the water if they were caught in pots and are likely to survive. Like paddle crabs, deepwater crabs are thought to have good chance of survival after capture in pots.
- 46 Option 1 would significantly impact fishers targeting deepwater crabs with pots. Although just one vessel has been involved in the developing fishery, it utilises several hundred pots to fish for deepwater crabs. Ensuring the pots meet the rock lobster specifications would impose costs on the operator and may curtail further deepwater crab fishery development. In addition, pots that meet the rock lobster pot specifications may be less effective for catching deepwater crabs. Finally, requiring deepwater crab fishers to use pots compliant with the rock lobster pot specifications would not provide any known benefit to deepwater crab stocks.
- 47 *Recreational fisheries* – Option 1 does not impact on recreational fisheries since MFish is not aware of any recreational potting fisheries for deepwater crab.

Hagfish

- 48 Hagfish are managed outside of the QMS as an open access fishery. Until recently, the only significant New Zealand hagfish target fishery was the customary fishery. MFish recently considered hagfish for introduction to the QMS but found it did not meet the relevant criteria. Development of a commercial hagfish fishery is in the early stages.
- 49 *Commercial fisheries* – Commercial hagfish fishers use pots that do not meet the rock lobster pot specifications. Option 1 would impact on these fishers. Available information indicates that in the 2006-07 fishing year, four vessels harvested hagfish with pots. Hagfish pots have a significantly different configuration than rock lobster pots, so it is unlikely that pots meeting the rock lobster could effectively catch hagfish. Option 1 could result in suspension of further fishery development.
- 50 *Recreational fisheries* – Option 1 does not impact on recreational fisheries since MFish is not aware of any recreational potting fisheries for hagfish.

Status quo - Impacts on rock lobster fisheries

- 51 Rock lobsters are at a high risk of illegal catch because they have a high value and are geographically and financially easily accessed. Illegal catch in rock lobster fisheries is ‘unacceptably’ high under the status quo. The rock lobster pot definition in the commercial and amateur regulations may contribute to

some illegal catch of rock lobsters. Illegal catch may occur if fishers target rock lobster with unlawful pots but claim to be using pots to target other species, or if recreational fishers aim to circumvent the per person or vessel rock lobster pot limits that are in place by using unlawful pots.

Impacts on Compliance strategies

52 Under Option 1, the commercial and amateur regulations would be interpreted and enforced such that all undefined fishing pots are captured by the rock lobster pot definition. This would continue to unnecessarily constrain non-rock lobster potting fisheries. If this situation is maintained, MFish would remain in the undesirable position of enforcing a regulatory interpretation that unnecessarily conflicts with MFish's value maximisation objective. This situation detracts from credible fisheries management.

Option 2 – Limited authorisation of potting gear

Impacts summary

53 Option 2 would authorise potting only when: (1) pot specifications (such as apertures or mesh size) have been established for a particular species, or (2) MFish deems that pot specifications are unnecessary. Option 2 also proposes to extend the 48 mm minimum mesh size from BCO 5 to all other blue cod commercial fisheries. This pot specification requirement would provide consistency in the commercial regulations and would likely benefit blue cod stocks with minimal cost to fishers.

54 Based on available information, Option 2 would authorise potting for:

- a) octopus (all commercial fisheries with pot specifications)
- b) blue cod (all commercial and recreational fisheries and commercial pots subject to 48 mm minimum mesh size)
- c) paddle crab (all commercial and recreational fisheries with no pot specifications)
- d) deepwater crab (all commercial fisheries with no pot specifications)
- e) hagfish (all commercial fisheries with no pot specifications)

55 Snapper pots are not proposed for authorisation under Option 2.

56 Option 2 is a fairly conservative approach since pots would have to be explicitly authorised in the commercial and amateur regulations to be lawful. Option 2 provides for increased utilisation and more credible fisheries management, with minimal risk to species taken with pots and to rock lobster fisheries. Option 2 would remove ambiguity from the interpretation and application of the commercial and amateur regulations, but would still constrain utilisation for the snapper pot fishery and for development of other as-yet unspecified potting fisheries in the future.

57 Option 2 could be seen as a fairly restrictive form of input controls. Under Option 2, authorisation of potting in additional fisheries would rely on MFish developing pot specifications, or deeming that none are necessary. MFish's

ability to do this would depend on MFish resources to amend the regulations and may depend on research studies in the fishery of concern.

- 58 Option 2 may provide an increased risk to areas and habitats that were previously unfished if the potting authorisation results in a significant number of pots being deployed, or if pots are concentrated in particularly sensitive areas. This may not be a substantial risk, however, as available information suggests that the only 'new' fishery authorised in Option 2 would be the octopus fishery. Potting fisheries are currently taking place for paddle crabs, deepwater crabs and hagfish. If Option 2 was implemented, MFish would monitor the development of the octopus fishery and other authorised potting fisheries to determine negative impacts on previously unfished areas and take relevant action where necessary.
- 59 Although pots are considered to have a relatively low environmental impact, pots can be lost or abandoned by fishers and continue to catch fish. This 'ghost fishing' occurs when passive gears such as gillnets, pots and traps, are lost or discarded and continue to catch fish and crustaceans. Ghost pots may also be a source of litter or entanglement for birds and mammals when washed ashore and can potentially pose safety risks for fishers if they become entangled with active fishing gear and vessel propellers. Modern pots are typically made of non-biodegradable synthetic fibres and can persist in the environment for long periods.
- 60 The extent of ghost fishing is largely unknown, but some research studies have been completed for pot and trap fisheries. In studies from Europe, mortality rates from pots and traps were believed to be low, owing to a fairly low pot loss rate, coupled with good escapement rates for captured fish and other species. This information was compared with some North American fisheries, where reported ghost catch levels may be up to seven percent of commercial catch, and fishing grounds in the Sultanate of Oman, where pot loss rates may be up to 20% of those set.⁸ Although Option 2 may introduce an increased risk of lost pots, MFish considers that the risk would not be a concern, since Option 2 authorises only one 'new' fishery (octopus). Lost pots are costly to fishers and this creates a strong incentive for fishers to minimise pot loss. If Option 2 were implemented, MFish would monitor the levels of pot loss, particularly in the developing fisheries. The adverse effects of lost pots are relatively easily averted by incorporating escape panels into pot design and by using biodegradable materials.⁹

⁸ Hart, P., and Reynolds, J. (2002). *Handbook of Fish Biology and Fisheries v. 2*, Blackwell Publishing, 424 p.

