

option4 Draft Rebuttal of Kahawai Initial Position Paper 2004

Part One of Five

When a species is introduced into the Quota Management System (QMS) the Ministry of Fisheries issues its suggested management proposals to the Minister in an Initial Position Paper (IPP). The Minister uses this information to base his final decision on when setting the TACC and allowing for the public and customary Maori fishers.

option4 have major concerns with much of the information provided in the IPP. Also of concern is the Ministry's position in having presented the Minister with only one option for the future management of this most important species. We have spent time going through the document section by section so you can understand our concerns.

The document has been split into manageable sections so you can quickly come to grips with the issues option4 has identified as being of note.

February 2004.

Key: black text = IPP statement; **blue text** = option4 draft statement;

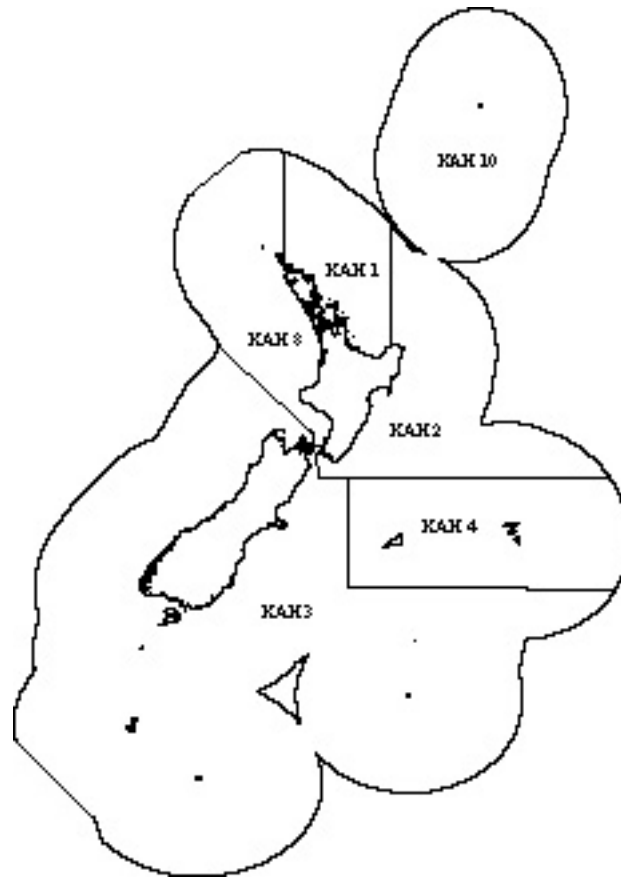
KAHAWAI (KAH)

Part One

Introduction into the QMS

- 1 Kahawai (*Arripis trutta* and *A. xylabion*) has been gazetted for introduction into the QMS on 1 October 2004. The Quota Management Areas (QMAs) for kahawai are outlined in Figure 1. The fishing year for kahawai will be from 1 October to 30 September in the following year and the total allowable commercial catch (TACC) and annual catch entitlement (ACE) are to be expressed in terms of kilograms greenweight.

Figure 1: Quota Management Areas for kahawai



Key Issues to be considered

2. MFish considers the key issues that relate to the decisions for setting sustainability measures for kahawai stocks are as follows:
 - a) There are two species of kahawai present in New Zealand waters, kahawai and northern kahawai. A stock assessment applies to kahawai and there is very little information available for the other species.
 - b) Kahawai biomass had declined to about 50% of the virgin biomass at the time of the assessment in 1996, however the current biomass is unknown. Nationwide combined estimates of recreational catch, customary catch and reported commercial landings are currently just within the range of MCY estimates based on the 1996 stock assessment.
 - c) Background information on catch by sector and method is outlined in Annex One. While primarily a purse seine fishery in QMAs 1, 2 and 3, kahawai is almost entirely taken as bycatch in QMA 8. Commercial catch limits (CCLs) apply to kahawai, with specific limits pertaining to purse seining.
 - d) Since the imposition of CCLs catches, although fluctuating, have progressively declined principally in QMA 3. Declining catch in QMA 3 is associated with reduced purse seining in this area.
 - e) Recreational catch is about 83% of commercial landings as estimated by recreational harvest surveys. Kahawai is one of the fish species most frequently caught by recreational fishers.

- f) The recreational sector believes that the number of kahawai available to them and the average size of kahawai has decreased over time.
- g) Kahawai supports important Maori customary fisheries but the size of the catch is unknown.

option4 comments on point d) –

1. Refer [Annex 3](#)- Feldman report p3 –“ For years now the purse-seine vessels have been unable to catch their limit in KAH3. With two boats operating in KAH3 the purse-seiners were able to catch up to 5000 tonnes per year in the late 1980’s. From 1991-92, 92-93, 93-94 and 94-95 these same two boats were unable to catch their limit at any time. This suggests their CPUE is 1/2 to 1/3 of what it used to be in the late 1980’s.

If purse-seiners, guided by airplanes, cannot land kahawai in KAH3, it’s easy to understand why recreational fishers feel they can no longer catch kahawai either. Given that it is much easier to catch kahawai with an airplane and purse siener, its reasonable to assume the recreational CPUE in KAH3 must have declined concurrently to less than 1/3 of what it used to be in the 1980’s.”

2. option4 is concerned the above list of “key issues that relate to the decisions for setting sustainability measures for kahawai stocks” does not include the need for good information. If, for any reason, the information available to base decisions on lacks adequacy or agreement, this should be stated up front as a key issue. We are appalled at the absence of sound information regarding non commercial catches in a fishery of such national importance and where the non commercial sector has expressed grave concerns for at least 20 years.

Read on and realise what sketchy information the Minister is expected to base his decisions on for this, the most important national non commercial species in our seas.

List of Management Options

- 3. MFish proposes that the s 13 management arrangements are appropriate for kahawai. [Agree with Section 13 management.](#)
- 4. MFish proposes one option for setting TACS, TACC’s and allowances for kahawai stocks as outlined below.

Why present the Minister with only one option for this species which has been the subject of public concern for at least 20 years?

We would prefer to see this sentence written as follows:

“MFish proposes one option for setting TAC’S, TACC’s and **proposes to allow for non commercial fishers** as outlined below”.

As far as we are concerned the Minister does not make allocations for non commercial fishers. Section 21 of the 1996 Fisheries Act is quite clear “When setting a TACC the Minister **shall allow for** non commercial fishers”. Nowhere in the Act does it say “**set an allocation or allowance.**” **How long do we have to put up with this blatantly inaccurate interpretation of the law?**

Please also be very aware that the tonnages outlined are all derived from completely different base line information. In the case of recreational they base their recommendation on a crude averaging exercise. For Customary they grab a figure out of thin air based on some criteria established with little or no public discussion and the commercial figures are political. As for other sources of mortality – the truth is they have not got a clue what this should be.

Table 1: Proposed TAC’s, TACC’s, and allowances for kahawai (tonnes greenweight).

Stock	TAC	Customary allowance	Recreational allowance	Other sources of mortality	TACC
KAH 1	3 910	790	1 580	60	1 480
KAH 2	1 510	255	510	35	710
KAH 3	960	150	300	20	490
KAH 4	18	3	5	0	10
KAH 8	1 210	190	380	5	635
KAH 10	18	3	5	0	10

5. Additional management controls proposed include:
 - a. setting deemed values and application of differential deemed values;
 - b. amending reporting regulations, and
 - c. revoking certain fishing permit conditions. These conditions are redundant as they relate to the closing of the purse seine fishery once purse seine limits for kahawai have been reached.

NZRFC and NZBGFC both have long standing policies that kahawai should be managed as a non commercial fishery only. This makes good sense because developing the kahawai commercial fishery has lead to a massive decline in non commercial catch rates and also adversely impacted on the size of fish available to those fishers.

The Fisheries Act stipulates that those fishing commercially are not permitted to adversely impact on the existing rights of other users of the fishery. This part of the Fisheries Act has been grossly ignored when applied to the kahawai fishery. The public have been disenfranchised from their fishery through the Ministry’s preference to ignore the rights of the people and fully support the development of the purse seine kahawai fishery.

We are appalled that the Ministry has only seen fit to include catch histories from 1993 to 2002 in its tables. Had the tables presented shown catches as far back as possible it would have made the IPP document more honest and it would be easier for the Minister to see what has happened in this fishery.

The logic of the Ministry in this case is difficult to understand when one considers the value of recreationally caught kahawai at \$28,000 - 56,000 per tonne compared to the pitiful commercial value of \$1700 - \$5100 per tonne. One eleventh to one sixteenth of the value of non commercially caught kahawai.

Kahawai is a low value commercial species that could be released alive from longliners or purse seiners. Placing kahawai on the 6th Schedule would allow the commercial fisher the option of releasing fish, otherwise every kahawai caught must be kept.

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KAHAWAI (KAH)

Part Two

TAC's

TAC management strategy

6. Section 13 of the Act represents the default management option that is to be applied when setting a TAC for a QMS stock, unless the stock size is considered highly variable from year to year or it qualifies for management under the criteria outlined in s 14 or s 14A of the 1996 Act. MFish does not consider that kahawai stock sizes are highly variable from year to year. In order for a stock to be added to the Third Schedule under the provisions of s 14, the biological characteristics of the species must prevent the estimation of B_{MSY} , the catch limit for any of the stock must form part of an international agreement, or the stock must be managed on a rotational or enhanced basis. Kahawai does not meet any of these criteria. Section 14A enables the Minister to set a TAC that maintains the stock at a level that ensures its long-term viability, while other inter-related stocks can be taken at TAC and TACC levels based on B_{MSY} . MFish does not consider that section 14A is applicable to kahawai fisheries because:
 - there is no associated species that requires commercial fishing to that level;
 - there would be detrimental effects on non-commercial fishing interests;
and
 - of the potential for adverse ecosystem effects.
7. MFish believes that the s 13 management arrangements are appropriate for kahawai. Under s 13 there is a requirement to maintain a fishstock at a target stock level, being at, or above, a level that can produce the 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.

option4 note : STATUTORY OBLIGATIONS

MFish should also note that Section 13(3) requires the Minister to have regard to such social, cultural and economic factors as he or she considers relevant when moving towards a level at or above the Maximum Sustainable Yield (MSY).

8. As outlined in the Statutory Obligations and Policy Guidelines section, there are guidelines for setting TAC's for new species. Among the more important considerations for kahawai are the level of current utilisation, existing stock assessment information, the current commercial purse seine limits, the biological and fishery characteristics of the stock, implications for interdependent stocks, and whether the target level for the TAC can provide benefits that will improve utility from the available harvest. An overlying consideration is the importance of kahawai as a shared fishery between commercial and non-commercial fishing interests.

How can the Ministry purport above "*An overlying consideration is the importance of kahawai as a shared fishery between commercial and non-commercial fishing interests*" and then completely ignore the massive CPUE decline suffered by non commercial fishers due to the development and ongoing impact of the purse seine fishery?

Why have they failed to register as an important consideration the brutal fishdown of the stock by commercial fishers?

Rationale for proposed TAC's

9. Policy guidelines have constructed an hierarchal approach in respect of the information for setting TAC's and hence the weighting to be assigned to that information. Stock assessment information is afforded greater weight than a non-QMS catch limit set for the stock. A CCL may be afforded greater weight than information about historical and current catch levels.
10. Estimates of virgin and 1996 biomasses, and an estimate of maximum constant yield (MCY) for a single nationwide kahawai stock are available. MCY and its relevance to the setting of TAC's are discussed in the Report from the Fishery Assessment Plenary¹.
11. A discussion of the stock assessment model for kahawai is provided in the Fisheries Assessment section in Annex Two. Given the history of exploitation, the kahawai stock is not likely to be at or near its virgin biomass (B_0). Modelling suggests that the fishery was at approximately 50% of B_0 in 1996.

