Review of Sustainability Measures and Other Management Controls for the 2005–06 (1 October) Fishing Year

Initial Position Paper

30 June 2005

TABLE OF CONTENTS

INTRODUCTION

1 This Initial Position Paper (IPP) provides you with the Ministry of Fisheries' (MFish) initial position on those sustainability measures and other management controls that MFish has confirmed for review for the October 2005–06 fishing year.

2 The IPP has been developed for the purpose of consultation as required under the Fisheries Act 1996. MFish emphasises the views and recommendations outlined in each paper are preliminary and provided as a basis for consultation with stakeholders.

3 The process that is undertaken to develop the initial positions in each paper involves consideration of recent research, analysis of commercial and non-commercial catch data, and any other relevant information. Each paper has regard to the legal obligations required under the Fisheries Act.

4 MFish does not intend to use the IPP, and the consideration of proposals contained within it, to debate its generic statutory interpretations.

5 Much of the information detailed in this paper is drawn from the report from the fishery assessment plenary (the 'plenary report') held in May 2005. Between February and April 2005 Fishery Assessment Working Groups reviewed the available fishery research and catch data for all Quota Management System (QMS) fishstocks and for other important non-QMS species. These scientific working groups involved MFish staff, other research providers, and commercial and non–commercial sector group representatives.

6 The fishery assessments for each species were summarised in draft working group reports, and those with substantive changes from the preceding year were critically reviewed in the meeting of the fishery assessment plenary. The plenary report contains the final agreed working group reports for each species.

7 The individual papers within the IPP present and analyse information with the aim of focusing each paper on fisheries management outcomes. In particular, the body of the advice places an emphasis on analysis and application of the facts to the issues that need to be addressed. Most technical information, including information from stock assessments, has been attached as an Annex.

8 The first section of the IPP outlines proposals for a review of deemed values, including pale ghost shark (GSP). Note the elephant fish (ELE 3 & 5), and snapper (SNA 8) proposals within the fishstock section of the IPP consider deemed value changes to support proposed management outcomes.

9 The second section of the IPP concerns fishstocks for review. For each fishstock there is an outline of the key issues to be considered, rationale for proposed management options and some preliminary recommendations for the management of the stock in the 2005–06 fishing year. Eight fishstocks are reviewed in this document: elephant fish (ELE 3 and 5), flatfish (FLA 1), grey mullet (GMU 1), hake (HAK 7), rig (SPO 1 and 3) and snapper (SNA 8). This section also includes an update on hoki (HOK 1).

10 Section three outlines three proposed regulatory amendments.

11 Section four outlines proposals to amend three conversion factors.

12 In August 2005, MFish will compile the Final Advice Paper. This document summarises MFish and stakeholder views on those issues being reviewed, and provides final advice and recommendations for each issue. Copies of the Final Advice Paper and subsequently the Minister's letter setting out his final decisions will be sent to all nationally represented stakeholder groups, and all other stakeholders who expressed an interest in being consulted on particular proposals, as soon as it becomes available.

Deadline for submissions

13 All written submissions on this consultation document are to be received by MFish by Friday **29 July 2005.**

14 Written submissions should be sent directly to:

Kristin Philbert,
Ministry of Fisheries,
P O Box 1020,
Wellington;

or emailed to kristin.philbert@fish.govt.nz

15 Please note that all submissions are subject to the Official Information Act and can be released, if requested, under the Act. If you have specific reasons for wanting to have your submission withheld, please set out your reasons in the submission. MFish will consider those reasons when making any assessment for the release of submissions if requested under the Official Information Act.

STATUTORY OBLIGATIONS AND POLICY GUIDELINES

Purpose of the Fisheries Act 1996

1 The purpose statement of the 1996 Act describes its overriding objective of providing for the utilisation of fisheries resources while ensuring sustainability. The 1996 Act defines "ensuring sustainability" as to "maintain the potential of fisheries resources to meet the reasonably foreseeable needs of future generations; and avoiding, remedying, or mitigating any adverse effects of fishing on the aquatic environment". Management of a specific stock must be consistent with these dual requirements in order that sustainability of the stock can be ensured.

2 "Utilisation" of fisheries resources is defined as "conserving, using, enhancing, and developing fisheries resources to enable people to provide for their social, economic, and cultural wellbeing." Within the parameters of these sustainability standards, there is a positive obligation to provide for the use of fisheries resources.

3 The extent of management measures required to achieve the purpose of the 1996 Act will produce a continuum of potential outcomes. Utilisation may be provided for at different levels, and the extent of such use should be considered on a case-by-case basis. Where there is a significant threat to the sustainability of a fishstock, the measures adopted to achieve sustainability are likely to be more stringent than where there is a lesser threat.

4 Consideration of social, economic, and cultural wellbeing (in conjunction with other considerations consistent with the purpose and principles of the 1996 Act) may influence how measures to ensure sustainability are implemented. Hence, providing for utilisation while ensuring sustainability may be achieved in different ways, and the objective may be reached over time. Consideration of the purpose of utilisation may be relevant in determining which is the most appropriate approach.

Setting a Total Allowable Catch

5 Below the level of the purpose statement, the 1996 Act contains a number of specific provisions relating to ensuring a stock is managed sustainably. A key measure is the setting of a total allowable catch (TAC) for a QMS stock. The Minister is required to set a TAC for each QMS stock. The 1996 Act contains a number of different options in terms of the intended target level able to be implemented for a QMS stock. All of the options are consistent with the purpose of "ensuring sustainability," but each option provides for a fundamentally different management outcome.

Maximum Sustainable Yield (s 13)

6 Section 13 represents the default management option that is to be applied when setting a TAC for a stock within the QMS, unless that stock qualifies under criteria for management under ss 14 or 14A.

7 Under s 13 there is a requirement to maintain the biomass of a fishstock at a target stock level, being at, or above, a level that can produce the maximum sustainable yield (MSY),

having regard to the interdependence of stocks. MSY is defined, in relation to any fishstock, as being the greatest yield that can be achieved over time while maintaining the stock's productive capacity, having regard to the population dynamics of the stock and any environmental factors that influence the stock. A requirement to maintain stocks at a level that is capable of producing the MSY is generally recognised internationally as being an appropriate fishstock target, although there is some international support for MSY representing a minimum fishstock threshold level.

8 If a stock is currently below the target stock level, there is a requirement pursuant to s 13(2)(b) to set a TAC that will result in the stock being restored to the target stock level (ie, at or above a biomass that will support MSY) and in a way and rate which has regard to the interdependence of stocks and within a period appropriate to the stock, and having regard to the stock's biological characteristics and any environmental conditions affecting the stock. If the stock is above a target stock level, there is a requirement to set a TAC that will result in the stock moving towards the target stock level, or alternatively remain above the target stock level, having regard to the interdependence of stocks (s 13(2)(c)). In determining the way in which, and rate at which, a stock is altered to achieve the target stock level, the Minister is to have regard to such social, cultural, and economic factors as he or she considers relevant (s 13(3)). Section 13(3) makes it explicit that such factors are relevant in the determination of the way and rate of progress to the target level, rather than in the determination of the target stock level itself.

9 There is no set rate, or time frame, within which a rebuild or a "fishing down" of a stock must be achieved. However, the progress of moving towards the target stock level must be suitable to the fishery in question, having also considered those matters specified in s 13 of the 1996 Act. Hence, a TAC should be viewed as a tool for moving a stock towards the target stock level. Other measures may be adopted in conjunction with a change in the TAC. However any additional measures should not be relied on in place of the TAC.