⁹ Brown, J., and Macfayden, G., (2007). Ghost fishing in European waters: Impacts and management responses. *Marine Policy* 31(4): 488-504.

Option 2 (Limited pot authorisation) – Summary of impacts

Option 2 impacts on:

Species	Stock status	Commercial potting fisheries	Recreational potting fisheries
Snapper	None	Utilisation constrained	None
Octopus	Unknown	Potential increased utilisation	None
Blue cod (except BCO 5)	Sustainability benefit - BCO5 minimum mesh size extended to other commercial fishing areas	Approximately 22 fishers would incur costs to alter or replace pots	Continue current practices
Paddle crab	None likely	Continue current practices	Continue current practices
Deepwater crab	None likely	Continue current practices	None
Hagfish	None likely	Continue current practices	None

- 61 The primary risks that should be assessed for Option 2 are the potential for potting authorisation to increase catch and/or mortality (particularly undersize fish) of the species likely to be taken, including bycatch species.

Snapper

- 62 *Commercial fisheries* – Snapper pots are not initially proposed for authorisation in Option 2 because it is likely the pots will capture undersize snapper, and information is not available on the mortality rates of undersize snapper after release from pots. While this unknown risk may not create concerns for snapper stocks, Option 2 is a conservative approach to potting authorisation. The snapper fisheries are important to the customary, recreational and commercial sectors and the fisheries are fully utilised. MFish considers that under a conservative authorisation approach, snapper potting would not be authorised until information is available to determine what pot specifications would protect juvenile snapper from predation or other mortality after capture in pots.
- 63 If Option 2 was implemented, prospective snapper fishers could apply for a special permit to utilise pots. While this would not provide a long-term

solution to the constraint on potting for snapper, it may provide an opportunity for fishers to determine effective snapper pot specifications with special permit gear trials. With this information, MFish may be able to develop pot specifications that enable effective capture of snapper without negatively impacting on undersize snapper. These specifications would also need to limit interactions with rock lobster fisheries.

- 64 *Recreational fisheries* – Option 2 would not impact on recreational fisheries since MFish is not aware of any recreational potting for snapper. As with commercial fisheries, snapper potting would be authorised for recreational fishers only if the pots meet the rock lobster pot specifications.

Octopus

- 65 *Commercial fisheries* – MFish proposes to authorise octopus pots in Option 2 and develop pot specifications in the regulations. Octopus pots would be required to have an entry that is securely covered (with some resistance), or is otherwise effectively a one-way entrance, so that octopus must push through to enter the pot. Octopus are known to enter small spaces relative to their body size, particularly to feed, and this type of pot specification is likely to be effective at catching and retaining octopus. Available information indicates that octopus pots have not yet been produced in large numbers but could be configured in such a way to meet this requirement.

- 66 *Recreational fisheries* – Option 2 does not impact on recreational fisheries since MFish is not aware of any recreational potting fisheries for octopus. However, as with commercial fisheries, recreational octopus pots would have to meet the same blocked entry requirement described above.

Blue cod

- 67 *Commercial fisheries* – Option 2 proposes to authorise potting for blue cod in all commercial fishing areas. Option 2 also proposes to extend the BCO 5 requirement for a minimum mesh size of 48 mm for blue cod pots to all other blue cod commercial fishing areas. This proposal is based on the Southland blue cod pot trial that found the minimum mesh size enabled undersize blue cod to escape from pots, which can significantly reduce juvenile mortality and provide stock sustainability benefits (see footnote 7). Option 2 would not likely impact on commercial blue cod fishers in Southland (48mm mesh already a requirement) or the Chatham Islands (BCO 4) as most commercial blue cod fishers use pots that would meet the mesh size requirement. Catch from the Southland area and the Chatham Islands totals just under 90 percent of total commercial blue cod landings in the 2006-07 fishing year.

- 68 Blue cod can be found in rock lobster habitat and are known predators of juvenile rock lobsters, particularly at night. However, blue cod pots are often set for periods of as little as twenty minutes to a few hours during daylight, and rock lobsters do not usually actively feed during the day. MFish considers that status quo blue cod potting fisheries do not negatively impact on rock lobster fisheries.