¹ Guide to Biological Reference Points for the 2002-2003 Fisheries assessment Meetings in Report from the Fishery Assessment Plenary, May 2003: stock assessments and yield estimates Part 1: Albacore to Ling. . J Annala et al Comps and eds

The above figure is highly uncertain and dependant on many assumptions made for this species.

The introduction of purse seine limits has been effective in limiting commercial catches since 1993-94 and the biomass may have stabilised since that time.

The purse seine catch limit has not been reached for at least the last three years.

However, trends in non-commercial catch during this period are unknown. Recreational catch is a significant proportion of the fishery.

Remember, the public can only catch a kahawai if it is available to be caught. The massive overfishing by the purse seiners in 1989 -1993 denied the public the opportunity to ever have an accurate estimate of non commercial catch as by the time these estimates were taken our catch was a shadow of its former glory.

12. There is uncertainty about the level of current biomass levels and the applicability, for setting current yields, of using the 1996 stock assessment. This is because the assessment is not only uncertain but also some seven years out of date.

We find it incomprehensible that such a vastly important national non commercial fishery should enter the QMS and be allocated to commercial interests based on such uncertain stock assessments and catch records. Surely the biggest problem is there is no reliable index of relative abundance for kahawai. Because of this, even a brand new stock assessment will still be highly uncertain. It is widely accepted by stock assessment scientists that decreasing fork length, declining CPUE for commercial vessels and poor recreational catch rates are the early signs of a declining fishery. We believe that all these factors now apply to kahawai. (Annex 3 p3).

13. For the 1990-91 fishing year, the Minister agreed that a total commercial catch limit should be 6 500 tonnes

Why? MFish should explain why it was felt necessary to limit the commercial catch. It was because of the rapid increase in commercial catch and the perception from recreational and customary fishers that one of the last abundant inshore fish stock was being hammered (fished unsustainably) and non-commercial fishers were finding their catch rates had declined significantly.

(based on a value derived from a compromise between the average commercial landings for 1983-86 of 5 000 tonnes and the average commercial landings for 1986-89 of 8 500 tonnes) with 650 tonnes of this total set aside for Maori. As an interim measure until introduction of kahawai into the QMS, the Minister decided to set specific limits pertaining only to purse seining. Commercial catch limits (CCL) were set by dividing the 5 850 tonne catch limit amongst the FMAs in proportion to the average purse seine landings relative to the

other commercial fishing method landings reported during the period 1987-89: 1 666 tonnes for FMA 1, 851 tonnes for FMA 2, 2 339 tonnes for FMAs 3-8 and 0 tonnes for FMA 9.

14. While national catches decreased during 1991-92, landings in FMA 1 increased and for 1993-94 the competitive catch limit for purse seining in FMA 1 was reduced from 1 666 tonnes to 1 200 tonnes and any purse seine catches reported for FMA 9 were included in this catch limit.

Why? It is important for MFish to acknowledge that there was so much public concern over the continued decline in kahawai that the Minister felt that a further reduction in the purse seine limits were necessary at that time.

No changes have been made to the purse seine limit of 851 tonnes for FMA 2. The purse seine catch limit for FMAs 3-8 was reduced from 2 339 to 1 500 tonnes from 1995-96.

Again Why?

15. MFish does not support using the current CCLs as a basis for setting TAC's. This is because the CCLs pertain only to purse seining, have no stock assessment as their basis, and are based on landings data.

We agree that the CCL should not be rolled over into quota and so perpetuate management measures of the past. Exactly the same could be said of the TAC proposed by MFish in this paper "*have no stock assessment as their basis, and are based on landings data.*"

16. In the instance of a commercial fishery that is stable, but variable, guidelines suggest criteria to set catch limits on the basis of either the current commercial catch or on average catches when landings have been stable in excess of three years. Commercial landings of kahawai declined between 1988 and 1998 and have stabilised thereafter, particularly in the important management areas QMA 1 and QMA 2. Accordingly, the proposed TAC's have been calculated using average commercial landings for the period between 1997 and 2002 as MFish considers this relatively stable period provides the best available information on current levels of commercial utilisation.

This is exactly the technique that is not supported in para 15 above.

It is also broadly consistent with the method for evaluating the current recreational utilisation.

Are the "guidelines that suggest criteria to set catch limits on the basis of either the current commercial catch or on average catches when landings have been stable in excess of three years" appropriate for such an important non commercial fishery. What fisheries management decisions and species form the basis for these "guidelines and criteria"? Are they appropriate?

17. The average of the two most recent estimates of recreational landings has been used to estimate current recreational utilisation of the fishery.

Why? What justification is there for using the results from 1996 when it is accepted that there were fundamental flaws in the estimate of the number of people that fished that year. Totally unacceptable. Far too simplistic. Arrogant and lazy!

18. For species and stocks where there is some catch, but the stock is not considered of importance to customary Maori, then current utilisation may be estimated on the basis of half the recreational catch. Kahawai is of considerable interest to Maori in some areas, however there is no information on customary harvest. MFish considers that, even though it is important as a customary fishery, the level is unlikely to equal the level of the recreational fishery and proposes to use 50% of the current level of recreational utilisation as an estimate of current customary harvest.

It is farcical for the Ministry to suggest that it can fairly allow for either Maori customary or recreational/sustenance fishers. Regardless of the amount allowed all non commercial fishers are constrained by the absence of the numbers of fish they historically had access to. The lack of fish availability can be solely traced to the massive purse seine catches as this commercial fishery was developed through trampling on the rights of existing users. The purse seine catch history should be disallowed for the purposes of setting a TACC.

Recognition should be given to the fact that the fishery has been exploited to the stage where recreational and customary fishers can no longer catch what they are targeting and the numbers targeted.

From FAP 2002 pt 11.- A consideration of foremost importance is the unique nature of the Maori customary non-commercial interest in a fishery. The Fisheries Act 1996 and the customary fishing regulations made pursuant to the Act, do not provide for the Crown to place limitations on customary fishing, apart from ensuring the sustainability of a particular stock. The customary allowance can be capped only where the level of catch is likely to exceed the TAC.

option4 submission 2001 - The inshore fisheries belong to the people of this country. The part of the fishery that is for commercial harvest and sale (primarily export) is only what we, the non-commercial sector, do not take to feed ourselves.

We support a fair allocation to cover what the customary catch was before catch rates in important fisheries around river mouths dropped. This may be considerably more than what customary fishers take today. Here we see a classic piece of inconsistency from Ministry. It is they who have drawn up the ever changing set of "criteria" to determine how many tonnes of fish to allow for customary Maori non commercial fishers. If ever there was a fishery of fundamental importance to customary Maori, kahawai is it. The criteria clearly state that where the fishery is of significance to customary Maori, then allow for the equivalent of the recreational harvest. This is good as far as we are concerned. The fact that more often than not customary Maori harvest cannot possibly amount to the equivalent of the entire recreational catch (which of course includes all of the fish Maori harvest when not fishing with a permit for the purposes of their customary event requirements) serves as a de facto "insurance" for all participants in the fishery. Remember, when industry are allocated a tonnage that becomes a property right (quota) they catch it. No more, no less in

fisheries where the QMS in fact constrains commercial fishers. (As opposed to those fisheries where the quota has been set far too high and the commercial fishers cannot catch their quota – consistently, year after year – e.g. gurnard, GUR1; flounder, FLA1, FLA2, FLA3; mullet, GMU1 etc, etc, etc)

However, it is not clear how Ministry think about customary Maori allowances. If they are in fact thinking (wishfully) that they can make an allocation and make it a big one while they are at it then we are in trouble. As far as we are concerned there is no legislation that stated that the Minister makes an allocation for anybody, other than the fishing industry. The legislation (law of the country agreed upon by Parliament) clearly states that when the Minister sets or varies a TACC (the allocation for commercial) he shall ALLOW FOR non commercial fishers. It does not say he shall make an allocation. It does not say he shall allow for once and nor does it discuss changes to an allocation. It simply states that he shall allow for – now and forever.

19. Combined estimates of current utilisation for the non-commercial and commercial sectors are currently assessed to be about 7 600 tonnes.

This also may be an underestimate because of the underestimate of current recreational catch

20. Another consideration for TAC setting is that recreational fishers value kahawai far greater than commercial fishers (see Social, Cultural and Economic factors in Annex Two). Current recreational perceptions are of a decline in the availability of kahawai. The current proposal to set TAC's at the level of current utilisation assumes that these perceptions are associated with a reduction in the kahawai stock to a level at or above B_{MSY} and not below that level. .

It is certainly the view of most non-commercial fishers that kahawai in some areas have been fished below a socially and culturally acceptable level. This is not a recent occurrence but has been evident since the late 1980s. The worst depletion appears to be in FMA 1 where most of the purse seiners operate in direct competition with the largest recreational, subsistence and customary fisheries. Estimates of a sustainable yield, for what the Ministry assume to be a single nationwide stock, may not reveal the large decline in biomass we have seen in KAH1. This dramatic decline in the size and number of kahawai schools is supported by strong anecdotal information.

Does Ministry perceive/believe there is a decline in availability? If so, they must say so. Or is it only “recreational perceptions.” Certainly, the inability of industry to currently catch their limits would suggest availability has declined. We hear talk of industry only catching to order and various other explanations as to why they are only landing x% of what they are allowed to land. Are we to conclude that we, the domestic market can't eat any more commercially caught smoked kahawai? Who are they trying to fool? Why can't Ministry just get real and clearly state that availability has obviously declined and make honest fishery management decisions based on this assertion. If the fishery is in trouble, let's sort it out. If that means last man in

first man out then so be it. Ban purse seining for kahawai, disallow purse seine catch history developed over the top of the rights of others.

21. Recreational interests are most likely best served by stocks that are maintained above B_{MSY} as size and availability of fish is increased in comparison to those available at a smaller biomass. The stock assessment is uncertain and outdated and **targets above B_{MSY} are not proposed.** In the absence of a stock assessment, the **MFish preferred policy** is to use current utilisation as a basis for determining both TAC's and allocation. However, the shared nature of the fishery is relevant when considering the risks with respect to the uncertain information for setting sustainable yields for the stock.

Bizarre beauracratc hogwash!!!!!!!!!!!!!! Earlier the Ministry states, "*An overlying consideration is the importance of kahawai as a shared fishery between commercial and non-commercial fishing interests*" Where are the non commercial values recognised in the above paragraph? Clearly the Ministry has put much greater weight on running it as a primarily commercial fishery.

When will they start treating us with respect? It is not only recreational interests that "*are most likely best served by stocks that are maintained above B_{MSY} as size and availability of fish is increased in comparison to those available at a smaller biomass*". Obviously customary Maori interests are MOST DEFINITELY best served etc. Secondly, if the stock assessment is both uncertain and out of date then why should they seemingly automatically rule out "*targets above B_{MSY}* "? To then go on to state that "*In the absence of a stock assessment, the MFish preferred policy is to use current utilisation as a basis for determining both TAC's and allocation.*" is without basis or substance. This whole section offers no valid reason why a) we should not be aiming for a stock size above B_{MSY} and b) why we should be determining TAC and allocation of a property right on current utilisation. Not good enough!