10 Additional flexibility is encompassed within s 13 by the capacity to provide for an in-season adjustment to the TAC for certain stocks. Any TAC that is set or varied has effect on and from the first day of the next fishing year for the stock concerned. An exception applies to those stocks listed on the Second Schedule to the 1996 Act. This Schedule can apply to any stock with a highly variable abundance. For such stocks in years of high abundance, the TAC may be increased in-season, and the Minister may allocate all or part of that increase as Annual Catch Entitlements (ACE) to commercial fishers. At the commencement of the next fishing year the TAC reverts to the level set at the commencement of the previous fishing year. This means that commercial catch levels, not property rights in the form of individual transferable quota, are increased during the fishing year.

11 An in-season TAC increase may be distributed between commercial, customary and recreational fishers, and an allowance made for other sources of mortality to the stock. The increase allocated to commercial fishers does not result in an increase to the TACC during the fishing year.

12 The fundamental objective of an in-season adjustment is to manage a stock at or above the level that can produce MSY. Information about what is the desirable level of the TAC that can produce MSY is available at such a time that a decision is made after the start of the fishing year. However, at the end of the fishing year, the TAC reverts to the level that was applicable at the start of the fishing year.

No Specified Target Stock Level (s 14)

13 Section 14 of the 1996 Act prescribes an exception to the target stock level based on an assessment of the MSY for those stocks where:

a) it is not possible to estimate MSY because of the biological characteristics of the species; or

b) a catch limit for New Zealand has been determined as part of an international agreement; or

c) the stock is managed on a rotational or enhanced basis.

14 For stocks that meet the above criteria, and as a result are listed on the Third Schedule of the 1996 Act, a TAC may be set other than in accordance with the requirements in respect of target stock levels stated in s 13, provided the TAC better achieves the purpose of the 1996 Act.

15 While any TAC must be set in a way that ensures use of the stock is sustainable, there is no requirement to take into account or be guided by the need to manage in accordance with MSY. In contrast to s 13, s 14 provides significant flexibility as to the target stock level set for a stock. The rationale for that flexibility is different for each of the categories of stocks eligible for listing on the Third Schedule.

16 The biological characteristics of some stocks mean that it is not possible or necessary to estimate MSY to ensure the sustainability of the stock. For example, squid is a short-lived species. There is currently no ability to estimate the available abundance either before or within the fishing season. The extent of catch taken from the available biomass will not affect future recruitment or abundance of the species. For this reason, the TACs set for squid stocks have not been significantly changed during the last decade, but the actual catch levels have fluctuated markedly within that time.

17 Under an international agreement, a catch limit for a species may be set and allocated between individual fishing nations, eg, southern bluefin tuna. Typically such international agreements relate to highly migratory species or species that straddle national boundaries. The overall catch limit set for the species must be consistent with international fisheries management law; hence, the catch limit would need to ensure the sustainability of the species. There is no requirement that New Zealand separately manages that portion of the species it is allocated at MSY.

18 The third category relates to those stocks managed on a rotational or enhanced basis. The effect of rotational fishing or fisheries enhancement is that MSY may no longer be the appropriate target level (eg, scallops in area 7 (SCA 7)). Enhancement is designed to increase the level of abundance. While enhancement of the stock may not need to be consistently maintained, the ability to intervene to increase abundance means that the sustainability of the stock can be ensured. The available yield will change over time.

19 Rotational harvesting involves selective harvesting of a portion of the stock. Rotational harvesting is best suited to sedentary species or stocks with established fishing grounds. The yield taken in any one year may not be the MSY available for the stock overall. The ability to successfully manage a stock on a rotational basis may be dependent upon the biological characteristics of the stock.

20 A combination of rotational harvesting and enhancement may result in greater flexibility in setting a TAC that will ensure the sustainability of the stock. Enhancement may enable rotationally harvested areas to be restocked at a level above that which could be naturally produced. Enhancement may also provide an ability to maximise catch from each area as it is rotationally fished. Areas closed to fishing allow both enhanced and wild stocks to contribute to the spawning biomass and reach harvestable size before being subjected to commercial fishing. Area closures may protect sufficient adult stocks to ensure adequate recruitment to the fishery.

21 As with s 13, s 14 provides for an in-season increase to the TAC for stocks listed on the Third Schedule. The purpose of an in-season increase under s 14 is to take advantage of the available yield beyond any pre-determined target stock level. However, the level of the in–season increase must be consistent with the objective of ensuring sustainability of the stock.

22 An in-season TAC increase may be distributed between commercial, customary and recreational fishers, and an allowance made for other sources of mortality to the stock. Additional ACE is generated during the fishing year in respect of the increase in the TAC allocated to commercial fishers. At the close of the fishing year the TAC reverts to the level set at the beginning of that fishing year.

Above Level of Long Term Viability (s 14B)

23 A further exception to setting a TAC in accordance with MSY is the management of a stock under s 14B of the 1996 Act. A TAC is to be set at a level that ensures the stock is maintained above the level that ensures its long-term viability. However, the Minister must be satisfied that the purpose of the 1996 Act would be better achieved by setting a TAC other than in accordance with s 13 (ie, at or above MSY). Maintaining a stock above the level that ensures its long-term viability is consistent with the purpose of the 1996 Act in relation to meeting the reasonably foreseeable needs of future generations.

24 The purpose of s 14B is to enable other related stocks to be fully harvested. The stock in question must be taken primarily as an incidental catch during the taking of one or more other stocks and must constitute only a small proportion of the combined catch taken. The 1996 Act does not prescribe a level that is deemed to be above that which ensures the long-term viability of a stock. That determination is required on a case-by-case basis, subject to the requirement that the TAC must be set at a level no greater than what is required to allow for the taking of another stock in accordance with its own TAC and TACC. Quota owners are required to take all reasonable steps to minimise the catch of the stock managed below the biomass that will support the MSY ($B_{MSY)}$.

25 Section 14B addresses the difficulty of managing stocks within a mixed fishery to B_{MSY} without forgoing some economic return. In some mixed species fisheries the TACs of minor bycatch species limit the ability of fishers to catch their entitlement of the target species and could result in closure of the target fisheries.

26 Section 14A specifies a number of significant tests apply in order to mitigate the risk of managing a stock below B_{MSY}. First, the stock must be able to be maintained above a level that ensures its long-term viability. Secondly, the Minister is required to consider the need to: (1) commission appropriate research to assess the impact of reducing the stock below B_{MSY}; (2) implement measures to improve the quality of information about the stock; (3) close areas to commercial fishing to reduce any sustainability risk to the stock; and

(4) avoid any significant adverse effects on the aquatic environment of which the stock is a component. Hence, the setting of a TAC under s 14B to allow for the taking of another stock may need to be balanced by the closure of areas to fishing to ensure the stock is maintained above a level that ensures its long-term viability. Consideration of significant adverse effects of fishing could have potential implications for the aquatic ecosystem as a result of reducing the biomass of the stock.

27 Consideration also needs to be given to the social, cultural and economic implications of managing a stock below B_{MSY}. The setting of a TAC above the level that ensures the stock's long-term variability must have the support of quota owners who hold 95% of the shares in the stock. Arrangements need to be in place to address the concerns of those quota owners who do not support the setting of a TAC under s 14B. The total benefits of managing the stock at a level other than that permitted under s 13 must outweigh the total costs. Managing the stock in a manner other than s 13 must have no detrimental effects on non-commercial fishing interests in the stock.