- 69 Catch records indicate that Option 2 would impact on approximately 22 commercial fishers who use pots to take blue cod, primarily in BCO 7 and BCO 8. These fishers landed approximately four percent of total commercial blue cod landings in the 2006-07 fishing year. Under Option 2, these fishers would incur costs¹⁰ to replace blue cod pots to ensure they comply with the minimum mesh size requirement.
- 70 *Recreational fisheries* – Option 2 would authorise potting for blue cod in all recreational fisheries. This would primarily impact charter vessel operators outside of the Southland area that deploy blue cod pots under section 111 of the Act by authorising current practices.
- 71 As currently proposed, Option 2 would extend blue cod pot authorisation to all fishing areas in the amateur regulations without requiring pot specifications. Available information suggests the minimum mesh size may provide stock sustainability benefits for blue cod, should it be considered for extension to recreational potting fisheries in the future. ***MFish seeks input on the likely impacts on fishers of extending the 48 mm minimum mesh size to all recreational fishing areas.***

Paddle crabs, deepwater crabs and hagfish

- 72 *Commercial fisheries* – Option 2 would not directly impact on fishers in the paddle crab, deepwater crab, and hagfish commercial fisheries since they would be authorised to continue current potting practices. The primary benefit of Option 2 is an improvement to fisheries management credibility.
- 73 The paddle crab fisheries have little to no impact on rock lobster fisheries. Paddle crab pots are generally placed on sandy beaches. Rock lobsters are most frequently found in rocky habitat and the primary catch depths are from 10 metres to 100 metres, so there is little to no overlap of the fishery areas.
- 74 The deepwater crab and hagfish pots also have minimal, if any, impact on rock lobster fisheries since those pots are used in areas outside of rock lobster habitat. Deepwater crab pots are generally set at depths of 500 metres to 800 metres and hagfish pots are set from 200 metres to 300 metres, which are well outside the range of rock lobster habitat.
- 75 *Recreational fisheries* – Option 2 would authorise current potting practices in the paddle crab recreational fishery. MFish is not aware of any recreational potting for deepwater crabs or hagfish, thus Option 2 would have no impact.

Impacts on rock lobster fisheries

- 76 Option 2 aims to provide for increased utilisation by authorising potting for species other than rock lobster, while minimising the risk of negative impacts on rock lobster fisheries. The primary risks to assess for Option 2 are (1) the potential for significantly increased catch and/or mortality of rock lobster (particularly undersize fish) from authorisation of non-rock lobster potting,

¹⁰ Commercial fishers generally deploy around six pots, which may cost from \$500 to \$600 per pot to replace in order to meet the minimum mesh size requirement.

and (2) the impacts of non-rock lobster potting on illegal catch of rock lobsters. Potting should not be authorised for fisheries where there is an unacceptably high risk of increased undersize rock lobster mortality or where authorising non-rock lobster potting increases the likelihood of illegal harvest of rock lobsters. Option 2 has a low risk of unacceptable impacts on rock lobster fisheries.

- 77 **Snapper** – Option 2 does not propose to authorise potting for snapper so there are no impacts on rock lobster fisheries.
- 78 **Octopus** – MFish considers the octopus fishery would have minimal impact on rock lobster fisheries if appropriate pot specifications are developed. Option 2 proposes that octopus pots would be required to have entry holes blocked securely so that octopus can enter the pot, but must push their way through the opening. As an example, the pot entry could be covered with mesh or other material that is secured with a resistant cord or latch that an octopus could open enough to get through the entry, but would rebound to cover the entry hole once the octopus passed through. Rock lobsters are less likely to push through these types of barriers to enter a pot. *MFish requests additional information from stakeholders on the likely impacts of the proposed octopus pot specification.*
- 79 **Blue cod** – MFish considers that current blue cod commercial and amateur potting practices do not significantly impact on existing rock lobster fisheries. Option 2 proposes to explicitly authorise blue cod potting in all commercial and amateur fisheries and require a minimum mesh size for commercial blue cod pots. MFish anticipates that potting for blue cod would not change significantly with Option 2 as the cost of altering or replacing pots is moderate. Thus the impacts from blue cod potting on rock lobster fisheries would not likely change considerably from the status quo.
- 80 **Paddle crabs, deepwater crabs and hagfish** – MFish considers there is minimal risk to rock lobster of authorising potting for these species without establishing pot specifications since fishing for these species does not take place in rock lobster fishing areas.

Impacts on Compliance strategies

- 81 Option 2 explicitly authorises potting for specific species and eliminates regulatory ambiguity regarding interpretations of the lawful use of pots for species other than rock lobster. For the additional pot specifications that are established with this action (BCO 1, 2, 3, 4, 7 and 8 and octopus) MFish would need to monitor, confirm compliance with, and enforce such specifications within existing compliance activities in those fisheries.
- 82 With Option 2, compliance activities would have to focus more on use offences, since a greater number of pots (some with specifications) would be authorised in the commercial and amateur regulations. This may increase enforcement costs. However, costs would be unlikely to increase substantially since fishers already use several pots that would be authorised by Option 2.

Option 3 – Permissive authorisation of potting gear

Impacts summary

- 83 Option 3 would authorise potting for any species, regardless of whether pot specifications are defined in the commercial and amateur regulations or deemed not needed. Potting in all fisheries that are currently constrained by the regulations (including snapper), as well as potting fisheries that develop in the future would be authorised. Pot specifications would be required as follows:

Option 3 (Permissive pot authorisation) – Summary of impacts

Option 3 impacts on:

Species	Stock status	Commercial potting fisheries	Recreational potting fisheries
Snapper	Unknown	Increased utilisation	None
Octopus	None likely	Increased utilisation	None
Blue cod (except BCO 5)	Sustainability benefit - BCO5 minimum mesh size extended to other commercial fishing areas	Approximately 22 fishers would incur costs to alter or replace pots	Continue current practices
Paddle crab	None likely	Continue current practices	Continue current practices
Deepwater crab	None likely	Continue current practices	None
Hagfish	None likely	Continue current practices	None
All other potting fisheries	Unknown	Unknown	Unknown

- 84 The practical effect of Option 3 is identical to the assessed impacts of Option 2 for all constrained species except snapper and potting fisheries that may develop in the future. The risk of Option 3 to the sustainability of fish stocks taken with pots is likely low, but may be higher for snapper than Option 2. The risk to rock lobster fisheries may also be greater under Option 3 than Option 2 since the impacts of snapper and as-yet unidentified potting fisheries

cannot be determined at this time. Option 3 provides the most potential for increased value from development of pot fisheries for other target species.