FA 1996 s13 states "(2)The Minister shall set a total allowable catch that (a)Maintains the stock at or above a level that can produce the maximum sustainable yield, having regard to the interdependence of stocks; or..."

This form of status quo allocation is not about fisheries management it is about issuing perpetual property rights at the expense of the public's access to their fish. When will the Ministry do the work to better manage fisheries rather than rewarding those with the biggest boats for being the most efficient at striping the ocean of kahawai? Once the quota rewards have been issued it will be too late.

22. Recreational interests believe the overall reduction in kahawai schools might be having an effect on interdependent stocks of predators such as marlin and tuna. MFish notes that the factors influencing the distribution of highly migratory stocks of species such as marlin and tuna is complex and not well understood. While the availability of prey might be one important factor in the seasonal availability of these species, kahawai may provide only a component of any potential food source. Nevertheless, the importance of species such as kahawai as a food source suggests the need

for caution when setting catch limits.

There is no doubt that kahawai are an important link in the food chain and the inshore marine ecology. Kahawai drive small fish and krill to the surface and make them available to seabirds. Where does this element of caution actually manifest itself in the Ministry recommendations? Sadly, more hollow words.

23. In summary, MFish proposes that TAC's be based on estimates of current utilisation. Although relevant, the stock assessment information is uncertain and dated. The CCLs pertain only to purse seining, are based on dated landings data and have no stock assessment basis. While commercial landings have been relatively stable, trends in non-commercial catch are unknown. Estimates of utility suggest that kahawai is much more greatly valued by the recreational sector. However, rather than suggesting alternative stock targets, MFish considers that the disparity in relative value between the sectors supports the need for caution in setting catch limits for the fishery.

So MFish propose that it is best to cautiously do nothing. Set perpetual property rights at current level of catch and hope that one day someone will take the time to manage this fishery better. Whilst landings may appear stable, we believe that it is taking much more effort for industry to take these landings. Ministry make the claim – let them back it up with evidence of quality analysis. Wait, there's more. We see a brief reference to “disparity in value between the sectors” here as being of support for the need for caution in setting catch limits. More hollow words. Where does this element of caution manifest itself in the management recommendations?

24. MFish notes that combined estimates of non-commercial and commercial utilisation for kahawai stocks are currently just within the range of the estimates for MCY (7 600-8 200 tonnes). MFish proposes setting TAC's that coincidentally lie on the lower bound of the MCY estimate (ie, 7 600 tonnes).

We have yet to agree with the analysis of all relevant available material to support the assertion that MCY range of 7600 – 8200 tonnes per annum.

KAH 1

25. MFish proposes a TAC for KAH 1 of 3 910 tonnes based on current utilisation of the fishery.

Is there an obligation to base all QMA TAC decisions on the same basis, i.e. current utilisation? If ever there was a case to have a more complex, empathetic basis for calculating a TAC it has to be for KAH 1 – the QMA with by far the greatest population per kilometre of coast.

KAH 2

26 MFish proposes a TAC for KAH 2 of 1 510 tonnes based on current utilisation of the fishery.

KAH 3

27 MFish proposes a TAC for KAH 3 of 960 tonnes based on current utilisation of the fishery.

KAH 4

28 Only very small amounts of catch have been reported in FMA 4. MFish proposes a nominal TAC of 18 tonnes for KAH 4.

KAH 8

29 MFish proposes a TAC for KAH 8 of 1 210 tonnes based on current utilisation of the fishery. MFish notes that ACE will primarily be required to cover the bycatch of fishing for other species in KAH 8.

What is this supposed to mean? – A full explanation is required. A good question to put to officials at the public meetings.

KAH 10

No catch has been reported in FMA 10. MFish proposes a nominal TAC of 18 tonnes for KAH 10.

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Part Three

Allocation of TAC

31. The TAC constitutes a composite of the respective stakeholder groups' catch allocations, plus any other fishing-related mortality. When setting any TAC, a TACC must be set, as well as allowances determined for the Maori customary and recreational fishing interests and for any incidental fishing related incidental mortality.

This is wrong. The TAC is the TAC. After allowing for non commercial fishers and other fishing related mortality the Minister allocates the balance to commercial fishers in the form of a TACC which in turn is divided up amongst a small number of commercial fishers as a % share of the TACC. One of the most persistent and malicious distortions of the law is the ongoing clumsy attempts by the Ministry of Fisheries to have us believe that we and customary Maori have an allocation along the same lines as industry. This is simply not true and we believe these statements are without substance legally. Remember, the Minister, when setting or varying a TACC, shall **allow for** non commercial fishers. Nowhere does the law state that the Minister shall make an allowance/allocation for non commercial fishers.

32. The 1996 Act stipulates a process by which the TAC is to be allocated. However, 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.

In respect of making an allowance for non-commercial interests, McGechan J held in *New Zealand Federation of Commercial Fishermen (Inc) & Ors v Minister of Fisheries & Ors* (HC, Wellington CP237/95, 24/4/97) that a TACC could be reduced to serve legitimate conservation purposes or to advantage—deliberately or incidentally—non-commercial fishing interests. His Honour held that: *“It is not outside or against the purposes of the Act to allow a preference to non-commercials to the disadvantage in fact of commercials and their valued ITQ rights, even to the extent of the industry’s worst case of a decision designed solely to give recreationalists greater satisfaction. Both are within the Act.”* (page 89). That’s why we have a Minister. The decisions he has to make are political – that is the way of the world. If he wants to piss the public off, that’s his and his Cabinet colleague’s choice.

33. There is information available for both catch history (current utilisation) and for utility value. In shared fisheries MFish has a policy preference in favour of the catch history allocation model in the absence of clear information to the contrary. While the utility based model is not discounted altogether its application to kahawai is problematic as the information is uncertain.

What is this “policy preference” ? FA 1996 s8 states: (1)The purpose of this Act is to provide for the utilisation of fisheries resources while ensuring sustainability.(2)In this Act—`Ensuring sustainability" means—(a)Maintaining the potential of fisheries resources to **meet the reasonably foreseeable needs of future generations**; and.. Almost as uncertain as the catch history information. Problematic indeed – which cheap, discounted and ill prepared data set to use? We would like to see what the information the Ministry has about the utility based model and some discussion about their uncertainty.

Allowing for population growth - Government policy is to increase population by immigration. Government must take this into account as per the statutory obligations. If the Minister fails to allow for this population growth the Crown could face compensation issues in the future.

34. MFish notes that current levels of utilisation for all sectors combined can be accommodated within the proposed TAC’s. This suggests that currently there is **no scarcity within the fishery** and therefore no clear-cut requirement to consider reallocating the fishery between sector groups on the basis of utility value or any other considerations.

(Refer [Annex 3](#) Feldman rpt CPUE & length details). It does not get much more insulting than this. The public and customary Maori have been very vocal for a very long time about the ridiculous overfishing of kahawai by industry (for marginal returns). How dare they suggest our current level of utilisation is adequate. It is this sort of statement that truly destroys any credibility this Ministry might claim to enjoy. We must not forget the immortal words of the Ministry of Fisheries at the recent scampi inquiry *“Ms Duffy who appeared for the Ministry and the Chief Executive submitted that the Ministry was not under a duty to act fairly in determining fishers’ access to fisheries.”* – this section of their advice to their Minister takes the cake. Of course it is time for the Minister to stand up to the industry and their lap dogs

at the Ministry. This fishery cannot be allowed to be managed by these drongo's. To suggest that some smoke and mirrors number games somehow or other adds up to and justifies making statements like “currently there is no scarcity within the fishery and therefore no clear-cut requirement to consider reallocating the fishery between sector groups” defies imagination. Of course there is scarcity – unless of course you have a mandate to ignore virtually every member of the public who fishes for food!!!!

Massive reallocation has already occurred as a very small number of highly capitalised fishing companies unleashed unprecedented technologies and industrial methodology (spotter planes combined with purse seine vessels) on a localised, inshore shared fishery of major importance to the public. The concern and outrage that was incessantly expressed by all recreational fishing organisations, some Ministry personnel and numerous individuals with a lifetime of intimate knowledge and experience with kahawai WAS AND CONTINUES TO BE completely ignored. We are outraged that this Ministry has the audacity to claim that there is “no scarcity “ when catch rates have been demolished. Is it that they are referring to the 2 corporates who have spotter planes and purse seiners – it is certainly not the experience (knowledge) of the average non commercial fisher. Are they in fact recommending that we all get ourselves a spotter plane?

35. Accordingly, the proposed allowances and TACC's have been calculated using average commercial landings for the period between 1997 and 2002 as MFish considers this relatively stable period provides the best available information on current levels of commercial utilisation. It is also broadly consistent with the method for evaluating the current non-commercial utilisation.

Untrue, not stable, unless MFish have a different scale for measuring declines. From 1993/94 fishing year to 2001/02 years the commercial landings have been declining in every season except for 2 years 95-96 & 96-97 ie. 7 out of 9 years . When will they get it? Read the Act – When setting a TACC the Minister shall allow for non commercial fishers and then set a TACC. There is no other law other than the law-unto-themselves Ministry and their twisted manipulations of the law.

36. The Minister is required to make separate decisions on allowances and TACCs for each stock. MFish propose allowances and TACCs as shown in Table 1.

The Minister is required, for each stock, to allow for non commercial fishers and other fishing related mortality and then allocate industry a TACC.

Recreational Allowance

37. The proposed recreational allowances in tonnes for each QMA are set out in Table 1.
38. The average of the two most recent estimates of recreational harvest has been used to estimate current recreational utilisation of the fishery. Because the recreational harvest surveys report on the fishstock codes an arbitrary amount (54 tonnes) was

removed from the KAH 3 estimate and added to the KAH 9 estimate to account for area changes in establishing KAH 8.

Imagine what our catch of kahawai could be now if industry had not been allowed to fish down the kahawai stocks so blatantly and with so little regard for the cultural and economic well being of New Zealanders. These fisheries have been severely damaged and we were left with crumbs to fish for. When one considers that the economic return and benefit to the country over the fish down period was virtually nil in net real terms. No added value or any real attempt to add value – simply an easy, cheap and convenient off season fishery that was in relatively good shape subjected to yet another crazy race for catch history.

Any market will do as long as we can stamp our name all over the records for future payoff when the fishery is introduced to the QMS. Outrageous that they not only got away with it then but now appear to be about to be rewarded with a property right they can keep or sell. Truth is stranger than fiction.

The line is becoming so vague between customary and recreational that if they decide to adversely effect recreational harvest they knowingly adversely effect customary harvest. Lets be very clear, there is only commercial and non commercial. Catch rates for kahawai have plummeted by 90% in some areas. How can the Ministry recommend a continuance of the abysmally low catch rates that have prevailed since the purse seine fleet depleted this important non commercial fishery?

Maori customary allowance

39. The proposed customary allowances for each QMA are set out in Table1.
40. Policy guidelines provide several options for setting a customary allowance. Where estimates are not available, but there is known to be customary catch, a nominal allowance may be made. For stocks of importance to customary Maori the allowance may be based on the level of the recreational catch. For species and stocks where there is some catch, but the stock is not considered of importance to customary Maori, then the allowance may be based on half the recreational catch.
41. Exploitation of kahawai dates from the early settlement of New Zealand when they formed a substantial food source for Maori. In pre-European times large catches were often dried or smoked and stored for later use. Kahawai is a known target species for customary purposes especially on the seasonal runs around river mouths such as the Motu River in the Eastern Bay of Plenty. Large catches are still preserved for subsistence by smoking and bottling. Kahawai has a broad coastal distribution and can also be found in harbours, particularly in northern New Zealand. A significant level of customary catch could be anticipated in these areas. Maori have had an historic interest in kahawai and it is an important food source in some localities. MFish would welcome submissions, particularly from Maori customary fishers, that provide information about levels of customary kahawai catch.
42. No quantitative estimates of customary fishing for kahawai are available. It is unlikely that customary catch is at or near the level of the recreational catch.