28 A final important check and balance when setting a TAC under s 14B is that the Minister for the Environment is required to concur with a proposal to enable a TAC to be set for a stock above the level that ensures it long-term viability.

29 The ability to set a TAC under s 14B is triggered by the submission of a proposal from quota owners to the Minister of Fisheries to manage the stock in this way. An Order in Council (ie, a regulation) must be made specifying the application of s 14B for the named stock.

Other Statutory Obligations Applicable When Setting a TAC

30 When setting a TAC, a number of generic provisions of the 1996 Act need to be taken into account – in particular, the purpose of the Act (s 8), the environmental and information principles (outlined in ss 9 and 10 respectively), factors to be taken into account when setting sustainability measures (s 11), and the application of international obligations and the provisions of the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 (s 5).

Information Principles

31 The nature of the data and assumptions used to generate fisheries assessments and the results produced contain inherent variation and uncertainty. The 1996 Act specifies, in s 10, the information principles to use when information is uncertain. Decisions should be based on the best available information that, in the particular circumstances, is available without incurring unreasonable cost, effort, or time. Decision makers should consider any uncertainty in the information available and be cautious when information is uncertain, unreliable, or inadequate. However, 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 1996 Act.

Environmental Principles

32 The 1996 Act prescribes three environmental principles that the Minister must take into account when exercising powers in relation to utilising fisheries resources and ensuring sustainability. First, associated or dependent species (including non-fish bycatch) should be maintained above a level that ensures their long-term viability. Secondly, biological

diversity of the aquatic environment should be maintained (ie, the variability of living organisms, including diversity within species, between species, and of ecosystems). Lastly, habitat of particular significance for fisheries management should be protected.

33 The 1996 Act defines associated and dependent species as any non-harvested species taken or otherwise affected by the taking of a harvested species. The term "long-term viability" is defined in the 1996 Act as a low risk of collapse of the stock or species, and the stock or species has the potential to recover to a higher biomass level. Long-term viability may be considered in the context of the natural dynamics of populations. At one level the concept implies the need to ensure the continuing existence of species in the sense of maintaining populations in a condition that ensures a particular level of reproductive success. At another level, long-term viability implies an ability to maintain populations at a level that ensures the maintenance of biodiversity. Long-term viability could be achieved at very low levels of population size, depending on associated risks, such as recruitment failure at low population sizes. Long-term viability also needs to be considered with respect to utilisation by different sector groups. Equally, where fishing is affecting the viability of associated and dependent species, there is an obligation to take appropriate measures, such as method restrictions, area closures, and potentially adjustments to the TAC.

34 "Biological diversity" includes the variability among living organisms, including diversity within species, between species, and of ecosystems. The aquatic environment is of broad scope and encompasses:

a) the natural and biological resource comprising any aquatic ecosystem; and

b) all aquatic life and all places where aquatic life exists.

35 The maintenance of biodiversity needs to be considered in the context of the purpose of the 1996 Act that assumes that, where possible, a resource should be used to the extent that sustainability is not compromised. Determination of the extent of fishing or the impacts of fishing that can occur requires an assessment of the risk that fishing might cause a species to become extinct or biodiversity is reduced to an unacceptable level. In the absence of information to undertake a detailed assessment, the information principles specified in the 1996 Act provide guidance for decision makers on the approach to be adopted.

36 Habitat can be defined as "the place or type of area in which an organism naturally occurs" (NZ Biodiversity Strategy). The Magnuson-Stevens Fishery Conservation and Management Act (USA) defines "essential fish habitat" as "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity". The maintenance of healthy fishstocks requires the mitigation of threats to fish habitat. However, the source of the threats may not be confined solely to the activity of fishing. A range of terrestrial activities may impact on fisheries habitats. Habitats that assist in the reproductive and productive process of a fishery, hence are of special significance, should be protected. Adverse effects on such areas are to be avoided, remedied, or mitigated.

International Obligations (s 5(a))

37 There is a range of international obligations that relate to fishing. The two key pieces of international law relating to fishing, and to which New Zealand is a party, are the United Nations Convention on the Law of the Sea, 1982 (UNCLOS) and the United Nations Convention on Biological Diversity 1992 (the Biodiversity Convention). It is MFish's view

that the provisions of the 1996 Act, and the proposed exercise of powers under the legislation are consistent with New Zealand's international obligations.

38 The 1996 Act is to be interpreted, and all persons exercising or performing functions, duties, or powers under the Act are required to act, in a manner consistent with New Zealand's international obligations relating to fishing. As a general principle, where there is a choice in the interpretation of the 1996 Act or the exercise of discretion, the decision maker must choose the option that is consistent with New Zealand's international obligations relating to fishing (s 5(a) of the Act).

39 MFish is involved in a number of initiatives relating to the management of stocks within New Zealand fisheries waters that are consistent with its international obligations. MFish seeks to give effect to those obligations on a generic basis. Application of generic policies, such as the Marine Protected Area Strategy and MFish's Environmental Management Strategy, to the management of specific stocks will follow in due course.

Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 (s 5(b))

40 The 1996 Act is to be interpreted, and all persons exercising or performing functions, duties, or powers under the Act, are required to act in a manner consistent with the provisions of the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 (s 5(b)). This requirement is intended to further the agreements expressed in the Deed of Settlement referred to in the Preamble to the Settlement Act. In particular, Mäori non-commercial fishing rights continue to give rise to Treaty obligations on the Crown.

Additional Factors to be taken into Account (s 11)

41 Before setting or varying any sustainability measure (including a TAC) the following factors must be considered:

a) Any regional policy statement, regional plan, or proposed regional plan under the Resource Management Act 1991 and any management strategy or management plan under the Conservation Act 1987 that apply to the coastal marine area and which the Minister considers to be relevant;

b) Any effects of fishing on the stock and the aquatic environment;

c) Any existing controls that apply to the stock or area concerned;

d) The natural variability of the stock concerned;

e) Any conservation services or fisheries services;

f) Any relevant fisheries plan approved under this Part; and

g) Any decisions not to require conservation services or fisheries services.

42 Consideration also needs to be given to the most effective way of achieving the desired outcome of a sustainability measure. An important factor in supporting the use of non–statutory measures is the degree of support for the measure and the nature of the monitoring and enforcement regime proposed to support the measure.

Analysis of TAC Options

43 An analysis of different potential TAC options is undertaken in respect of each stock where there are viable alternatives. Where more than one statutory TAC option is available (ie, ss 13, 14 or 14A) an assessment of relevant information is provided. An important consideration is the respective trade-offs between different TAC options in terms of potential economic return, information levels (current and future), and sustainability concerns (stock specific and general environmental). The purpose is to indicate the relative weighting assigned to different factors for each TAC option. In most instances only a relatively subjective qualitative assessment can be undertaken.

Allocation of TAC

44 The Minister is required to make allowances for different fishing interests under the Act. The Minister must have regard to the TAC and allow for:

a) customary Mäori;

b) recreational fishers;

c) all other sources of mortality to the stock caused by fishing; and

d) the total allowable commercial catch (TACC).

45 In the absence of other information TACs may be set at levels based on consideration of known or estimated levels of recreational, Mäori customary, and commercial catch and all other sources of fishing related mortality. The information about the catch of each sector group informs the subsequent allocation of the TAC but that, in itself, will not be determinative of that exercise. The Minister makes a separate decision about allocation after setting the TAC.