- 85 Option 3 may increase the risks of fishing in previously unfished habitats and pot loss when compared to Option 2, since it would authorise potting for a greater (but unknown) number of species. As with Option 2, MFish would monitor the development of these potting fisheries, assess any environmental impacts and take action where necessary.

Snapper

- 86 The potting fishery for snapper would be a new fishery in New Zealand and it is unclear what pot configuration would be most effective to catch snapper. As such, prospective fisheries are likely to involve trials of several different types of pots, for which the individual configurations have not been determined. MFish considers potting is an acceptable method of fishing and development of a targeted pot fishery is unlikely to raise sustainability concerns for snapper in the near term. Even if undersize snapper are caught in pots, which would be the main concern, survivability of fish returned to the water (which is required by the commercial and amateur regulations) may be high, unless in-pot predation or predation after release results in high levels of mortality.

- 87 As discussed for Option 2, MFish would monitor the development of the snapper potting fishery, particularly for the effects on undersize fish, and could develop appropriate pot specifications in the future. Under Option 3, any increase in potting for snapper would also result in a corresponding decrease in fish captured with trawl or long line gear since the fishery is fully utilised.

- 88 *Commercial fisheries* – The snapper potting fishery is currently undeveloped, and Option 3 would increase the opportunity for utilisation and value maximisation of snapper resources by prospective pot fishers.

- 89 *Recreational fisheries* – Option 3 may also increase the opportunity for utilisation by recreational fishers. Fishers generally take snapper with hook and line gear and it is not known if Option 3 would encourage fishers to change to potting gear. This seems unlikely, particularly since an effective snapper pot configuration has not yet been developed for use in New Zealand.

Octopus and blue cod

- 90 *Commercial fisheries* – MFish proposes to authorise octopus pots in Option 3 and develop pot specifications in the regulations, which would enable fishers to increase utilisation and work toward maximising the value of octopus stocks, as with Option 2. The pot specification would require that the entrance to the pot be configured such that octopus have to force their way into the pot.

- 91 Option 3 proposes to extend the blue cod potting authorisation from BCO 5 to all other blue cod commercial fishing areas. Option 3 also proposes to extend the BCO 5 requirement for a minimum mesh size of 48 mm for blue cod pots to all blue cod commercial fishing areas. As with Option 2, Option 3 would

impose pot alteration or replacement costs (approximately \$500 to \$600 per pot) on 22 blue cod fishers who likely use pots that do not have mesh of 48 mm or more. The level of costs incurred would depend on the number of pots that fishers deploy, and they may choose to stop fishing if alteration or replacement of pots is too costly.

- 92 *Recreational fisheries* – Option 3 proposes to authorise potting for blue cod and octopus in the amateur regulations, and the octopus pots would be subject to the same pot specification proposed in the commercial regulations. There is a high likelihood that octopus pots without such a specification would catch rock lobster since the pots likely be placed in some rock lobster fishing areas. However, as previously discussed under Option 2, MFish is unaware of recreational potting fisheries for octopus.
- 93 Option 3 would extend pot authorisation to all blue cod fishing areas in the amateur regulations without requiring pot specifications. *As discussed for Option 2, available information suggests that the minimum mesh size may provide stock sustainability benefits for blue cod and MFish seeks input on the likely impacts on fishers if the 48 mm minimum mesh size requirement was considered for recreational blue cod fisheries at some point in the future.*

Paddle crabs, deepwater crabs and hagfish

- 94 *Commercial fisheries* – Option 3 would not directly impact commercial fishers in the paddle crab, deepwater crab, and hagfish fisheries since they would be authorised to continue current potting practices. The primary benefit of Option 3 is to improve fisheries management credibility.
- 95 *Recreational fisheries* – Option 3 would authorise current potting practices in the paddle crab recreational fishery. MFish is not aware of any recreational potting fisheries for deepwater crabs or hagfish.

All other potting fisheries

- 96 Option 3 would authorise potting for all other species so the effects on these stocks would likely be unknown. MFish would monitor ongoing development of these fisheries to determine whether further management measures, including pot specifications, would be needed.

Impacts on rock lobster fisheries

- 97 Option 3 introduces additional uncertainty about the risk of impacts on rock lobster fisheries since potting would be authorised for snapper and other potting fisheries, which may result in additional pots being deployed in some rock lobster fishing areas.
- 98 **Snapper** – Option 3 proposes to authorise potting for snapper (through authorisation of pots for all species) to reduce constraints on utilisation.
- 99 Snapper and rock lobster are caught at similar depths (10 metres – 100 metres) and can be found in the same types of habitat, so it seems likely that snapper

pots would catch rock lobster. However, Option 3 is a permissive approach to potting authorisation that aims to reduce constraints on utilisation to the extent possible. Under Option 3, the risk of additional pots deployed in rock lobster habitat may be mitigated somewhat since fishers who catch rock lobsters in non-rock lobster pots may return rock lobsters to sea if they are likely to survive, subject to the provisions in Schedule 6 of the Act and the regulations. Fishers also may not take rock lobster unless they hold at least three tonnes of red rock lobster annual catch entitlement (Section 74 of the Fisheries Act), which would provide a strong incentive for pot fishers in non-rock lobster fisheries to avoid red rock lobster bycatch to the extent possible.