While kahawai is considered to be an important customary species, the numbers of recreational fishers taking this species is likely to significantly exceed the numbers of customary fishers. Further, a proportion of the customary catch is probably taken within the bounds of the daily recreational allowance of twenty kahawai per person.

If this is true for kahawai, which it is, why are the general criteria in existence? What is their motivation to make criteria and then argue why they shouldn't apply? Have they run out of things to do in Wellington? Sounds like perpetual hard work digging holes and filling them up.

43. In the absence of quantitative information MFish proposes a customary allowance set at 50% of the current level of recreational utilisation.

**option4 Draft Rebuttal of Kahawai Initial
Position Paper 2004
Part Four of Five**

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February 2004

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KAHAWAI (KAH)

Part Four

TACC's

44. Proposed TACC's in tonnes for each QMA are set out in Table 1.

45. The proposed TACC has been calculated using average commercial landings for the period between 1997 and 2002. This may understate or overstate current commercial utilisation in terms of the period chosen for some management areas. MFish notes that commercial landings of KAH 1, KAH 2 and KAH 3 were greater between 1988 and 1997 and accordingly extending the years used to calculate average commercial landings could potentially increase estimates of current commercial utilisation.

So what! This is totally irrelevant. The TACC is the remainder of the TAC after the Minister has allowed for non commercial and other mortality associated with fishing.

Any potential impact from adopting different estimates of current utilisation can be measured as direct opportunity costs. A tonne of kahawai has a value and any reduction in tonnage for the commercial sector as a result of a lower TACC can be measured in terms of a forgone value. MFish considers that any such impacts can best be measured by forgone annual earnings as provided by the port price of kahawai (\$430 / tonne).

46. The commercial kahawai fishery is seasonal primarily because it is the off-season target of other species and subject to voluntary seasonal fishing arrangements. It

is likely that within a QMS management regime this pattern of the fishery will not change. However, quota for kahawai will need to be retained to cover the bycatch of fishing for other species.

Voluntary agreements tend to be ignored when there is money to be made. Voluntary agreements in place now only apply to purse seining in certain areas and the BOP from 1 Dec to after Easter. Reports of fishing activity so close to shore that conversations on fishing boats can be overheard from shore are not uncommon. They tried telling that to the SNA 2 quota owners and fishers. Totally ignored then and now – what makes us want to believe that industry will behave any differently with kahawai

KAH 1

47. There is one TACC option proposed for KAH 1. Based on the average of the last five years commercial landings from this management area it is proposed that the TACC be set at 1 480 tonnes. This proposed TACC exceeds the current purse seine limit of 1 200 tonnes and provides for anticipated bycatch levels. MFish assesses there will be little if any socio-economic impact associated with adoption of this option because it is based on current levels of commercial utilisation.

If MFish can anticipate bycatch levels then why can't they anticipate catch levels for recreational and customary harvest? Taking into consideration our reduced current catch levels due to over exploitation of the kahawai fishery by purse seiners and our inability to provide for our needs. Also the [Feldman](#) report indicates this "utilisation" has almost destroyed the kahawai fishery in the BOP, see reduction in CPUE from 2.55 kahawai per hour for visitors and 4.17 (locals of Motu River mouth) in 1982 to the results of the survey in 1991 showing CPUE was 0.1 kahawai per hour.

KAH 2

48. There is one TACC option proposed for KAH 2. Based on the average of the last five years commercial landings from this management area it is proposed that the TACC be set at 710 tonnes. Although based on average landings, the proposed TACC is less than the current purse seine limit of 851 tonnes and the most recent years catch of 832 tonnes. MFish assesses there is likely to be little (\$52 030 forgone earnings on the 2001-02 catch) socio-economic impact associated with adoption of this option because it is based on current levels of commercial utilisation.

KAH 3

49. There is one TACC option proposed for KAH 3. Based on the average of the five years commercial landings from this management area it is proposed that the TACC be set at 490 tonnes. This proposed TACC is less than the current purse seine limit of 1 500 tonnes. MFish notes that declining catches in QMA 3 is associated with reduced purse seining in this area. MFish assesses there is likely to be little if any socio-economic impact associated with adoption of this option based on current levels of commercial utilisation.

KAH 4

50. There is one TACC option proposed for KAH 4. Based on a nominal value it is proposed that the TACC for this management area be set at 10 tonnes. MFish considers this TACC appropriately reflects the current level of use in this fishery.

KAH 8

51. There is one TACC option proposed for **KIN 8 KAH8?** Based on the average of the five years commercial landings from this management area it is proposed that the TACC be set at 635 tonnes. This proposed TACC provides for current levels of bycatch. MFish assesses there will be little if any socio-economic impact associated with adoption of this option because it is based on current levels of commercial utilisation.

The 635 tonnes is based on the average of the 5 years catch. The average of the last 9 years catch is 560 tonnes. When did MFish indicate kahawai would be entering the QMS? Is there a case to say the commercial fleet were establishing a catch history in anticipation of the allocation of quota?

KIN 10

52. There is one TACC option proposed for KAH 10. Based on a nominal value it is proposed that the TACC for this management area be set at 10 tonnes. MFish considers this TACC appropriately reflects the current level of use in this fishery.

Allowance for other sources of mortality

53. There is no information on the current level of illegal catch. Accordingly, it is suggested that no allowance is made to cover illegal catch at this time.
54. The Report from the Fishery Assessment Plenary states that there is no information on other sources of mortality apart from juvenile kahawai, which may suffer from habitat degradation in estuarine areas. Nevertheless, MFish notes that the majority of kahawai is taken by purse seine (a bulk fishing method). There are a number of sets where the purse is set but no catches are recorded, possibly because of gear failure or other related factors. Some incidental fishing related mortality is likely especially in instances of gear failure. MFish proposes that a nominal allowance of 5% of the average purse seine reported landings for the last five years be set in accordance with the legislative requirement to provide for an allowance of other sources of fishing related mortality.

Other Management Measures

Method Restriction

55. The recreational sector believes that there is conflict with commercial fishing for kahawai, particularly with purse seiners and set netters. These concerns are currently mitigated by voluntary agreements¹ and by an outcome of the set net review².

¹ There are voluntary purse seine closures in place in Parengarenga Harbour, Rangaunu Bay, Doubtless Bay, Cavalli Island, The Bay of Islands, Rimariki Island to Bream Head, the Hauraki Gulf, the Bay of Plenty, Cape Runaway to East Cape, Waikahawai Point to Poverty Bay and Hawke Bay to spatially

Low current kahawai catch levels by non commercial fishers and the inability of the purse seine fleet to catch their allowable tonnage would suggest the current closures are far too small to have a significant impact on improving the ability of non commercial fishers to catch the kahawai they are targeting.

56. There is currently no provision for considering spatial allocation within the process of setting sustainability measures and therefore continued voluntary arrangement between sectors to retain these measures for kahawai might be necessary with kahawai in the QMS.

The purse seine fishery is focused on a few large areas of prime kahawai habitat that are intensively fished. This results in localised depletion on a massive scale. The worst affected areas are within the range where it is economically viable to operate an economically marginal fleet of purse seiners from the port they are domiciled in. Any school of kahawai that strays into one of these areas has the potential to be instantly annihilated – the complete, entire school is destroyed. Fishing continues in the area until most or all of the schools of kahawai are caught. The area becomes entirely depleted and has an adverse affect on non commercial fishers catch rates. Most of the areas fished by the purse seine fleet are close to areas of high population. Over the next 7 or 8 months kahawai from outside the area migrate into the depleted prime kahawai habitat just in time for the purse seine fleet to return and take them all away again. These areas act as a sink hole soaking up the kahawai biomass from the wider fishery management area and causing depletion over a much wider area than the area the purse seine fleet operates in.

We are appalled that the Ministry has elected to not include the kahawai purse seine catch by stat area or over a sufficiently long time frame. Stat areas are a much smaller scale than entire quota management areas. Had the Ministry elected to declare and use this information, which they possess, it would be obvious why the non commercial sectors are suffering massive reductions in their catch – contentions that are clearly and demonstrably supported by Ministry diary and ramp surveys.

STOP – THINK – SIMPLE LOGIC STUFF – If it is in range of the marginally economic industrial spotter plane/purse seine fishers, by definition it is in range of us, the non commercial fishers. What is the good of abundance off the West Coast of the South Island to a non commercial fisher north of East Cape. Where, coincidentally, 75% of us happen to live. Add to this the “Radius of doom” centered on Nelson and we are looking at almost all of us being directly disenfranchised from the kahawai fishery by bulk industrial commercial methods.

Remember the second principle that has been endorsed not only by an overwhelming majority of people and organisations that submitted to Soundings but also the consensus and signed policy of NZRFC, NZBGFC, NZACA and

separate non-commercial and commercial sectors. In addition a voluntary moratorium was placed on targeting kahawai by purse seine in the Bay of Plenty between 1 December and the Tuesday after Easter.

² An outcome of the set net review was that commercial set netting was prohibited by regulation from 26 locations.

option4 “The ability to exclude commercial bulk fishing methods that deplete important non commercial areas.” If there is any fishery that demands this principle be implemented, it is the kahawai fishery and the time is now!

The public and their representative organisations are unanimous on this principle. We question how the Minister can allow for non commercial fishers when the advice he is getting from his Ministry (in this IPP) fails to acknowledge the conflict, suppresses the readily available and vital information that proves beyond any doubt that the non commercial sectors have been disenfranchised by the purse seine fleet close to the significant main population areas and then has the audacity to claim there is no scarcity of kahawai.

This is the fishery of PRIMARY importance to ALL non commercial fishers in New Zealand. It is truly a national fishery. This decision will effect each and every one of us.

Summary - This decision is about a couple of corporates and a handful of marginal purse seiners fishing a down time versus 1,000,000 New Zealanders who value kahawai as toanga, great eating, more often than not their childrens first moment of sheer delight and triumph.

We used to be able to catch reasonable sized fish. Lew Ritchie, an ex MFish scientist saw the decline as far back as 1987. Read [Kahawai in Trouble](#)

This advice paper proves yet again that the Ministry’s sole agenda is to develop commercial fisheries regardless of the consequences to you, the non commercial fisher.