Factors Determining Allocation

46 The Fisheries Act does not expressly state the manner in which, or the factors to be taken into account, when the Minister allows for non-commercial interests in a fishery and apportions the TAC between stakeholders. The allocation of the TAC is a matter for the Minister's assessment taking into account all relevant considerations.

47 No explicit statutory mechanism provides guidance as to the apportionment of the TAC between sector groups either in terms of a quantitative measure or prioritisation of allocation. MFish considers that a number of provisions in the Fisheries Act provide some guidance on allocation of the TAC between the respective interests to be allowed for.

48 In terms of those considerations to be taken into account, MFish notes that s 8 of the Fisheries Act 1996, in the context of utilisation of fisheries resources, refers explicitly to the Act enabling people to provide for their social, economic, and cultural well-being. Further, s 13(3) states that regard is to be had to such social, economic, and cultural factors as the Minister's considers relevant when considering the way and rate at which a stock is moved towards, or above, a level that can produce the MSY. It is implicit that in considering such factors when setting or varying a TAC in accordance with s 13(3), such

factors are also integral to the decision of apportioning allocation of a stock between stakeholders.

49 MFish considers that those factors which may be relevant to the exercise of the Minister's discretion, in addition to the principles specified in s 5 (international law and Settlement Act obligations), s 8 (purpose statement), s 9 (environmental principles), and s 10 (information principles) of the Act, include:

a) current status of stock;

b) existing allocations;

c) current catch levels;

d) previous decisions;

e) equity of allocation - notion of "shared pain" when stock declines / "shared benefit" when stock rebuilds;

f) participation levels and importance of the resource, including customary values;

g) population trends;

h) assessment of relative value of resource to respective sectors;

i) current and past fishing practices (including overfishing, voluntary shelving or closures by a stakeholder);

j) investment and initiatives undertaken to develop or enhance the resource;

k) impact on ability of sector to take allocation provided ;

l) economic impact of allocative decisions; and

m) social and cultural impact of decisions.

50 Information about the current status of the stock relative to the statutory target level, existing catch levels, existing allowances and catch levels, plus previous decisions may be informative of the actions that need to be taken.

51 The customary fishing regulations do not provide for the Crown to place limitations on customary fishing, apart from ensuring the sustainability of a particular stock. Customary take is regulated through the authorisation system in the customary regulations which require that all customary fishing is to be undertaken in accordance with tikanga and the overall sustainability of the fishery. In determining the extent of customary take, the Minister is required to provide for the input and participation of tangata whenua and is to have particular regard to kaitiakitanga (s 12(1)(b)).

52 Where the TACC, or in the absence of a TAC/TACC then current commercial catch, is reduced for sustainability/conservation purposes there is a direct relationship between managing recreational catch and reducing current catch, and vice versa. From a purely legal perspective there is no obligation to undertake a proportional reduction between recreational

and commercial interests where the TAC (or the current catch level) or an individual stakeholder allocation is reduced for conservation/sustainability purposes. Both law and common sense dictate that where commercial catch is reduced for conservation reasons, reasonable steps should be taken to avoid the reduction being rendered futile through increased recreational fishing.

53 However, subject to this consideration, there is no legal requirement that a decrease or increase in the allocation of the recreational allocation is to result in a corresponding proportional adjustment of commercial catch, and vice versa. MFish notes that the Fisheries Act assigns no priority between commercial and recreational interests. The Act is directed at both commercial and non-commercial fishing. Within that duality the Act permits the preference of one sector to the disadvantage of another; for example to provide for greater allowance for recreational interests in proportion to the commercial allocation. Any reallocation of catch from the commercial fishers to non-commercial may be subject to claims for compensation to commercial fishers under s 308 of the Act, except at the time of introduction.

54 Notwithstanding the Minister's discretion to allocate catch, case law also considers that it is not unreasonable for commercial and recreational fishers to share some of the "pain" from a reduction in the TAC. There is no requirement that the interests of recreational or commercial fishers must be fully provided for. MFish considers in situations where there is an absence of information about the relative benefits (ie, utility) to be derived from allocating a stock to one or other sector then it is equitable for both commercial and recreational fishers to ensure the sustainability of the stock through a reduction in the TACC and recreational allowance (along with the implementation of commensurate measures to effect a reduction in catch - such as bag limit reductions). (The issue of utility is discussed in more detail in the following section.) Equally, commercial and recreational fishers should derive shared benefit from the rebuild of a fishery in terms of the allocation provided to the respective sectors, all other things being equal.

55 Consideration should also be given to the ability of a sector to take the allocation provided. Impediments may exist that preclude the sector from exercising the full extent of its entitlement. Tools are available in the Act that enhance the ability of different sectors to exercise their right to fish. As well as implementing specific measures in support of allocative decisions, caution should be taken to ensure that a decision does not result in a sector being precluded from being able to take the allowance allocated.

56 Logically those parties who are responsible for the enhancement of a resource should receive the benefit of the activity. However, the ability to ascertain the increased yield from a fishery as a result of enhancement activities and hence the extent of the allocation provided to the sector is problematic. The development of a fishery resource involves demonstrating through research and/or monitoring that an increase of catch from existing and new fisheries is sustainable. It is generally assumed that the development will occur as a result of a structured deliberate initiative. Arguably any one sector could seek to develop a fishery. It is arguable that the sector that undertakes the development of a fishery should be entitled to be allocated the benefits of that development.

57 Population trends are reflected in the level of recreational fishing undertaken, both on a national and regional scale. The growth of urban centres, in particular Auckland, has a significant impact on particular fisheries. An allowance for the recreational interest and the corresponding management controls for a stock could take into account existing population

distribution and growth. Hence where a greater recreational demand arises the Minister is not precluded by any proportional rule from providing an increased allowance to the recreational entitlement subject to weighing all competing demands on the TAC (see *New Zealand Fishing Industry Association (Inc) and Ors v Minister of Fisheries and Ors* (CA82/97, 22/7/97) page 18).

58 Certain fisheries are considered to be of particular importance to certain fishers. In considering the extent of the recreational and Mäori customary allowance it is appropriate to consider the nature of the species and the importance of the species to fishers. The value attributed to a resource is not limited solely to economic value but may also include the aesthetic value and non-market value. For example, while snapper is a medium to high value commercial fish species, it is also an important recreational target species. Certain species may be valuable to particular sector groups, for example, charter boats, and may have significance for tourism by contributing to New Zealand's popularity as a tourist destination. The abundance of a species and the availability of particular size fish for a specific stakeholder group may be factors relevant to the Minister's decision.

59 Stakeholders may elect to exercise their fishing rights in a manner, which results in their allocation in a fishery being undercaught. Voluntary closures and shelving of allocation may be undertaken as a means of improving the abundance of a species and the availability of certain sized fish. Such methods may improve recruitment. In the absence of explicit shares in a fishery, any subsequent increase in the TAC as a result of such methods would be available to all stakeholders. Stakeholders are not immune from any subsequent decrease in the TAC for sustainability purposes simply on the basis of the previous undercatch of their allowance.

60 The Act does explicitly recognise underfishing rights of commercial fishers. Where the person holding annual catch entitlement for a stock (not the owner of the ITQ) undercatches the extent of their entitlement, the person may carry forward the extent of the undercatch to the second fishing year up to a maximum of 10% of the total Annual Catch Entitlement (ACE) they held in the first fishing year. The carry forward of underfishing rights does not apply when the TACC is reduced in the second fishing year (s 67A(2)(b)).