- 100 It is unknown whether the potential for increased rock lobster catch would affect rock lobster stocks, so MFish would closely monitor the development of the snapper potting fishery with respect to levels of rock lobster bycatch. As discussed for the impacts of Option 3 on snapper fisheries, pot specifications could be developed in the future, and these specifications should limit interactions with rock lobster fisheries to the extent possible.
- 101 **Octopus and blue cod** – MFish considers the octopus fishery would have minimal impact on the rock lobster fisheries if appropriate pot specifications are developed. Option 3 proposes the same octopus pot specification found in Option 2, which would require that any pot openings be blocked in such a way that octopus must force their way through the opening.
- 102 MFish considers that current blue cod fisheries do not negatively impact on existing rock lobster fisheries. MFish anticipates that potting for blue cod would not increase substantially with Option 3, but would likely continue current practices.
- 103 **Paddle crabs, deepwater crabs and hagfish** – As discussed in the assessment for Options 2, MFish considers the impact on rock lobster fisheries is minimal since the fishing areas do not overlap with rock lobster catch areas.
- 104 **All other potting fisheries** – Option 3 would authorise potting for all other species so the effects on rock lobster fisheries would be unknown. MFish would monitor ongoing development of these fisheries and take action where necessary.

Impacts on Compliance strategies

- 105 Option 3 has the identical compliance impacts as Option 2; it explicitly authorises potting for all species and eliminates regulatory ambiguity regarding the lawful use of pots for other target species. For the additional specifications that are established with this action (BCO 1, 2, 3, 4, 7 and 8 and octopus) MFish would need to monitor, confirm compliance with, and enforce such specifications within existing compliance activities in those fisheries.

Other Management Controls

- 106 MFish would develop offences and penalties for breaches of the additional pot specification requirements that would be developed in the commercial and amateur regulations as an outcome of this proposed action.

- 107 As outlined in regulation 25C of the amateur regulations, recreational fishers are also subject to person and vessel limits on the number of rock lobster pots that can be used, set or possessed on any one day. These provisions limit the fishing effort by a single recreational fisher or from one particular vessel. The limits are intended to help recreational fishers to stay within the daily bag limit by preventing a catch of significantly more than the daily bag limit in a single set of pots. The limits are also a constraint for poachers who may conceal their activities under the guise of recreational fishing.
- 108 MFish considered the option of proposing similar limits to pots used to fish for species other than rock lobster for the same purpose, but the creation of such limits is not included in any of the options presented in this paper. MFish believes that such limits are not necessary at this time, but there may be a risk of some fishers circumventing the limits on the number of rock lobster pots by using other pots that could, in certain circumstances, catch a rock lobster (e.g., blue cod pots). Under Options 2 and 3, MFish would continue to monitor these risks and would propose further action where necessary. ***Nonetheless, MFish encourages stakeholders to comment on the potential need for person and vessel limits on the number of non-rock lobster pots that may be used by recreational fishers on any one day.***

Statutory Considerations

- 109 In forming the regulatory amendment options the following statutory considerations were taken into account.
- a) Section 5(a) requires decision-makers to act in a manner consistent with New Zealand's international obligations relating to fishing, including the Law of the Sea and the Fish Stocks Agreement as well as regional fishery management agreements. Decision-makers must also act in a manner consistent with the provisions of the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992. MFish considers that the proposed options are consistent with both New Zealand's international obligations relating to fishing and the provisions of the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992.
 - b) Section 8 describes the purpose of the Act as being to provide for the utilisation of fisheries resources while ensuring sustainability. The proposal presents two options to further achieve the purpose of the Act by removing constraints on utilisation caused by the MFish regulatory interpretation of rock lobster pots and assessing the likely impacts to the sustainability of target species and rock lobster fisheries.
 - c) Section 9 requires the Minister of Fisheries to take into account that non-harvested 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. Although available information is limited, nothing suggests that the proposed action adversely affects any associated or dependent species, as the incidental catch may remain alive and in good condition in pots and can be returned to the water.

- d) Section 9 also requires the Minister to take into account the biological diversity of the aquatic environment and the principle that habitat of particular significance for fisheries management should be protected. The proposed options discuss the impacts of increased use of potting gear, which is considered to have a low impact on the benthic environment, thus creating a low impact on the aquatic environment and habitats of significance. The potential impacts of potting in previously unfished areas and ghost fishing by lost pots were also discussed.
- e) Section 10 requires that decisions are based on the best available information, taking into account any uncertainty in that information, and applying caution when information is uncertain unreliable, or inadequate. The proposed regulatory amendment options were developed based on the best available information. MFish offers two alternatives for removing constraints on utilisation while managing the associated risks to affected species and rock lobster fisheries.
- f) Section 10 also requires that the absence or uncertainty of information should not be used as a reason to postpone, or fail to take, any measure to achieve the purpose of the Act. Uncertainty regarding the impacts of authorising potting for particular fisheries was assessed in the management options presented. MFish has proposed pot specifications in some fisheries to mitigate risks where possible. MFish invites stakeholders to provide additional information on the likely impacts of authorising potting for particular species.
- g) Section 297 empowers the Governor General to make regulations for certain purposes. MFish considers that the proposed changes to the Fisheries (Commercial Fishing) Regulations 2001 and the Fisheries (Amateur Fishing) Regulations 1996 fit within the relevant provisions of section 297.