This covers localised depletion – now lets discuss serial depletion. The Ministry’s management strategy where we set a target stock size (say 20% of virgin biomass) As we take half the fish out of the water it becomes twice as hard to catch a reasonable sized fish. When we look at non commercial CPUE and see that it has declined 90% we then realise the interrelationship between the size of the biomass and the availability of those fish to the non commercial sectors. Historically in New Zealand the Ministry has a target biomass somewhere between 20 and 25% of the virgin biomass and in seeking to achieve this target poor information, reporting/assessment delays, inadequate research prioritising often leads to fish stocks declining well below 20% before meaningful management is applied. Kahawai is a classic case of this syndrome. It is unarguable that the non commercial fishers have been disenfranchised as the additional commercial fishing effort applied through the development of the purse seine fishery annihilated the standing biomass. Mark Feldman coined the term “theft” in a recent article – we concur. The kahawai fishery was stable, bycatch levels were stable, the local market was well supplied, we enjoyed good catch rates. We considered that in the 1970’s the kahawai fishery was well balanced and developed – it was in harmony. In that harmonius fishery the Ministry allowed this sick experiment to see what happens if you take everyones fish away from them and give it all to a marginal purse seine fleet. Well you know what happened, your catch rates declined as the **fish were stolen** from under your noses. Most of us objected and until now have been totally ignored. And now the Ministry is recommending legitimising the blunder and giving

our kahawai to the purse seine fleet in perpetuity as a reward for the grief and havoc they have wreaked on the kahawai fishery.

To base a recommendation on current utilisation is absurd, unjust and unfair. It is a callous, shallow attempt to legitimise not only the theft of your fish but also their **failed management** of your fishery. The thieves get their catch history based on current utilisation granted to them as a property right in perpetuity and get to repeat the crime annually.

The evidence of stock overfishing can be seen from the catch returns. Particularly obvious in areas hardest hit by the purse seiners.. As one would expect, industry are contending that their declining catch is driven by market forces. We contest this. We contend that it is clear evidence of overfishing. The time series is now sufficiently long to overrule these claims of market forces being the cause of the decline in catches. We suggest it points directly to massive overfishing of the stock.

Had this level of reallocation been permitted in the other direction, the fishing industry would have been seeking compensation from the Crown.

The Ministry of Fisheries has a target of 20-25% of the virgin biomass. In seeking to achieve this target, reporting and assessment delays and poor research funding on this commercially low value species will undoubtedly lead to the fish stocks falling well below this mark before meaningful management is applied.

This is a fishery that requires special management.

Why? Kahawai are:

1. Available from the shore
2. The peoples fish
3. Low value export
4. High value non commercial
5. Vital food source
6. Unparalleled sport opportunity
7. Available year round in harbours and estuaries.

Consequential amendment to regulation

57. As a consequence of the introduction of kahawai into the QMS, MFish proposes to revoke certain fishing permit conditions. These conditions relate to the closing of the purse seine fishery once purse seine limits for kahawai have been reached. In addition, MFish proposes to introduce a number of amendments to the reporting regulations to ensure the effective and efficient operation of the QMS. Details of the proposed amendments are set out in a generic section of this paper.

Schedule 5A

58. MFish does not propose to list any kahawai stock on Schedule 5A of the Act and proposes to allow under-fishing rights to be carried forward.

Deemed values and Over-fishing threshold

59. A separate section of this document sets out generic information on the setting of interim and annual deemed values.

60. Application of the policy framework for deemed values would mean kahawai falls within the “all others” fishstock category. The port price for kahawai is \$0.43 (early 2003 MFish port price survey). The standard factor of the port price for species in this category is 75%. The proposed annual deemed value would therefore be \$0.32, while the interim deemed value would be set at \$0.16.

61. MFish acknowledges, however, that overcatch of the kahawai TACC’s will affect the interests of the non-commercial fishers in a fishery they highly value. MFish also notes the following influences upon the kahawai port price:

- Lower port prices reported by vertically integrated companies (those that catch, process and market).
- There are niche markets such as those for smoked kahawai that attract substantially more than average prices.

62. Accordingly, MFish recommends an additional option of applying a factor of 200% to the port price, which would derive an annual deemed value of \$0.86. Although a departure from the deemed values policy framework, this option would reinforce the importance of ensuring that catch of kahawai is not landed in excess of ACE (a statutory consideration) in light of the importance of kahawai to the non-commercial sector.

63. A provisional figure from the November/December 2003 MFish port price survey indicates that the port price for kahawai in areas 1, 2 and 3 could be as high as \$3.50. MFish will review the proposed port price in light of submissions on the IPP and any further port price information that becomes available.

64. MFish proposes to set differential deemed values for kahawai stocks. MFish does not propose to set an overfishing threshold for kahawai. MFish considers that the combination of the deemed values proposed and the proportionally increasing deemed values for fishers who exceed their ACE should be an effective set of balancing provisions.

**option4 Draft Rebuttal of Kahawai Initial
Position Paper 2004**
Part Five of Five

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KAHAWAI (KAH)

Part Five

Statutory Considerations

65. In evaluating the management options the following statutory considerations have been taken into account.

- a. The management options seek to ensure sustainability of the stock by setting a TAC and other appropriate measures. Utilisation is provided by way of setting allowances for commercial, recreational and customary fishers.
- b. While there is a national stock assessment available for kahawai, MFish considers it to be uncertain and outdated. Nonetheless this stock assessment suggests that the TAC's proposed, based on current levels of utilisation, are likely to be at or above B_{MSY} .
- c. There are social and economic consequences from setting the proposed TAC's. Current recreational concerns with regard to the reduction in availability of kahawai to them are not addressed by setting TAC's based on current levels of utilisation. These proposals assume that the decline in availability is associated with the fishing down of the stock to levels at or above B_{MSY} . While there might be a number of possible economic effects those that have been quantifiable are minor. Any opportunity costs needs to be weighed against the uncertainty in current stock status, the value of kahawai as a shared fishery and the importance of this species in an ecological context as both predator and prey. (Refer [Annex 5 - Kingfish FAP 2003](#)). *“Given uncertainty in information on stock status, I am obliged to implement measures that*

will prevent the biomass declining. However, my preference is to set a TAC that provides a reasonable opportunity for the biomass to increase.” What has changed in one year?

- d. Recruitment of kahawai is not known to be particularly variable at the current levels of stock biomass.
- e. Kahawai fishing is not known to pose a risk to the long-term viability of any associated or dependent species. However, there are recreational concerns about the effect any reduction in kahawai schools might be having on interdependent stocks of predators such as marlin and tuna. Unfortunately, the factors influencing the distribution of highly migratory stocks of these species are complex and not well understood. They do suggest the need for caution in setting sustainability measures for the stock.
- f. There are no known effects of purse seine fishing on the aquatic environment.
- g. The purse seine method is not known to pose a risk to the maintenance of biodiversity of the aquatic environment. Habitats of particular significance for fisheries management have been identified for KAH 3 and these have been taken into account when preparing this advice. No other habitats of particular significance for kahawai management have been identified.
- h. MFish considers issues arising under international obligations and the provisions of the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 (s 5) are adequately addressed in the management options for kahawai.
- i. MFish is not aware of any considerations in any regional policy statement, regional plan or proposed regional plan under the Resource Management Act 1991, or any management strategy or plan under the Conservation Act 1987, that are relevant to setting TAC's for kahawai at this time (as required by ss 11(2)(a) and (b)). MFish is also aware of the provisions of the Hauraki Gulf Marine Park Act 2000. The Hauraki Gulf is defined in that Act to include all coastal waters and offshore islands from near Te Arai Point offshore to the Moko Hinau Islands, and south to Homunga Point (north of Waihi Beach). This Act's objectives are to protect and maintain the natural resources of the Hauraki Gulf as a matter of national importance. Kahawai are known to occur within the boundaries of the Hauraki Gulf and MFish considers that the setting of sustainability measures for kahawai will better meet the purpose of the Act.
- j. Before setting any sustainability measure the Minister must also take into account any conservation services or fisheries services, any relevant fisheries plan approved under the Act, and any decisions not to require conservation services or fisheries services. Conservation and fisheries services apply to fisheries generally in order to assess and monitor the impacts of fishing on non-target fish and other species. No fisheries plans exist or are proposed for kahawai (s 11 (2A)).

- k. Sections 21(1)(a and b) and (21)(4)(i and ii) and (21)(5) require the Minister to allow for non-commercial fishing interests (recreational and Maori), and other mortality to the stock caused by fishing. The nature of the fishery and the interests of the respective fishing sectors have been influential in recommendations for the setting of the TACC. The commercial kahawai fishery is seasonal primarily because it is the off-season target of other species and subject to voluntary seasonal fishing arrangements. It is likely that within a QMS management regime this pattern of the fishery will not change. However, quota for kahawai will need to be retained to cover the bycatch of fishing for other species particularly in KAH 8. Allowances have been made for recreational and customary interests and for other sources of mortality to the stock caused by fishing. No mātaimai in the QMA applies in the area of the fishery. No area has been closed or fishing method restricted for customary fishing purposes in the QMA that is likely to affect fishing for this pelagic fishery. The voluntary restrictions that have been placed on commercial fishing to protect recreational interests have been considered when making recommendations.
- l. The information used to develop proposals for kahawai refers to an assessment of the stock conducted in 1996. There is uncertainty about this assessment (and it is now some seven years out of date) however, uncertainty and the absence of information is not a reason for failing to provide for utilisation at levels considered to be sustainable, however MFish notes that caution is required in this instance.
- m. The level of non-commercial catch within New Zealand fisheries waters is uncertain with regard to setting allowances for recreational, customary Maori use and other sources of fishing-related mortality. MFish notes, however, that uncertainty in information is not a reason for postponing or failing to take any measure to achieve the purpose of the 1996 Act (s 10 Information Principles).

Acknowledgement of concerns

Is this enough recognition after 18 years of concern?

Black text indicates Ministry IPP; blue text indicates our comments.

Kahawai is a treasured part of New Zealand's marine heritage. The presence of large kahawai schools gives the impression of a healthy marine ecosystem. On the other hand the total absence of kahawai schools for much of the year in some areas leaves the ocean looking empty and lifeless – something is wrong with the way this species has been managed. MFish have recommended setting perpetual commercial property rights at current level of catch and hope that one day someone will take the time to manage this species better. The Ministry have presented only one management option. This is not acceptable to the public and we trust the Minister will agree with us.

What is needed is a **viable alternative option** that will ensure the rebuild of this stock. A lot of the commercial catch of kahawai is taken as by-catch while fishing for other species. The obvious place to effect better management is to reduce the purse seine catch which is actually targeting entire kahawai schools. We consider the

practice of targeting kahawai by **purse seine is excessive and wasteful**. It is a very efficient bulk fishing method that sees fish landed and sold for a price well below what would be economic for other methods. It has been the increase in catch by this method that has coincided with the disappearance of kahawai around much of the coast. Surely it is this industrial fishery that has caused the problem, by mining the once plentiful kahawai stock we had, the same parties should carry the cuts to rebuild this fishery. We propose that MFish remove all the kahawai target purse seine catch history from its calculation for setting the TACC.

The methods used in calculating the recreational harvest estimates in 1996 have been shown to be seriously flawed. Those estimates cannot be used in their current form by the Minister when allowing for recreational and customary take. The 2000 and 2001 surveys provide the best information available at this time although there is concern that some estimates may be biased high.

Kahawai is a very important customary and **subsistence food source** for Maori and non-Maori. Traditional fisheries such as those at the mouth of the Motu River are a mere shadow of what the once were. Many people struggle to provide fresh fish to supplement their diets because the fishery has been so decimated. The Minister should allow for Maori customary harvest at a level of half the revised recreational estimates.

Allowances for incidental mortality would remain the same, as the overall national TAC does not change much with our option.

We will be contesting the Ministry's recommendations below. If you have any comments to make about the recommendations please advise us so we can consider your view in our submission.

Preliminary Recommendations

66. MFish recommends that the Minister:

- a. **Agrees** to set a TAC of 3 910 tonnes for KAH 1 and within that TAC set:
 - i A customary allowance of 790 tonnes;
 - ii A recreational allowance of 1 580 tonnes;
 - iii An allowance for other fishing-related mortality of 60 tonnes;
and
 - iv A TACC of 1 480 tonnes.