61 Setting of the TAC and the manner in which the TAC is allocated may have significant social, cultural, and economic implications for stakeholders and consequential downstream economic activity. In *New Zealand Fishing Industry Association (Inc) and Ors v Minister of Fisheries and Ors* (CA82/97, 22/7/97) it was held that there was a clear obligation to move a stock towards B_{MSY} and when deciding upon the time frame and the ways to achieve that statutory objective the Minister is to consider all relevant social, cultural and economic factors.

62 The Court of Appeal suggested that a careful cost-benefit analysis needs to be undertaken to support a particular decision to reduce the TACC and in respect of a reasonable range of options available to the Minister in moving a fishery toward B_{MSY}. Where a decision with major economic impact is considered necessary the rationale for that decision should be clearly transparent. Those affected ought to be able to establish that all other reasonable possibilities were analysed and that the decision adopted was the preferable option. The general principles noted by the Court of Appeal appear equally applicable to allocative decisions on introduction of a stock into the QMS.

63 The economic factors referred to in s 13(3) need not be confined to matters directly affecting the fishing industry. Wider considerations affecting the national economic interest are capable of being regarded as relevant. MSY can be interpreted as being directed at the national interests as well as sectional interests (see *New Zealand Fishing Industry Association (Inc) and Ors v Minister of Fisheries and Ors* (CA82/97, 22/7/97) p 15).

64 In setting and reducing a TACC consideration is required of the economic impact of any such action on individual quota owners, those fishers dependent on obtaining annual catch entitlement and on the QMS generally. However, the reduction of the current commercial catch or a TACC is not rendered unlawful simply on the basis that the decision adversely impacts the property right inherent in the QMS. In the context of fisheries legislation, a property right constitutes a right to harvest, which is subject to the exercise of the Crown's statutory powers. Accordingly, MFish considers that financial security of a property right is a valid but not irrefutable consideration in the context of the Minster's TAC/allocative decisions.

65 The actual financial costs associated with allocative decisions are to be assessed according to the nature of the fishery. A decline in the commercial allocation may impact on quota and lease price, thus impacting on potential new entrants and existing quota holders and owners. The setting of a TAC, and allocative decisions in a general context, impact on economic investment in terms of upgrading of plant and fleet structure.

66 Downstream impacts may result as a consequence of allocative decisions made in respect of both recreational and commercial stakeholders. In addition to the commercial harvesting and processing sector a significant number of service industries are linked to fishing, including charter operators, sale of fishing gear, repair, and transport related services. Decisions may also impact on particular communities where the fishing and fishing related services provide a significant contribution to a local economy.

67 The impact on individual fishers may be difficult to assess and will be dependent on a range of factors, including the extent of any reduction in catch; the level of debt; the species mix of quota held; and the ability of individual fishers to adapt.

68 It is not entirely clear as to the nature and extent of any cost benefit analysis required to be undertaken in any given situation. A cost benefit analysis may be in the form of an analysis of the economic impact to stakeholders and fishing related sectors of the economy. Equally it could include the factoring of environmental and social costs and benefits. The Court of Appeal stated that when considering any reduction in the TACC the economic impact of that action must be carefully weighed. Later in the same judgment the Court referred to a cost-benefit analysis in the context of implementing a decision of major economic impact.

69 A cost benefit analysis is designed to act as a tool for deriving the most efficient and productive solution. In itself such an analysis is not intended to impose a barrier to implementing measures considered necessary for fisheries management purposes. In many instances MFish is not in possession of the information necessary for a detailed cost benefit analysis to be undertaken. Invariably it is the stakeholders concerned who hold the relevant information. MFish has requested that stakeholders provide relevant information in the course of their submissions on management proposals. MFish considers that in all instances it is impractical and unnecessarily burdensome for the Crown to undertake an exercise for all fisheries. MFish considers that a balance ought to be adopted between the magnitude of

the impact of the proposed decision, the information currently available and information readily obtainable, and the requirement to provide an analysis of the economic implications of the proposed solution.

70 Social impacts may include the affect of decisions on individuals and communities. There is no restriction on the nature of the social factors that may be taken into account. There is no explicit relationship in the Act between those classes of persons having an interest in a stock or the effects of fishing on the aquatic environment and the factors, which the Minister may consider pursuant to s 13(3). The latter may be considered to be significantly wider in scope than the former. Non-extractive uses, social values and expectations, and political imperatives may therefore all constitute relevant considerations in the course of the Minister's decisions as to the setting of TACs and allocation of the TAC between fishing interests.

71 Reference to cultural factors in s 13(3) can be interpreted as encompassing both those provisions of the Act relating to the interests of Mäori and tangata whenua but also cultural practices and values. The precise nature of those practices and values are to be determined by tangata whenua.

Allocation Models

72 The various factors identified above essentially fall within one or other of two key approaches that can be adopted for purposes of allocating the TAC - a claims based allocation and a utility based allocation. For example factors relating to a claims based allocation include existing allocations, current catch levels, equity of allocation, participation levels, and importance of the resource to one or more sectors. Factors relating to a utility based allocation, include population trends, assessment of relative value to respective sectors, investment and level of development or enhancement, ability of sector to take allocation provided, and the social, cultural and economic impact of allocative decisions. An explanation and application of the two approaches are outlined below.

Claims based allocation

73 The term *"Claims based allocations"* describes a situation where allocations are made on the basis of a consideration of the legitimacy of claims to the resource. Generally these claims are based on some form of present or historical association with the resource, giving rise to expectations on the part of fishers (or classes of fishers) with respect to on-going future involvement. The claims based approach does not generally focus on future management opportunities or best value that could be derived from the fishery.

Utility based allocation

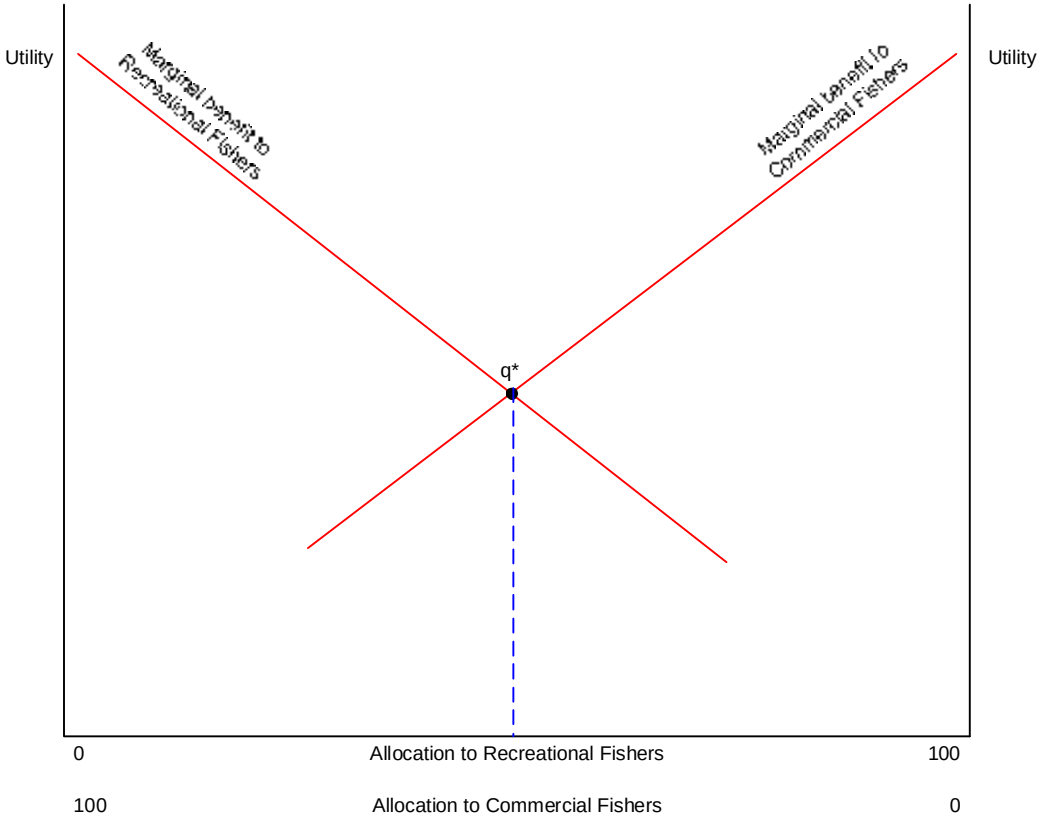
74 The term *"Utility based allocation"* describes a situation where allocations are based on the utility (or quantum of well-being) that would flow from a particular allocation. This method tends to favour allocations to those who value the resource most (downplaying the importance of past associations with the resource). As such it tends to have a focus on the future rather than the past. Within New Zealand fisheries management, the most obvious example of the utility based allocation approach is the on going trading of Individual Transferable Quota that occurs under the QMS.