APPENDIX 1 - REGULATIONS RELATING TO USE AND POSSESSION OF NON-ROCK LOBSTER POTS

Fisheries (Southland and Sub-Antarctic Areas Amateur Fishing) Regulations 1991

[3 Interpretation

[Blue cod pot—

- (a) Means any pot (whether baited or not) that is capable of catching or holding blue cod; and
- (b) Includes any other device capable of catching, holding, or storing blue cod; but
- (c) Does not include a rock lobster pot:]

Fisheries (Southland and Sub-Antarctic Areas Commercial Fishing) Regulations 1986

[2 Interpretation

[[Blue cod pot—

- (a) Means any pot, whether baited or not, that is capable of catching or holding blue cod; and
- (b) Includes any other device capable of catching, holding, or storing blue cod; but
- (c) Does not include a rock lobster pot:]]

[3F Marking of blue cod pots and fish holding pots

- (1) No [[commercial fisher]] shall use for fishing or have on board any fishing vessel and fishing gear or any blue cod pot that does not have securely attached to it a surface float that is clearly, permanently, and legibly marked with the registered number of the vessel from which it is to be set or is being carried.
- (2) No [[commercial fisher]] shall use, or have on board any fishing vessel, any pot, bag, or container capable of being used to hold or store fish at sea unless the pot, bag, or container has its own surface buoy or float, and each surface buoy or float is clearly, permanently, and legibly marked with the registered number of the vessel from which it is to be set or is being carried.]

[14A Blue cod pots to be covered in mesh

No [[commercial fisher]] shall have on board any fishing vessel or use any blue cod pot unless the blue cod pot is constructed entirely of square steel mesh in which the spaces are not less than 48mm in width.]

Fisheries (South-East Area Commercial Fishing) Regulations 1986

[10C Marking of blue cod pots and fish holding pots

- (1) No [[commercial fisher]] shall use for fishing or have on board any fishing vessel any fishing gear or any blue cod pot that does not have securely attached to it a surface float that is clearly, permanently and legibly marked with the registered number of the vessel from which it is to be set or is being carried.
- (2) No [[commercial fisher]] shall use, or have on board any fishing vessel, any pot, bag, or container capable of being used to hold or store fish at sea unless the pot, bag, or container has its own surface buoy or float, and each surface buoy or float is clearly, permanently, and legibly marked with the registered number of the vessel from which it is to be set or is being carried.]

Fisheries (Amateur Fishing) Regulations 1986

2 Interpretation

Ring pot or hoop net or pull pot means a circular frame across which netting is attached:

[25B Apertures to be incorporated in rock lobster pots

[[(6) This regulation does not apply to the use or possession of a bob or ring pot.]]]

Fisheries (Commercial Fishing) Regulations 2001

3 Interpretation

ring pot, hoop net, or pullpot means a circular frame across which netting is attached

63 Use of specified nets prohibited

- (2) Commercial fishers must not set, use, or possess baited nets other than ring pots, [fyke nets,] hoop nets, or pullpots.

APPENDIX 2 – IMPACTS OF PROPOSED OPTIONS ON AFFECTED FISH STOCKS

Option 1 – Status quo impacts on stock status

Snapper

- 110 The best available information projects that the total allowable catches (TACs) for all snapper stocks are currently set either at levels that will maintain the stocks at the biomass that can produce the maximum sustainable yield, or at levels that will enable the stocks to increase to a level that can produce the maximum sustainable yield.¹¹

Octopus

- 111 MFish recently considered octopus for introduction to the QMS, but found it did not meet the relevant criteria. As part of that analysis, MFish noted anecdotal information that suggests significant amounts of octopus may be returned to sea in commercial fisheries without being reported. While there might be some risk to octopus stocks from this unreported catch, the fecundity and short lifespan of octopus species alleviates some of this risk. Octopus, along with other non-QMS species, will be evaluated annually to determine whether the stocks meet the criteria for QMS introduction, which includes information to suggest sustainability or utilisation concerns.

Blue cod

- 112 Available information suggests that for most quota management areas (BCO 1, 2, 3, 4, 5 and 8), recent commercial catch levels and current TACCs are considered sustainable and are probably at levels which will allow the stocks to move towards sizes that will support the maximum sustainable yield.
- 113 It is not known if the combined recreational and commercial catches in the Challenger Fishery Management Area (BCO 7) are sustainable or if they are at levels that will allow the stock to move towards a size that will support the maximum sustainable yield. Blue cod is the most important recreational target finfish species in the Marlborough Sounds. Approximately 83% of the total estimate recreational catch from BCO 7 is taken from the Marlborough Sounds. The Minister of Fisheries recently implemented a four-year closure to recreational fishing for blue cod in the enclosed waters of Marlborough Sounds to address a decline in blue cod abundance. Commercial fishers have also agreed not to fish in the enclosed Marlborough Sounds area while the recreational closure is in force. MFish considers that blue cod stock abundance concerns in the Marlborough Sounds may be addressed by the fishing closure, which will be implemented on 1 October 2008.

¹¹ Ministry of Fisheries (2008). Report from the Fisheries Assessment Plenary, May 2008: stock assessments and yield estimates. Ministry of Fisheries, Wellington, New Zealand. 990p.

Paddle crabs

- 114 Although stock information is limited, the current potting practices in the paddle crab fisheries and bycatch of paddle crab in other fisheries are unlikely to pose sustainability concerns for these stocks. Paddle crab stocks are abundant throughout most of their range and the fishery is probably only lightly exploited, particularly since commercial landings likely are related to the availability of fishers and/or market demands.

Deepwater crabs

- 115 Stock information is unavailable for deepwater crabs, but the total allowable commercial catch (TACC) has not yet been fully harvested for any of the deepwater crab stocks. An exploratory commercial fishery is in the early stages. MFish considers that maintaining the status quo provides little to no risk to stock sustainability as the deepwater crab TACCs were set at a level to ensure sustainable utilisation.

Hagfish

- 116 No estimates of current hagfish biomass or sustainable yield are available. The stock will be evaluated against the QMS introduction criteria each year, which include variations in catch outside a specified threshold or other information that may suggest a sustainability or utilisation concern.