- b. **Agrees** to set a TAC of 1 510 tonnes for KAH 2 and within that TAC set:
 - i A customary allowance of 255 tonnes;
 - ii A recreational allowance of 510 tonnes;
 - iii An allowance for other fishing-related mortality of 35 tonnes;
and

iv A TACC of 710 tonnes

c. **Agrees** to set a TAC of 960 tonnes for KAH 3 and within that TAC set:

- i. A customary allowance of 150 tonnes;
- ii. A recreational allowance of 300 tonnes;
- iii. An allowance for other fishing-related mortality of 20 tonnes; and
- iv. A TACC of 490 tonnes.

d. **Agrees** to set a TAC of 18 tonnes for KAH 4 and within that TAC set:

- i A customary allowance of 3 tonnes;
- ii A recreational allowance of 5 tonnes;
- iii An allowance for other fishing-related mortality of 0 tonne; and
- iv A TACC of 10 tonnes.

e. **Agrees** to set a TAC of 1 210 tonnes for KAH 8 and within that TAC set:

- i. A customary allowance of 190 tonnes;
- ii. A recreational allowance of 380 tonnes;
- iii. An allowance for other fishing-related mortality of 5 tonnes; and
- iv. A TACC of 635 tonnes.

f. **Agrees** to set a TAC of 18 tonnes for KAH 10 and within that TAC set:

- i. A customary allowance of 3 tonnes;
- ii. A recreational allowance of 5 tonnes;
- iii. An allowance for other fishing-related mortality of 0 tonne; and
- iv. A TACC of 10 tonnes.

g. **Agrees** to set an annual deemed value for kahawai of:

EITHER

i. \$0.32 /kg;

OR

ii. \$0.86 / kg.

- h. Agrees** that differential deemed values apply.
- i. Agrees** to amend the Fisheries (Reporting) Regulations 2001 to outline the codes to be used by fishers when completing their statutory catch returns
- j. Notes** that once kahawai becomes subject to the QMS fishing permit conditions applying purse seining catch limits and vessel restrictions on the taking of kahawai will no longer be applicable. Accordingly, the chief executive will need to revoke these fishing permit conditions.

Annex 1

option4 Rebuttal of Kahawai IPP 2004

When a species is introduced into the Quota Management System (QMS) the Ministry of Fisheries issues its suggested management proposals to the Minister in an Initial Position Paper (IPP). The Minister uses this information to base his final decision on when setting the TACC and allowing for the public and customary Maori fishers.

Annex One is a section from the Ministry's kahawai IPP 2004.

ANNEX ONE

Removing redundant fishing permit conditions

67 It is proposed to amend the fishing permits of some permit holders to remove the schedule imposing purse seine catch limits for FMAs 1 and 9 combined, FMA 2 and FMAs 3-8.

Background

68 Since 1990-91 commercial catch limits have applied to kahawai, with specific limits pertaining to purse seining. The current purse seine catch limit is 1 200 tonnes for FMA 1 and FMA 9 combined, 851 tonnes for FMA 2, and 1 500 tonnes for FMAs 3-8. These catch limits are fished competitively. MFish monitors catches and closes each fishery if and when it is likely the catch limit has been reached.

Problem definition

69 The retention of purse seine catch limits under the QMS does not contribute to the sustainability of the stock, and would result in an unnecessary constraint on harvesting.

Preliminary consultation

70 There is a consensus among stakeholders that the long term sustainability of the fishery is the key issue and that management changes are overdue.

Options

Non-regulatory measures

71 There are no non-regulatory alternatives to revoking the purse seine catch limits.

Regulatory Measures

72 Revoking the fishing permit conditions removes a restriction that is no longer necessary under the QMS.

Costs and benefits of the proposal

73 Revoking the fishing permit conditions removes the requirement to enforce purse seine catch limits, and will result in improved harvest efficiency for commercial fishers.

74 There are no costs associated with revoking this regulation.

Administrative implications

75 There are no administrative implications associated with revoking these fishing permit conditions.

Conclusion

76 The retention of purse seine catch limits under the QMS for the kahawai fishery does not contribute to the sustainability of the stock, and unnecessarily restricts the efficient harvest of kahawai. The proposed revocation of the redundant permit conditions will result in benefits, but no costs.

Recommendation

77. It is proposed to amend the fishing permits of some permit holders to remove the schedule imposing purse seine catch limits for KAH 1 and 9 combined, FMA 2 and FMA 3.

Annex 2

option4 Draft Rebuttal of Kahawai IPP 2004

When a species is introduced into the Quota Management System (QMS) the Ministry of Fisheries issues its suggested management proposals to the Minister in an Initial Position Paper (IPP). The Minister uses this information to base his final decision on when setting the TACC and allowing for the public and customary Maori fishers.

option4 are concerned about the absence of full catch history information on kahawai provided in Annex 2 to the Minister. Without this information the IPP does not reflect the history of the development of the purse seine fishery.

February 2004

Key: black text = IPP statement; blue text = option4 draft statement;

ANNEX TWO

Species Information

Species biology

78. Kahawai (*Arripis trutta*) occurs throughout New Zealand, the Kermadec and Chatham Islands as far south as Foveaux Strait. They are most abundant around the North Island and northern South Island. *A. xylabion* (northern kahawai), although having a longer tail fin, can be difficult to distinguish from *A. trutta*. This species is commonly found at the Kermadec Islands and although rare around mainland New Zealand, is found in northern latitudes. *A. trutta* and *A. xylabion* is included in the QMS as a species assemblage.
79. Kahawai live in a variety of habitats, ranging from tidal intrusions into rivers, estuaries and coastal embayments, thought to open waters many miles offshore. Kahawai are most often found in surface schools of similarly sized fish often in association with schools of jack mackerels, blue mackerel and trevally. Schools of kahawai typically contain between 10-40 tonnes of fish.
80. Adult kahawai feed mainly on small pelagic fishes such as anchovies, pilchards and yellow-eyed mullet, but also on pelagic crustaceans, especially krill. Benthic species such as crabs and polychaetes are also eaten on occasion, especially during the summer months, when spawning takes place on the sea floor. Juvenile kahawai feed primarily on copepods.
81. Biological information suggests no differences in the growth rate, length weight relationship and onset of maturity between the sexes. The onset of maturity occurs at about 40 cm, which equates to ages of 3-5 years, growth rate is moderate and the maximum-recorded age of kahawai is 26 years. Natural mortality is unlikely to be higher than 0.2 and is likely to be close to this estimate.

Fisheries characteristics

Commercial catch

Catch and landing by QMA

82. Reported commercial landing summaries of kahawai for each QMA for the fishing years 1993–94 to 2002–03 are given in Table 3.

Table 3. Reported commercial landings (tonnes) of kahawai by QMA from 1993–94 to 2001-02.

Fishing Year	QMA 1	2	3	4	8	10	Total
1993-94	2 023	706	1 820	0	550	0	5 489
1994-95	1 788	1 063	1 014	0	465	<1	4 483
1995-96	1 570	1 072	1 882	0	452	<1	5 207
1996-97	1 884	1 084	1 391	0	389	0	4 965
1997-98	1 358	191	343	<1	572	0	2 674
1998-99	1 566	729	1 078	0	845	<1	4 468
1999-00	1 602	928	484	<1	725	0	3 921
2000-01	1 592	875	403	0	552	0	3 610
2001-02	1 287	832	152	<1	475	0	2 874

83. [Why do we not have a full catch history here?](#) Between 1970-1975 the annual average commercial catch of kahawai was 500 tonnes, much for use as bait. However, fishing practices evolved to utilise this relatively low value commercial species. Since the mid 1970s purse seine vessels fish for skipjack tuna around the North Island over summer. For approximately five months of the year (December to May) the northern fleet, based in Tauranga, targets skipjack tuna (*Katsuwonus pelamis*). When skipjack is no longer available during the winter and spring months the fleet fish for a mix of species including kahawai, jack mackerels (*Trachurus* spp.), and blue mackerel (*Scomber australasicus*). These species are caught ‘on demand’ as export orders are received (to reduce product storage costs).
84. Reported landings of kahawai progressively increased from 1977-1980 stabilising at about 5 000 tonnes between 1980-1985 and increasing thereafter to peak at 9 800 tonnes during 1987-88. Commercial landings of kahawai declined between 1988 and 1998. Landings thereafter have stabilised particularly in KAH 1 and KAH 2.
85. For the 1990-91 fishing year, the total commercial catch limit for kahawai was set at 6 500 tonnes, with 4 856 tonnes set aside for purse seining. While national catches decreased during 1991-92, landings in KAH 1 increased and for the 1993-94 the competitive catch limits for purse seining in KAH 1 were reduced from 1 666 tonnes to 1 200 tonnes and purse seine catches reported for KAH 9 were included in this catch limit. Since, despite fluctuating between 1993-94 and 2001-02, purse seine landings reported for KAH 1 have averaged 1 200 tonnes.
86. No changes have been made to the purse seine limit of 851 tonnes for KAH 2. The KAH 2 purse seine fishery was closed early each year between 1991-92

and 1995-96. Apart from a reduced purse seine catch of 200 tonnes reported for 1997-98, landings have been consistently around 800 tonnes per year.

87. The purse seine catch limit for KAH 3 was reduced to 1 500 tonnes from 1995-96. In the past a southern fleet, based in Nelson, fished exclusively for the mackerels and kahawai when fishing in southern waters. With the transfer of some of these vessels to Tauranga the purse seine catch in KAH 3 has declined from landing 1 500 tonnes in 1995-96 to 150 tonnes in 2001-02.

Catch by fishing method

88. Total kahawai catch (tonnes) by main commercial fishing method for all QMAs combined from 1993-94 to 2002-03 is shown in Table 4.

Table 4: Total kahawai landings (tonnes) by main commercial method for all QMAs combined, for fishing years 1992–93 to 2001–02:

Method	Fishing Year								
	1994	1995	1996	1997	1998	1999	2000	2001	2002
Purse seine	4,089	3,423	3,931	3,563	1,530	3,152	2,753	2,590	1,886
Bottom trawl	118	157	289	317	420	622	561	365	348
Set net	412	372	400	704	354	187	192	261	240
Ring net	117	97	86	44	68	80	100	64	139
Bottom pair trawl	26	18	91	5	2	54	54	36	61
Bottom longline	73	106	83	70	54	79	43	64	56
Danish/Beach seine	181	46	12	9	11	19	18	18	6
Trolling	23	47	57	15	3	2	2	5	6
Unknown	59	44	27	22	23	23	15	19	4
Total	5,098	4,310	4,976	4,749	2,465	4,218	3,738	3,422	2,746

Note: Fishing year '1991' is fishing year 1990–91

89. Over the past nine years, catches by purse seining account for 75% of reported landings. Despite purse seine catch limits, catches by purse seining have fluctuated largely because of variable fishing effort in KAH 3.
90. Trawling, set netting, ring net, bottom pair trawl, longlining, Danish seine/beach seine, and trolling each accounted for lesser amounts.
91. The annual landings of kahawai taken by trawling remained relatively stable with most of the catches in KAH 8. Set net landings have declined, as a result of set net area closures and changes in fishing patterns.
92. Most of the bottom longline kahawai landings are reported from KAH 1. Landings have remained relatively stable through time.