75 Under the utility based approach it is possible to conceptualise the allocation problem as one of determining the point at which it is not possible to reallocate the resource (amongst recreational and commercial fishers) without reducing the total quantum of utility that would flow from the resource. The concept is illustrated in Figure 1 below with respect to allocations between the commercial and recreational sectors. Assuming a (typical) downward sloping demand curve for both recreational and commercial fishers, the optimal point of allocation is given by q*. For any point to the left of q*, there is benefit in allocating more of the resource to recreational users (as the benefit to recreational fishers of an extra quantum of catch is greater than the benefit to commercial fishers foregone). Similarly, for any point to the right of q*, there is greater benefit in allocating more to commercial fishers.

76 Undertaking this kind of utility comparison is in practice difficult. In particular, comparing the two marginal benefit curves is made problematic by both an absence of information and the lack of a readily available basis for making value comparisons between recreational and commercial fishers.

77 Determining an estimate of marginal benefit to commercial fishers tends to be the most straightforward part of the task. If the fishery is in the Quota Management System, quota values provide a readily available proxy valuation of a kilogram of fish to the commercial sector. If the fishery is not in the QMS, estimates of value can be made by, for example, considering quota value of like fisheries already in the QMS.

Figure 1: Determining the allocation between commercial and recreational fishers



78 However, determining an estimate of the value of a fishery to recreational fishers is, in contrast, much more difficult. There are no readily available indicators of value, at least not of a form that would allow a comparison between recreational and commercial fishers. (Note while indicators such as the number of recreational fishers or their expenditure on recreational fishing may provide some preliminary insights in this area, they do not provide a suitable basis for value comparison).

79 In response to this problem, non-market valuation techniques are sometimes brought to bear. Non-market valuation techniques use surveys or observations of behaviour coupled with sophisticated analytical methods to develop estimates of value sufficient to provide a basis for comparison with the value estimates available for the commercial fisheries. Analytical techniques of this type, however, and the results they generate need to be treated with a degree of caution. For example, survey respondents may seek to bias the results so as to produce outcomes in their favour (e.g. the allocation of a greater share of a fishery to recreational users).

80 Note, the figure above reflects a *static* approach to the allocation problem in the sense that it provides an estimate of optimal allocation at a single point in time. However, in reality the optimal allocation point will change over time in response to changing social, cultural and economic factors. A *dynamic* allocation framework would automatically respond to those changing factors with continual reallocations - in the same way as quota and ACE are

continually reallocated amongst commercial fishers via quota and ACE trades. A feature of an efficient dynamic allocation system (such as the on-going reallocation of quota) is the absence of any decision maker intervening to make allocation decisions on behalf of individuals. Changes in allocation reflect choices made by individuals, who are able to make independent decisions about use of the resource with a greater sense of certainty.

81 In order for a dynamic allocation system to operate effectively a single tradable right is essential. All participants would have the same type of right and make their own decisions about their involvement in a fishery (reflecting the utility consequences of the options available to them). However, there is no single right that is common across all sectors involved in NZ fisheries. As a consequence, the Government, by default, makes the decision for all sectors. In the future there is the potential that fisheries plans can provide a framework within which stakeholders can make their own collective decisions about allocation of a resource.

82 Currently there is an absence of a suitable dynamic allocation framework and only limited information on utility is available to decision makers to assist with allocation matters. At best, techniques such as the non-market valuation methods mentioned above can only suggest whether reallocation might be considered on utility grounds by indicating a utility benefit from reallocation away from the status quo. However, there may be no assessment of the extent of the re-allocation required to achieve the optimal allocation point. Furthermore, the insights provided by the non-market valuation work can become outdated in the period between the survey work being undertaken and the time at which the allocation decision is to be made. The potential for information to become outdated is not unique to non-market valuation surveys. The same can be said for stock assessments.

83 The decision maker (Government) is required to make an estimate of the optimal allocation point based on imperfect information. In this situation, allocations by Government will inevitably be sub-optimal and result in dissatisfaction from (at least some) stakeholders. Furthermore, commercial fishers could not plan with any degree of certainty in the face of an ongoing opportunity for Government intervention on allocation decisions. The use of thresholds could be developed in order to assess priority for reassessment and define trigger points or decision rules as to when decision makers should consider reallocation within a fishery. While the use of such thresholds and trigger points may remove some degree of the uncertainty about Government intervention, such a system still does not allow individuals to give effect to their own assessment about the value of the resource.

Other Management Controls

84 The TAC is invariably supported by a number of management controls that collectively ensure the sustainability of the stock and provide for utilisation within accepted limits. The 1996 Act explicitly provides for the setting of sustainability measures relating to size limits, biological state, fishing seasons, methods restrictions, closed areas, plus measures such as overfishing thresholds and bag limits.

Regulatory framework

85 The intent of the QMS is to provide a broad management framework that provides the opportunity to maximise efficient utilisation of fishing resources while ensuring sustainability. The introduction of a species into the QMS requires that a TAC and other

management controls are set in order to ensure overall sustainability of the species. Certain controls in place for these species will no longer be required following implementation of QMS management measures.

Adaptive management framework

86 Section 8 states that the purpose of the Fisheries Act 1996 is to provide for the utilisation of fisheries resources while ensuring sustainability. Determining an appropriate level of use consistent with the purpose statement essentially involves an assessment of the risk to ensuring sustainability associated with providing the level of use necessary to enable people to provide for their social, cultural and economic wellbeing.

87 MFish recognise that there are a large number of fisheries where comprehensive and or detailed stock assessment information producing sustainable yield estimates are not available. However, this lack of assessment information should not of itself preclude consideration of adjustment to TACs in these fisheries.

88 The concept of adaptive management is a way of enabling the Crown's management obligations to be achieved and risk to be managed within accepted parameters. Adaptive management is a recognised fisheries management tool worldwide. It is a way of testing new techniques, approaches and management measures. Adaptive management may relate to assessment methods, forms of information collected, fishing methods and practices, and catch levels on a quantum, spatial, and temporal scale.