Option 2 – Limited authorisation of potting gear

Snapper

- 117 Option 2 does not propose to authorise potting for snapper, so the proposed outcome would have no direct impacts on the status of snapper stocks.

Octopus

- 118 MFish considers that the risk of a developing pot fishery to octopus stocks is unknown, but likely low. MFish recently considered introducing octopus the QMS in 2009, but proposed to defer introduction based on available information. The QMS introduction analysis found that although actual catch of octopus may be much higher than the levels reported, there is little risk under the status quo to maintaining the stock at a level to meet future needs.
- 119 There may be some additional risk to octopus stocks under Option 2 compared to Option 1, since development of a potting target fishery would increase the already unknown bycatch of octopus. However, MFish monitors all non-QMS stocks each year against the criteria for possible QMS introductions. Although octopus was not proposed for introduction in 2009, it will be evaluated for changes to the relevant criteria each year. Criteria for possible QMS introduction include a significant variation in catch, identification for introduction by stakeholders, or other information that suggests a

sustainability or utilisation concern. This annual review would monitor the effects of developmental pot fishing on octopus stocks.

Blue cod

- 120 MFish considers that blue cod pots currently in use are not a risk to blue cod stocks in quota management areas 1, 2, 3, 4, 5 and 8. The status of the BCO 7 stock is uncertain, but the recreational fishing closure (effective 1 October 2008) in the Marlborough Sounds may address some stock concerns about the decline in blue cod abundance in that area.
- 121 MFish considers that the Option 2 proposal to extend the BCO 5 pot specification of 48 mm to all other commercial blue cod stocks would create consistency within the commercial regulations. It would also enable undersize blue cod to escape from pots, reducing the mortality of undersize fish. This may provide a sustainability benefit for blue cod stocks in fishing areas outside of BCO 5.

Paddle crabs, deepwater crabs and hagfish

- 122 Option 2 proposes to authorise potting for paddle crabs, deepwater crabs and hagfish. In practice, fishers currently using pots to catch these species would be explicitly authorised to continue. Pot specifications for these species would be deemed unnecessary under Option 2 since MFish considers that current potting practices do not create stock sustainability concerns for these species, and explicitly authorising current potting practices to continue would provide for more credible fisheries management.
- 123 As discussed in the Option 1 assessment, the current potting activities for paddle crabs and deepwater crabs are not likely to negatively impact on those stocks since information suggests that survival rates are generally good for crabs caught in pots. Hagfish is a non-QMS species and will be subject to the same annual monitoring process described for octopus. The annual review will monitor the effects of the developing pot fishery and assess the impacts on hagfish stocks.
- 124 It is possible, but unlikely, that pot fishing effort for these species would increase from other fishers if Option 2 was implemented. MFish would continue to monitor these fisheries to evaluate whether there is increased effort, and could consider establishing pot specifications for these species in the future if information raises concerns about stock sustainability.

Option 3 – Permissive authorisation of potting gear

Snapper

- 125 The risk to snapper stocks from development of a potting fishery is unknown since no information is available on the effects of potting on undersize snapper. It is, therefore, not possible to recommend appropriate pot configurations or regulatory specifications at this time. However, commercial snapper catches are limited by the TACC for each stock, and the snapper stock assessments take the overall levels of commercial catch into account. The best

available information projects that the TACs for all snapper stocks are currently set either at levels that will maintain the stocks at the biomass that can produce the maximum sustainable yield, or at levels that will enable the stocks to increase to a level that can produce the maximum sustainable yield.¹²

Octopus and blue cod

- 126 The impacts of Option 3 on octopus and blue cod stocks are identical to those described in Option 2. MFish considers that the risk of a developing pot fishery to octopus stocks is unknown, but likely low. Extension of the 48mm minimum mesh size to all other commercial blue cod fishing areas may provide a sustainability benefit for blue cod stocks outside of BCO 5.

Paddle crabs, deepwater crabs and hagfish

- 127 Option 3 proposes to authorise potting for paddle crabs, deepwater crabs and hagfish in the regulations. In practice, fishers currently using pots to catch these species would be explicitly authorised to continue and as in Option 2, no pot specifications would be required. Pot specifications for these species would be deemed unnecessary under Option 3 since MFish considers that current potting practices do not create stock sustainability concerns for these species, nor do they impact on rock lobster fisheries.
- 128 As discussed in the Option 2 assessment, the current potting activities for paddle crabs and deepwater crabs are not likely to negatively impact on those stocks since information suggests that survival rates are generally good for crabs caught in pots. Hagfish is a non-QMS species and will be subject to the same annual monitoring process described for octopus. The annual review will monitor the effects of the developing pot fishery and assess the impacts on hagfish stocks.
- 129 It is possible, but unlikely, that potting effort for these species would increase from other fishers if Option 3 was implemented. MFish would continue to monitor these fisheries to evaluate whether there is increased effort, and could consider establishing pot specifications for these species in the future if information indicates reasons for concerns about stock sustainability.

¹² Ministry of Fisheries (2008). Report from the Fisheries Assessment Plenary, May 2008: stock assessments and yield estimates. Ministry of Fisheries, Wellington, New Zealand. 990p.