Targeted catch and bycatch

93. Kahawai commercial landings by nominated target species for all QMAs combined in fishing years 1993-94 to 2001-02 are provided in Table 5

Table 5: Total kahawai landings (tonnes) by nominated target species for all QMAs combined, for fishing years 1992–93 to 2001–02:

Method	Fishing year								
	1994	1995	1996	1997	1998	1999	2000	2001	2002
Kahawai	3 389	3 310	3 689	3 322	1 183	2 151	2 446	2 229	1 564
Jack mackerels	1 127	341	474	270	301	667	262	212	376
Trevally	159	215	262	700	482	461	483	332	319
Blue mackerel	0	1	0	20	83	344	120	174	7
Snapper	157	167	245	152	160	269	132	174	169
Grey mullet	94	100	102	83	106	93	113	130	154
Rig	56	54	41	26	23	20	21	26	18
Flatfish	31	28	38	20	50	22	22	23	24
Total	5 098	4 310	4 976	4 749	2 465	4 218	3 738	3 422	2 746

Note: Fishing year '1994' is fishing year 1993–94.

94. Most kahawai is taken as a target species almost entirely by purse seining apart from a small amount by setnet. Target fisheries for jack mackerels, trevally, snapper and grey mullet, and occasionally blue mackerel, report bycatches of kahawai.

Number of vessels catching and landing

95. The number of vessels reporting landings of kahawai by year is shown in Table 6.

Table 6: Number of landings of kahawai by vessel for fishing years 1993-94 to 2002-03

Vessels	Fishing year ^a								
	1994	1995	1996	1997	1998	1999	2000	2001	2002
	769	729	635	567	518	477	474	497	469

^aFishing year '1993' is fishing year 1993–94

96. The number of vessels reporting landings of kahawai decreased between 1993-94 and 1998-99, however since then the number of vessels reporting kahawai has stabilised. The eight purse seine vessels operating in the fishery always take the bulk of the commercial catch.

Recreational catch

97. Kahawai is one of the fish species most frequently caught by recreational fishers and the recreational catch estimate is 83% of the average commercial catch during the past five years. The size of the recreational fishery is restricted by the application of daily bag limits but there is no minimum legal size for kahawai.
98. A survey of the Value of New Zealand Recreational Fishing undertaken by the South Australian Centre for Economic Studies (SACES) compared kahawai fishers with other recreational fishers. Kahawai anglers are characterised as follows: they go fishing significantly more times per year and are more likely to fish for eating purposes. They are more likely to fish from jetty or land platforms and are slightly more likely to catch and keep additional fish. They have a lower average fishing expenditure, have a higher male participation and are more likely to be a member of a fishing club.
99. Obtaining estimates of the total recreational catch of kahawai is difficult. Recreational fishing surveys are designed to estimate the fish caught and killed by **adult** anglers. Many children target kahawai and kahawai is commonly used for live baiting when targeting other species. The **survey estimates are likely to be an underestimate of the actual level of catch** (and hence measure of fish available to the sector and the potential mortality associated with fishing). MFish considers that it is unlikely that survey estimates include all fish caught and landed, used as bait or released by the recreational sector. Since 1991 there have been four telephone and diary surveys conducted to estimate national landings by recreational fishers. Survey estimates for 1992-94, 1996 and 1999-00 are reported below. Preliminary results from the national survey undertaken in 2000-01 have been provided for KAH 2 and KAH 3 as the 1999-00 estimates are likely to be biased by a pool of diarists in those fishstocks that reported fishing much more extensively than any other fishers.

Table 7. Recreational landings of kahawai (number of fish and tonnes greenweight) by QMA for 1991-94, 1996, and 1999-2000.

Year	1991-1994		1996		1999-2000	
	Number	Tonnes	Number	Tonnes	Number	Tonnes
KAH 1	724 000	980	666 000	960	1 860 000	2 195
KAH 2	190 000	290	142 000	217	492 000	800#
KAH 3	223 000	200	222 000	134	353 000	570#
KAH 4	-	-	-	-	-	-
KAH 8	254 000	330*	199 000	204*	337 000	441*
KAH 10	-	-	-	-	-	-

- no estimate

Based on preliminary results from the 2001 national survey

* estimate pertains to FMA 9 only.

100. A national survey estimated annual recreational landings of kahawai during the 1991-94 period to be 1 800 tonnes. A national survey conducted in 1996 produced an estimate of 1 515 tonnes that was broadly consistent with the earlier estimate. However, the survey conducted in 1999-2000 produced an estimate of kahawai landings of 2 195 tonnes for KAH 1 (compared to 960 tonnes in 1996). There remains some doubt about the estimates from the 1996 and 1999-00 surveys. The uncertainty revolves around the participation rates of recreational fishers used in each survey. Those for 1999-2000 may be too high and those for 1996 may be too low. Assuming a common participation rate for both surveys will have the effect of lowering the 1999-2000 estimate and increasing the 1996 estimate.
101. The average of the two most recent estimates of recreational landings are proposed as the best basis for estimating current recreational utilisation. Because the recreational harvest surveys report on the fishstock codes an arbitrary amount (54 tonnes) was removed from the KAH 3 estimate and added to the KAH 9 estimate to account for area changes in establishing KAH 8.
102. Recreational groups have repeatedly expressed concern about the state of kahawai stocks. High percentages of respondents to readership surveys conducted by fishing magazines in 1989, 1990, 1993 and 1997 felt that the numbers of kahawai available to recreational fishers had declined in the years prior to each survey. In 1992 the Recreational Fishing Council (RFC) carried out a club/individual survey where 188 of 189 responses suggested this decline was at least 50%. In 1997 the RFC carried out a survey of recreational fishers in major fishing magazines. There were 2002 respondents of which 47% felt that kahawai stocks had 'declined significantly' and 32% felt that they had 'declined a little' over the previous five years. Recreational interests have expressed concerns about low kahawai catch rates seen in recreational fisheries. Boat ramp surveys conducted by MFish in 1991 and 1994 indicated that catch rates of kahawai by recreational fishers were <0.2 fish per hour, however, these values included trips targeting other species and therefore may be artificially low.

Customary catch

103. No quantitative estimates of customary fishing for kahawai are available. A substantial level of customary catch could be anticipated. Maori have had an historic interest in kahawai and it is an important food source in some localities. The report from the Fisheries Assessment Plenary notes that Maori have concerns with respect to declines in traditional fisheries.

Regulatory Framework

104. The recreational daily bag limit for all areas is 20 kahawai per fisher if the one species is taken, otherwise as a mixed bag of 20. The minimum mesh size for

- recreational set nets targeting kahawai is 100 mm. There is no minimum legal size for kahawai.
105. Since 1990-91 commercial catch limits have applied to kahawai, with specific limits pertaining to purse seining. The current purse seine catch limit is 1 200 tonnes for KAH 1 and KAH 9 combined, 851 tonnes for KAH 2, and 1 500 tonnes for KAH 3 (FMAs 3-8). These catch limits are fished competitively. MFish monitors catches and closes each fishery if and when it is likely to be over caught.
 106. Trawling and Danish seining have been prohibited within two nautical miles of much of the shoreline of the Bay of Plenty, for much of the Hauraki Gulf, and within one nautical mile of much of the north-western coast of the North Island. The reasons for these closures include protecting juvenile fish that often tend to congregate in near-shore waters, and spatially separating commercial trawl and Danish seine vessels and non-commercial fishers.
 107. MFish notes that there have been voluntary agreements to restrict the commercial take of kahawai.

Fisheries assessment

108. A stock reduction model was used in 1996 to obtain estimates of virgin and current biomasses and MCY for a single nationwide kahawai stock with constant recruitment. A single stock was assumed in the absence of information to suggest separate stocks.
109. A number of biological assumptions were used in the model and these are provided below in Table 8. The most sensitive input parameter is the natural mortality of kahawai. If the natural mortality of kahawai is assumed to lie between 0.15 and 0.25 the model estimates MCY ranging between 5 100 and 14 200 tonnes (refer Table 9). However, recent analysis suggests the natural mortality for kahawai is unlikely to be higher than 0.2 and is likely to be close to this estimate. MFish considers a natural mortality of 0.2 for kahawai to be the best available information and accordingly proposes that MCY estimates based on that value be considered best available information.
110. The coefficients for relations with both sexes combined are given because no significant difference with sex could be detected.

Table 8: Biological parameters used in the model

Parameter	Symbol	Value
Natural mortality	M	0.2 yr ⁻¹
Age of recruitment	A _r	4 yr
Gradual recruitment	S _r	3 yr
Age at maturity	A _m	5 yr
Gradual maturity	S _m	0 yr
Von Bertalanffy parameters	L _∞	60 cm
	K	0.3 yr ⁻¹
	t ₀	0 yr
Length-weight parameters	a	0.024
	B	2.91
	h	0.95
Recruitment steepness	h	0.95
Recruitment variability (biomass cal'n)	σ _R	0
Recruitment variability (yield cal'n)	σ _R	0.6

111. Catch curves derived for purse seine fishing in KAH 2, KAH 3 and KAH 9 during 1991-92 suggested a maximum value for total mortality of 0.31. Therefore, adjusting the maximum fishing mortality in any year so that the average fishing mortality and natural mortality combined was 0.31 probably made the estimates conservative. The average fishing mortality was calculated over the years 1980-92. As mentioned, recent analysis suggests natural mortality for kahawai is unlikely to be higher than 0.2 and is likely to be close to this estimate. Results of the model for various values of M (natural mortality) are provided below.

Table 9 Estimates (tonnes greenweight) of virgin biomass (B₀) and biomass in 1996 (B₁₉₉₆) compared to B_{MSY}. F_{av} is the average fishing mortality between 1980 and 1992. Estimates are calculated for different values of natural mortality (M).

M	F _{av}	B ₀	B _{MSY} /B ₀	B ₁₉₉₆ /B ₀	MCY
0.25	0.063	152 000	13.9%	71.7%	12 600-14 200
0.20	0.112	106 000	16.1%	50.0%	7 600-8 200
0.15	0.162	93 000	17.8%	28.0%	5 100-5 700

112. The above estimates are uncertain and depend on the model assumptions and input data. They may be regarded as conservative estimates as the estimates of total mortality in the model are based on maximum observed values. The catch history is uncertain due to uncertainties in the commercial catch records, and the non-commercial catch history is based on the 1996 survey. Estimates of MCY were calculated for a single national fishstock. $MCY = pB_0$ where p is determined from a method where the biomass does not go below 20% B₀ more than 20% of the time.
113. The base case described for the above parameters provides the basis for the lesser MCY estimate. A sensitivity analysis was undertaken where the non-commercial catch was greater than that based on the 1996 harvest estimate. This has the effect of increasing estimates of B₀, B_{MSY}/B₀, B₁₉₉₆/B₀, and MCY and is the basis for the greater estimate of MCY provided in the range given in Table 9.

114. If the natural mortality of kahawai is assumed to lie between 0.15 and 0.25 the model estimates MCY ranging between 5,100 and 14,200 tonnes (refer Table 9). However, recent analysis suggests the natural mortality for kahawai is unlikely to be higher than 0.2 and is likely to be close to this estimate. MFish considers a natural mortality of 0.2 for kahawai to be the best available information and accordingly proposes that MCY estimates based on that value be considered best available information. Accordingly, the best estimate of MCY is between 7 600 and 8 200 tonnes.

Table 10: Summary of yield estimates (tonnes greenweight), average reported commercial landings (t) for 1997–02 and recreational harvest (tonnes greenweight) as estimated by the average of the 1996 and 1999-00 harvest surveys.