89 Two management frameworks have been developed within the overall concept of adaptive management. These are:

- The adaptive management programme; and
- The low knowledge framework.

90 The two frameworks have been developed in response to, and are intended to manage, a particular management scenario within the concept of adaptive management. Both are designed to provide an increase to the existing TAC, but in a way that best meets the characteristics of the fishery, the desired management outcomes for the fishery, and the purpose and principles of the Act.

91 Table 1 provides a description of the critical elements of each framework.

Table 1: Comparison of Aims, Requirements and Outcomes of AMP and LK Bycatch Programs

	AMP	LK
Goal	• To increase TAC/TACC where information is limited to enable development.	• To ensure that TACs are set at a level considered commensurate with risk to the stock
Aim	• Development & exploration of new fishing grounds • Development of existing fishery	• Opportunity for reassessment of TACs in fisheries where TACCs are constraining utilisation and the risk of an increase is low (based on assessment of biology and available information i.e. low value bycatch stocks).
Stock Suitability	• All stocks	• Fisheries where risk of the increase is low and additional monitoring required under the AMP not necessary or unlikely to improve info on the fishery
Management	• Decision rule criteria • Reporting requirements • Stock assessment (ideal outcome)	• Decision rule criteria
Monitoring Requirements	• Stakeholder supported monitoring program • Two/three year review	• Decision rule based on catch information
Program Review	• 5 years	• 3 years if TAC undercaught
Outcome	• Stock assessment possible • TAC reviewed in light of results of monitoring program	• No SA • TAC reviewed in light of catch records only

92 The suitability of a particular framework to a fishery will depend on the nature and extent of the risk involved. If the risk to management objectives (ie ensuring sustainability) can be mitigated by the development of a stakeholder driven research/information programme then a TAC increase may be considered in that fishery under the adaptive management programme (or a fisheries plan). Alternatively if the risk can be effectively addressed having regard to existing information then a TAC increase may be possible under the low knowledge framework.

93 MFish would anticipate that development opportunities would generally be considered under the AMP. A request for development would suggest that a market is developed or developing for a stock and therefore there is interest in increasing current catch levels. In such circumstances incentives would exist for fishers to act collectively to obtain

information to support an increase in catch levels. The AMP framework provides a cost effective way of obtaining that information.

94 The low knowledge framework is suitable for stocks where risk is low, value is likely to be low, cost of research to improve information is high or not cost effective. Fisheries suitable for management under low knowledge are likely to be low value bycatch stocks within a mixed species fishery where the suite of existing TACs may require adjustment to more adequately reflect current catch ratios. A change in current abundance of one or more stocks in a mixed species fishery as a result of fishing pressure or environmental factors may mean that catch levels need to be altered. In the absence of any identifiable sustainability risk, there is the potential that such TAC adjustment could occur under the low knowledge framework.

95 A more detailed description of each framework is outlined below

Adaptive Management Programme Framework

96 Two of the fishstocks under review in this paper (SPO 3, TAR 1) are considered in the context of the Adaptive Management Programme (AMP) framework. The following is a discussion of the rationale, context, criteria and on-going management under this framework.

97 The AMP was introduced in 1991 as a basis for varying the TACC levels of fishstocks for which MFish has limited information on stock size. The programme has been developed to ensure that in taking decisions where information is limited, the Minister of Fisheries does not breach his statutory obligations to ensure stock sustainability.

98 This is achieved by defining the period for the TACC increase and providing rigorous reporting requirements and stock assessment, monitoring and decision rule criteria, which are regularly evaluated. Meanwhile, the AMP provides additional monitoring and analyses to improve the assessment of stock status and estimates of sustainable yield for those fishstocks.

99 MFish's view is that the Minister could proceed with TAC and TACC changes provided he or she is satisfied, after taking into account the purpose and principles and other relevant considerations specified in the Act, that available information and analyses suggest that:

a) there is a reasonable probability that current biomass is greater than the size that will support the MSY; and

b) on balance the new TACC and TAC level are likely to allow the stock to move towards a size that will support the MSY, or remain at or above the level that will support the MSY over the five-year period of the programme.

100 In order to mitigate risk of any increase the AMP framework provides:

a) checks and balances to ensure statutory obligations for stock sustainability are satisfied, by use of:

b) monitoring programmes that are likely to detect changes in stock abundance;

c) regular reviews of progress with the AMP and its on-going ability to continue satisfying critical AMP criteria (eg, fishery assessment criteria);

d) clear guidelines on intended management action through application of pre-defined decision rules with quantitative 'triggers';

e) consistent and appropriate management actions across fisheries;

f) an onus on industry to either fulfil their commitments or face a reversal of the TACC increase;

g) an incentive for industry to implement initiatives to improve the fishery assessment for a fishery at relatively low cost; and

h) for optimisation of opportunities for the stock assessment to be improved at the end of the programme.

101 The AMP framework contains a set of guidelines detailing:

a) the content of new AMP proposals (for either new or existing fisheries);

b) the fishery assessment, monitoring, and decision rule criteria applicable to new proposals;

c) the fishery assessment, monitoring, and decision rule criteria applicable to current AMP fishstocks; and

d) the annual and final evaluation process for fishstocks currently managed under the AMP programme (a final evaluation occurs at the end of five years).

102 A revised AMP framework was completed in December 2000. The revised framework creates two distinct tiers of management designed to enable fishers to explore new areas or fishing grounds for potential development, or to develop existing/established fisheries.

103 The purpose of the AMP for new/exploratory fisheries is to assist with the location of previously unknown stocks or further definition of known but currently unexploited stocks. A proposal should set out a fishing programme that will achieve that outcome. For example a stratified fishing programme with catch and effort limits by area will assist with developing knowledge about the potential distribution of a stock and minimise the risk of a stock being depleted before adequate information is obtained.

104 An existing/established fishery is a fishery, other than a new fishery, for which there is currently no estimate of stock size relative to the biomass level that will produce the MSY or estimate of sustainable yield available. Within this second category there will be a range of different fisheries at different levels of development and with different levels of information available or potentially obtainable from the fishery.

105 The revised framework provides for the opportunity for amendments/refinements to be made to the nature of information collected, the monitoring requirements, and the decision rules for an individual stock as part of the evaluation and review process. There is also the ability for the level of the TAC/TACC to be varied within the five-year term of the AMP. The review process will allow fisheries managers to respond to new information or changes in circumstances that impact on the level at which the TAC/TACC is set.

106 The AMP framework is primarily about providing industry with an opportunity to develop a stock. However, AMP proposals are required to identify other participants in the fishery, the potential impacts of the proposal on other fishers, and indicate possible measures to mitigate such impacts. Ideally proponents should consult with other participants in the

fishery to ascertain the nature of their interests and how those interests can be taken into account.

107 It is important that proposals for management of a stock under AMP have endorsement of sufficient quota owners to ensure that the proposed programme is successfully undertaken. Use of the TAC/TACC to provide access does place the onus on fishers to work cooperatively to ensure the requirements of the AMP are met. No threshold level of participation is required. However, in putting forward a proposal with all its functional elements industry is signalling that it has accepted responsibility for carrying out those functions. Codes of practice and different monitoring strategies are often a key component of a proposal. However, in order that the Minister can place reliance on such elements of an AMP, fishers need provide to information outlining what underpins the proposals put forward in terms of agreements entered into by fishers and the level of support for those agreements. It is important to have that support in place before the AMP is approved – the ability to get support for different aspects of the AMP after the fishery has commenced, and after fishers have received additional quota and after quota and ACE has been traded is problematic. The new ACE regime imposes a new kind of demand on industry – it needs to be clear that both ITQ owners and ACE fishers support the proposal. The onus is on quota owners to obtain the agreement of ACE fishers before fishing occurs and as a condition of any sale of ACE.