REGULATORY IMPACT STATEMENT - REVIEW OF POTTING DEFINITIONS

Executive summary

- 1 The current definition of 'rock lobster pot' in the Fisheries (Commercial Fishing) Regulations 2001 and the Fisheries (Amateur Fishing) Regulations 1986 (Regulations) is broad and has the potential to apply to most pots, regardless of the intended target species. Rock lobster pots are required to have escape gaps of a certain number and dimension. Pots not meeting these requirements are likely unlawful.
- 2 The far-reaching rock lobster pot regulatory definition affects other potting fisheries in two ways: (1) pots that fishers would like to use to target species other than rock lobster are considered unlawful, which constrains utilisation, and (2) pots are currently used in non-rock lobster fisheries that may be unlawful. In these instances, the Regulations unnecessarily constrain utilisation.
- 3 It is unlikely that the regulatory definition of rock lobster pot was intended to constrain the use of pots to target species other than rock lobster. Potting is an acceptable method of harvest that should be authorised to the extent possible. The Regulations should be amended to remove the constraints on other pot fisheries without negatively impacting on the affected stocks or rock lobster fisheries. Two regulatory amendment options are proposed. The Ministry of Fisheries does not have a preferred option at this stage and seeks input from tangata whenua and stakeholders on the proposed options.
- 4 This Regulatory Impact Statement (RIS) has addressed all relevant aspects of the RIS requirements contained in Cabinet Office Circular CO (07) 3. Where a requirement has not been addressed it is considered to be not relevant to this proposal.

Adequacy statement

- 5 This RIS has been reviewed by the Ministry of Fisheries' Regulatory Impact Analysis Review Committee and is considered adequate according to the criteria agreed by Cabinet.

Status quo and problem

- 6 The rock lobster pot definition in the Regulations is broad and has the potential to apply to most pots that fishers currently use, or would like to use, to

take other species. The effect of this is that all fishing pots (with the exception of lawful Southland commercial blue cod pots, ring pots, and pull pots) that can catch, hold or store rock lobster must comply with escape aperture requirements specified in the Regulations, or they are unlawful. These aperture requirements may render pots less successful, or even useless, for catching other target species if marketable fish can easily escape through the apertures.

- 7 The regulatory rock lobster pot definition and specifications were developed to address specific management needs in the rock lobster fisheries. If the Regulations are not amended, fishery development would continue to be constrained. In addition, enforcement of the Regulations would continue to cause confusion among fishers as to whether pots may be lawfully used for other target species. The application of the regulatory rock lobster pot definition creates a conflict between enforcement of the Regulations and the objective of value maximisation for fisheries in New Zealand. Credible fisheries management is also diminished by the current situation.
- 8 This excessive constraint on other fisheries is unintended and undesirable. Pots are a relatively benign method of capture compared to some other fishing methods and should be authorised wherever possible. The impacts to captured fish are usually minimal and in fact, fish are often alive and in good condition when taken with pots. Pots also have limited impacts on the benthic environment.

Objectives

- 9 Remove constraints on undeveloped potting fisheries where possible and reduce enforcement difficulties for existing potting fisheries, without negatively impacting on the target and bycatch stocks or rock lobster fisheries.

Options

- 10 Two alternatives are proposed to the status quo:

Option 2 – MFish preferred option

- 11 The Ministry of Fisheries would recommend amending the Regulations to allow potting for any species. Specifications could be developed and added to the Regulations for other target species and enforced if the Ministry of Fisheries determines they are needed, but pots would be authorised in the Regulations and lawful in every instance. In practice, the current regulatory pot specifications for rock lobster would not change.
- 12 Under this option, the sustainability risk to current and future fisheries taken with pots is likely low. However, the risk to snapper stocks and rock lobster fisheries may be greater under this option since potting is authorised for all species and the impacts are likely unknown. This option provides the most potential for increased value from development of pot fisheries for non-rock lobster species.

Option 3

- 13 The ministry of fisheries would recommend amending the regulations to allow potting only in fisheries for which pot specifications are defined in the regulations or are deemed not needed. Potting would also be authorised in fisheries where the ministry of fisheries has determined that pot specifications are not needed. In practice, the current regulatory pot specifications for rock lobster would not change.
- 14 This option is a conservative approach since pots would have to be explicitly authorised in the Regulations to be lawful. The Ministry of Fisheries considers it is desirable to authorise potting wherever possible, and Option 1 provides for increased utilisation and more credible fisheries management, with minimal risk to the target and bycatch species and rock lobster fisheries. Option 1 would enable more credible fisheries management by clarifying the Regulations, but would still constrain utilisation for the snapper pot fishery and for development of other as-yet unspecified potting fisheries in the future.

Implementation and review

- 15 If regulatory changes are needed, the Ministry of Fisheries proposes to implement regulatory amendments for commercial and amateur fishing methods on 1 June 2009. All regulatory changes would be carried out by the Ministry of Fisheries. Commercial fishers would be notified of changes via material distributed by FishServe, sent to the New Zealand Seafood Industry Council. Notification would also be posted on the Ministry of Fisheries external website, which would inform commercial and amateur fishers. Fishers would also be notified of the regulatory changes through contact with Ministry of Fisheries Surveillance Officers and Fisheries Operations staff. Enforcement of the proposed options would be achieved through fishers' interactions with Ministry of Fisheries Compliance Staff.

Consultation

- 16 The Ministry of Fisheries received input from affected fishers regarding constraints on undeveloped and existing pot fisheries in May and June 2008. The proposed regulatory amendment options were based on this input. In September 2008, all affected persons will have an opportunity to comment on the proposed regulatory changes. During this time, the Ministry of Fisheries will consult with all persons and organisations considered by the Minister to be representative of those classes of persons having an interest in options authorise potting for species other than rock lobster. This consultation will include (but not be limited to) tangata whenua, commercial and non-commercial fishing sectors, and environmental organisations.
- 17 Once feedback from the above consultation has been reviewed and final advice drafted and considered by the Minister of Fisheries, the Ministry will also seek feedback from relevant government departments.