Fishstock		FMA	MCY	Commercial landings	Recreational landings
KAH 1	Auckland	1		1 481	1 578
KAH 2	Central (East)	2		711	509
KAH 3	South-East, Southland, Sub-Antarctic, and Challenger	3, 4, 5		492	667
KAH 8	Central (West), Auckland (West)	6 & 7 8 & 9		634	354 323
KAH 10	Kermadec Is	10		0	0
Total			7 600-8 200	3 338	2 762

115. Combined estimates of recreational catch and reported commercial landings are currently within the range of MCY estimates.
116. There are two species of kahawai present in New Zealand waters, kahawai and northern kahawai. This assessment applies only to kahawai and nothing is known about the other species.

Associated fisheries

117. Kahawai swim in schools of similar sized fish and often mix with those of other pelagic species such as jack mackerels (*Trachurus spp.*), trevally, blue mackerel and kingfish. They are associated with pelagic prey species such as juvenile jack mackerels, pilchards, anchovies, sprats, yellow-eyed mullet, whitebait and pelagic crustaceans such as krill.
118. Kahawai are themselves predated by other species such as kingfish, tunas and billfish and might be an important factor in the seasonal availability of these species.

Environmental Issues

119. Kahawai, as predators, form an important ecological relationship with its prey, some seabirds, and possibly with some marine mammals. Kahawai circle and herd schools of prey when feeding and in doing so make available the prey species to other predatory species. There is no information on whether current

kahawai fishing activities are detrimental to the long-term viability of any other species.

120. Juvenile kahawai may suffer from habitat degradation in estuarine areas.
121. Within KAH 3 the kahawai purse seine fleet has voluntarily agreed not to fish in a number of nearshore areas around Tasman and Golden Bays, the Marlborough Sounds, Cloudy Bay, and Kaikoura since the 1991–92 fishing year. The main purpose of these agreements is to minimise both local depletion of schools of kahawai found inshore, and catches of juveniles. Similar areas outside KAH 3 have not been identified. There are no other known areas where biodiversity or habitats of significance to fisheries management are likely to be adversely affected by fishing for kahawai.
122. Kahawai is taken as a bycatch in trawl fisheries. The nature of trawling is that this method has an affect on the physical structure of the substrate and the benthic community structure. Most of the trawling where kahawai is taken as a bycatch is likely to occur in long-established existing trawl grounds where it is likely the original benthic community will have been modified. MFish does not anticipate that introducing kahawai into the QMS will result in new areas being trawled.

Current and Future Research

123. Current research has the objective of monitoring the status of the stock by surveying the length and age structure of the recreational catch over time.
124. The direct effects of purse seine fishing for kahawai on the environment has not been studied but are likely to be relatively minor. Research on the interrelationships between kahawai and other elements of the aquatic environment has been identified as an area for future consideration, however, this is a complex area of study and it is unlikely to be undertaken in the foreseeable future.
125. As mentioned, obtaining reliable estimates of recreational catch for kahawai has proved difficult. Further work to estimate, and to differentiate, recreational catches and landings are required.

Social, Cultural, and Economic Factors

126. The results of the SACES survey produced estimates of the value of the recreational fishery for kahawai based on non-market estimation techniques (contingent valuation to determine the willingness of a fisher to pay to catch a kahawai). These results were used to estimate the value of the recreational fishery based on the 1996 estimate of recreational catch of 1 515 tonnes.
127. The results estimate a total recreational expenditure of \$158 million in 1996. It is important to note that total expenditure is not a measure of the net benefit of the fishery and cannot be directly compared to the value of kahawai taken

- commercially. Also of note is the fact that estimates of expenditure and value are based on what is likely to be an under-estimate of current recreational landings.
128. MFish considers that the best comparative measure of recreational value is determined from the marginal willingness to pay (the change in willingness to pay with respect to a unit change in the amount of fish caught and kept). Using the estimates provided by SACES of a marginal willingness to pay of \$2 800 per tonne and capitalising this amount at rates of 5% and 10% provides a range of values from \$28 000 to \$56 000 per tonne.
 129. Commercially caught kahawai is a relatively low value species although some is sold as a popular smoked product. Port price was \$0.44 per kilogram greenweight during 2001-02. This price is comparable with that received for QMS species such as blue mackerel (\$0.30) and trevally (\$0.67-\$1.27). In order to determine possible future quota value of kahawai MFish has assessed two comparable QMS species, blue mackerel and trevally. While the fisheries differ in scale and characteristics, the port prices of these three species are comparable. Like kahawai, blue mackerel and trevally are taken by purse seine. Like kahawai some trevally is smoked and both species are popular in this processed form on the domestic market. The average traded price for these species in 2001-02 was \$1 700 and \$5 100 respectively per tonne. These average prices suggest a commercial value for kahawai in the range of \$1 700-\$5 100 per tonne, which is approximately one sixteenth to one eleventh of the estimated value of one tonne of kahawai caught by recreational fishers.
 130. However, there is considerable uncertainty in information used to assess utility in the absence of a market for tradable rights between sectors. This uncertainty relates to ability to compare non-market values (willingness to pay) with market values (price of quota) and the static nature of the value estimate. The estimate of value is valid only for the time the survey was undertaken. Since that time social, cultural and economic values may have changed.

Annex 4

option4 Draft Rebuttal of Kahawai IPP 2004

When a species is introduced into the Quota Management System (QMS) the Ministry of Fisheries issues its suggested management proposals to the Minister in an Initial Position Paper (IPP). The Minister uses this information to base his final decision on when setting the TACC and allowing for the public and customary Maori fishers.

option4 are concerned about the inconsistency in the advice given to the Minister regarding the amount of kahawai being "allowed for" for Maori customary fishers. The following is an extract from the kingfish Final Advice Paper (FAP) 2003.

February 2004.

ANNEX 4

FAP Kingfish 2003

Customary Maori Catch

41. The level of customary catch for a fishstock may not be known. In such instances an estimate of take is made on the best available information. In the future there will be information relating to the level of catch from customary fishing authorisations. Increased use of the customary regulations throughout the country will result in the information regarding customary catch being more complete and accurate. Where information relating to catch is available for the species in a separate QMA it is appropriate to take that information into account when providing for customary Maori interests for that fishstock. For some species and stocks, in particular deepwater species, there may not be any Maori customary catch. In this instance a zero allowance would be provided.
42. The consultation process for the sustainability measures round involves sending copies of all proposals to over 80 iwi and hapū throughout New Zealand. Where they have provided any information of the extent on customary Maori take, this has been used. Other rationale could be considered on a case by case basis including:
 - a. **where a species is known to be of importance to Maori, but no information is available, an allowance similar to the known recreational catch is recommended;**
 - b. where a species is not of particular importance to Maori, but it is thought there may be some take, 50% of the recreational catch estimate is recommended (rounded to the nearest tonne); and
 - c. where it is considered unlikely that there is or has been any customary Maori catch in a particular fishstock then a zero allowance is recommended.

Annex 5

option4 Draft Rebuttal of Kahawai IPP 2004

When a species is introduced into the Quota Management System (QMS) the Ministry of Fisheries issues its suggested management proposals to the Minister in an Initial Position Paper (IPP). The Minister uses this information to base his final decision on when setting the TACC and allowing for the public and customary Maori fishers.

option4 are concerned about the inconsistency in the Statutory Considerations section of the IPP regarding the availability of kahawai to fishers. Information supplied in the kahawai IPP does not equate to information from the Minister's comments in the kingfish Final Advice Paper (FAP) 2003. The following is an extract from the kingfish FAP *Setting the TAC* section. Of particular interest is the Minister's comments in paragraph 10.

February 2004.

ANNEX FIVE

Ministers FAP Kingfish 2003

Paragraphs 3 -10

Setting the TAC

3. There is limited information on the current status of kingfish stocks and no quantitative assessment to determine whether stocks are above or below the biomass that will support the maximum sustainable yield (B_{MSY}). Given the limited information available I have decided that it is not necessary to set a target level (such as above B_{MSY}) for kingfish stocks at this time.
4. Uncertainty in the status of current biomass is a factor that I have taken into account in my consideration of TAC options identified in MFish advice and in stakeholder submissions. I am required to make a decision on TACs and allowances despite the uncertainty in current stock status. Having regard to the importance of the stock to all sectors, and therefore the socio-economic benefits associated with harvesting, I wish to take management steps that will at least maintain, if not improve, current biomass.
5. I have noted that the Report from the Fishery Assessment Plenary concludes that it is not known whether the current combined commercial and recreational catch is sustainable for any kingfish stock. Anecdotal information from recreational fishers suggests that there has been a decline in abundance. Commercial landings have declined in KIN 1 and KIN 2 but the reason for this decline is not clear. While accepting that the information on landings is uncertain, I consider that the available data suggests that there is a risk attached to current levels of catch for some kingfish stocks, in particular KIN 1, KIN 2 and KIN 8.
6. In the absence of reliable yield information, the starting point for calculating the TAC for each stock is the best estimate of average landings for each sector group. I have noted that a number of submissions disputed the estimates of average

landings provided in the MFish Initial Position Paper (IPP) and suggested alternative data and/or time periods of data that should be used to calculate the TAC options.

7. In final advice to me, MFish has confirmed its view that the average of the two most recent harvest estimates, while uncertain, is the best available information on recreational kingfish landings at this time. MFish did not accept the industry proposition to extend the period used to derive commercial average landings on sustainability grounds. After consideration of submissions, MFish also proposed adjustments to the estimates of commercial average landings provided in its initial proposals to take into account:
 - the fact that the Minimum Legal Size, did not apply to all commercial fishing methods until December 2000; and
 - the declining trend in commercial landings in KIN 1 since 1993 by reducing the period of time used to derive an average of these landings.
8. I have considered the MFish advice and the submissions related to this issue. I am not so concerned about the basis for the TAC calculation, which I recognise in the absence of yield information is to a degree subjective, but rather whether the overall TAC for each stock is sustainable. After analysis of submissions and consideration of available information MFish have assessed that the TACs outlined in the IPP may be unsustainable given uncertainty over current stock status. Accordingly I have determined that the TAC options presented in the MFish final advice present less risk to the stock than those outlined in the IPP.
9. The MFish Final Advice Paper (FAP) outlined two TAC options for KIN 1, KIN 2, and KIN 8, one based on average landings, the other based on a 20% reduction to average landings. In reaching a decision on which TAC option should apply in each kingfish stock I have carefully considered the socio-economic impacts and advice outlined in the MFish FAP and the issues raised in submissions including:
 - i. the uncertainty in information on the status of kingfish stocks;
 - ii. information that may indicate a decline in biomass over time;
 - iii. my desire to at least maintain and hopefully improve current biomass; and
 - iv. socio-economic information including the potential impacts and benefits to all sectors.
10. I am not satisfied that a TAC based on average landings in KIN 1, KIN 2 and KIN 8 appropriately mitigates the risk that abundance may have declined over time and further decline is possible at levels based on average landings. Given uncertainty in information on stock status, I am obliged to implement measures that will prevent the biomass declining. However, my preference is to set a TAC that provides a reasonable opportunity for the biomass to increase. I have therefore decided to set a TAC for kingfish in KIN 1, KIN 2 and KIN 8 that is 20% below revised estimates of average landings. TACs in other areas are to be based on the best estimate of average landings. TACs for all stocks are outlined in Table 1.