108 Participants in AMP fisheries are requested to provide information in submissions about the nature of agreements entered into to support undertakings given as part of the AMP for each stock and about the level of support for complying with those undertakings from quota owners (both in terms of percentage of fishers and percentage of tonnage of fishstock). Participants should also identify what measures are being proposed to ensure that ACE fishers will comply with the AMP. MFish requests that information on these matters is provided by industry for all AMP stocks, including both existing AMP stocks and the new AMP proposals being considered this year.

109 The revised AMP framework seeks to obtain information about and monitor both the specific AMP fishstock and the effects on the aquatic environment from fishing for that fishstock consistent with the obligations contained in the Fisheries Act. The monitoring programme and decision rules for a fishstock may need to take into account the effects of fishing. The evaluation process for stocks currently managed under the AMP includes an assessment of the effects of fishing for each AMP fishstock. MFish has established a joint AMP fisheries assessment/aquatic environment working group to consider all facets relating to new AMP proposals and the performance of existing AMP stocks.

110 A further element of the revised AMP framework is the basis for managing a fishstock at the conclusion of management under the AMP. MFish considers that in the absence of an assessment of the status of a stock relative to the biomass that can produce the MSY it is still possible to manage a fishery sustainably. The ability to retain an increase to the TAC/TACC beyond the time frame of management within the AMP framework would be subject to on going monitoring of changes in stock status and to a determination that the catch level is sustainable. A stock may successfully complete an initial period within the AMP framework but without providing estimates of stock size of sustainable yield. In such instances the stock could be managed outside the AMP. Stakeholders would need to continue to collect the same level of information as undertaken under the AMP as part of a long-term management plan, to justify retention of the TAC/TACC increase.

Low knowledge Framework

Rationale for framework

111 Adaptive management provides the opportunity for increases to TACs where information is limited (no stock assessment is available). Historically TAC increases under the AMP have been limited to species where monitoring is likely to provide beneficial information on the stock which would eventually lead to a stock assessment. However, for a number of stocks the characteristics of the fishery (bycatch, size of increase) may make monitoring impractical or not cost effective. In some of these fisheries the risk to legislative obligations resulting from a TAC increase may be low. Utilisation of a stock may be unnecessarily restricted if the TAC for a stock cannot be increased, where risk of that increase is low, because the stock cannot meet the requirements of the AMP.

Low Knowledge framework context

112 Currently there are a number of low knowledge bycatch fishstocks where the TAC has been exceeded for a number of years. In the majority of cases there is little or no stock assessment information for these stocks but no known sustainability concerns. The TACs for these stocks have been set at historic catch level because there was little or no information available on which to determine sustainable yields prior to introduction to the QMS. In addition, catch reporting in the non-QMS environment has been historically poor, particularly for low value bycatch species, which has meant that catch limits set on historical catch at the time of introduction are often lower than catch levels in the fishery.

113 In recognition of this problem, in some fisheries (i.e those introduced into the QMS in 1998) MFish has operated a more lenient deemed value regime that has enabled fishers to land catch in excess of their available ACE/quota but not face excessive deemed value payments. In addition, fishers have also utilised the bycatch trade off scheme to manage their overcatch. The bycatch trade off scheme ceased operation from 1 October 2001 with introduction of ACE and the revised balancing regime contained in the Fisheries Act 1996.

114 The new balancing regime has placed increased focus on the TACs for a number of bycatch stocks because fishers will face increased penalties associated with the level of overcatch.

Low knowledge assessment criteria

115 Stocks are assessed against the following criteria to determine their suitability for assessment for TAC adjustment under the low knowledge framework:

- Stocks are managed under s 13 of the Act;
- There is no stock assessment information available to determine an appropriate sustainable yield for the stock;
- There are no known sustainability concerns. Information on catch relative to anecdotal information on abundance or the biology of species would suggest that the stock is likely to be close to virgin biomass or above B_{MSY} (or some proxy);
- Catch has exceeded the TACC by 20% or more for at least the last three fishing years; and
- There has been no TACC increase for the stock for at least three years as a result of review of management controls.

116 MFish recognizes that the over catch criteria may be an issue following implementation of 1996 Act balancing regime in 2001. However, if the criteria are widened to allow increases after a shorter period of overcatch the risk of environmental perturbations, short term changes in effort or market conditions driving adjustment to TACs; and incentivising fishers to overcatch is heightened.

117 If a TAC is misaligned with other fisheries or abundance has increased, and fishers are not dumping, then overcatch will continue until behaviour of fishers changes or the TAC is altered. Considering adjustment to the TACC after three years of overcatch will further create incentive for fishers not to dump.

Balancing risk

118 Management under s 13 imposes a level of risk due to the requirement to manage at or above B_{MSY} when considering TAC options in the absence of information on status of current biomass relative to target levels. For all stocks proposed for consideration under this framework there is no information on B_{MSY}. Information on current biomass is also likely to be absent or highly uncertain. This lack of information makes assessment of risk to the stock of any increase to catch limits difficult. However, the level of risk to the stock must be balanced against the available information, in particular, consideration of the biology of stock, suitable habitat in the management area and the effect of historical fishing activity.

119 In the absence of information to suggest sustainability concerns or potential increased impact on the aquatic environment MFish believes that consideration should be given to utilization opportunity. Development of the options for alternative levels of utilisation will have regard to the dual purpose of the Act, to provide for utilization whilst ensuring sustainability. Caution is justified in the absence of information, but caution should be balanced against the possible risk to the stock and the environmental impacts.

120 The extent of utilisation provided for needs to be assessed on a stock by stock basis having regard to risk based on the following factors:

- Information on sustainability risk to the stock;
- Biology of the stock, including potential for localised depletion;
- Information on historical catch (ie if the stock has been lightly fished and biomass is likely to be close to virgin or at least above B_{MSY});
- Likely impacts of fishing on the aquatic environment;
- Socio-economic and cultural issues; and
- Anecdotal information on abundance, including consideration of the size of suitable habitat in the management area.

121 When this analysis is linked to ongoing monitoring proposed under this framework, assessment of TACs in the manner proposed under s 13 is consistent with the Minister's legislative obligations.

Ongoing management under this framework

122 Stocks that have their TACs are adjusted under this framework would be subject to a decision rule which would require reassessment of the TAC if catch was markedly below the TAC/TACC for three years. Reassessment would involve investigation into the reason for the undercatch and possibly include consideration of CPUE information if this was appropriate for the species and fishing method. If it was apparent that decline in catch was not the result of fishery independent factors (ie marketing) then MFish would propose a reduction to a lower level (to be determined after assessment of available information) or, having regard to risk to the stock, agreement to maintain the current TAC in return for industry agreeing that further monitoring or research be undertaken.

123 Stocks that have had their TACs altered under this framework could not be reconsidered for a TAC increase under the framework for three years. Although this does not preclude additional increases if the fishery entered the AMP programme, or a fisheries plan is developed which incorporates additional reporting and information gathering requirements similar to those required under the AMP.

124 MFish propose that stocks whose TACs are adjusted under this programme have their deemed value reassessed to ensure that they act as an appropriate disincentive to overcatch of the revised TACC.