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Ministry of Fisheries
P O Box 1020
WELLINGTON

Attention: Mike Arbuckle

Dear Sir

Introduction of kahawai into the Quota Management System on 1 October 2004. Submission on behalf of Sanford Limited

Summary

1. This paper is a submission in response to the Initial Position Paper on introduction of kahawai and other species into the Quota Management System ("the IPP"). This submission has been prepared by Mace and Company Limited on behalf of Sanford Limited.
2. Sanford supports the introduction of the kahawai fishery to the Quota Management System, and supports the proposed deemed value regime and the removal of commercial catch limit regulations.
3. Sanford does not support the proposed TACs and TACCs, because it considers that:
 - a. The methodology for calculating the TACC is flawed in that it fails to properly apply the provisions of the Fisheries Act 1996.
 - b. The TAC should be based on the available stock assessment which (although dated) is based on an evaluation of the sustainability of the resource. The use of catches over an arbitrary time period to set the TACC is inappropriate where a stock assessment is available, and is also inappropriate where commercial catches have been constrained by catch restrictions.
 - c. Allowances made for recreational and customary fishing are excessive, which erodes the volume of kahawai available for allocation to the commercial sector.
4. Sanford recommends a new schedule of TACs and TACCs, which is set out in Table 3.

Introduction

5. Sanford is the leading company in the New Zealand pelagic fishing industry. Sanford was one of the first companies to purse seine for pelagic species in New Zealand, and has since led the development of the New Zealand-based purse seine fishery. This fishery makes a significant economic contribution, generating valuable employment opportunities and foreign exchange

earnings.

6. Kahawai forms a key part of this multi-species fishery, as well as comprising a significant bycatch in the trawl fishery. Approximately 80% of Sanford's kahawai catch is taken by purse seine. Continued access to kahawai is essential to maintain the profitability of this purse seine operation.
7. Sanford supports incorporation of kahawai in the Quota Management System, and considers this will improve the sustainable management of this fishery.
8. However, Sanford considers that the proposals in the management paper "*Introduction of New Species into the Quota Management System 1 October 2004, Setting Sustainability and Other Management Controls*" incorrectly apply the provisions of the Fisheries Act 1996, such that likely kahawai quota allocations will result in a significant reduction in purse seine catches. This reduction will significantly erode the viability of this important commercial fishery.

Development of the kahawai fishery

9. The first purse seining in New Zealand was by American-owned tuna vessels in the early 1970s. Although small scale surround net fisheries had been carried out for many years prior to this, these used small manually hauled nets to fish primarily for small pelagic ("bait") species in coastal waters. By contrast, purse seining permitted fishing for fast moving larger pelagic species in deeper water further from the coast.
10. In the late 1970s, successful purse seine trials for coastal pelagic species - kahawai and mackerels - were carried out by the NZ Fishing Industry Board. This operation was subsequently taken over by Sealord.
11. Further purse seine vessels were subsequently acquired by Sanford, Watties Fisheries, Skeggs Foods, and other companies. Sanford, in particular, sought to develop a fishery for migratory skipjack tuna, but recognised that kahawai and mackerels would form a critical part of a year-round catch plan necessary to ensure viability of New Zealand based purse seiners.
12. Significant rationalisation of the industry occurred during the 1990s, including the sale or diversion to other fisheries of several vessels, and Sanford is now the leading purse seine operator in New Zealand, fishing four of the six vessels operating year-round in the NZ EEZ.

Management of the kahawai fishery

13. Commercial kahawai catches have been heavily constrained since the early 1990s by a series of management measures, both voluntary and regulatory. These include catch limits, seasonal restrictions, area exclusions and an agreement to avoid schools of immature kahawai.
14. The Minister of Fisheries imposed competitive catch limits on the kahawai fishery in the early 1990s. Catches in QMAs 1 and 2 have since remained relatively stable, as the purse seiners fishing these areas have fished up to the competitive catch limits in most years (see Figure 1).
15. In QMAs 1 and 2, access to the fishery has been further constrained by a range of voluntary area exclusions in Northland, Bay of Plenty and Gisborne/ Hawkes Bay, and an agreement not to purse seine for kahawai from mid-December to mid-April.

16. Catches in QMA3 have fallen due to reduced fishing activity resulting from imposition of voluntary management measures. These were:
- Voluntary agreement by the two South Island vessels (owned by Sanford and Sealord) to avoid fishing in southern Tasman Bay, because of the importance of the area both to recreational fishermen and as a feeding area for small kahawai
 - A similar voluntary agreement to cease fishing in Cloudy Bay and within one mile of the coast north of Kaikoura. The latter area was an important part of the commercial fishery as kahawai schooled daily in this area as part of a diurnal migration between deep and shallow water, but were usually unavailable in deeper water.

The Nelson-based fishery was seasonal; these area exclusions further contracted the season, eroding the viability of the fishery. One vessel was eventually sold (Sealord's Shemara) and the other transferred to Tauranga (Sanford's Waihola).

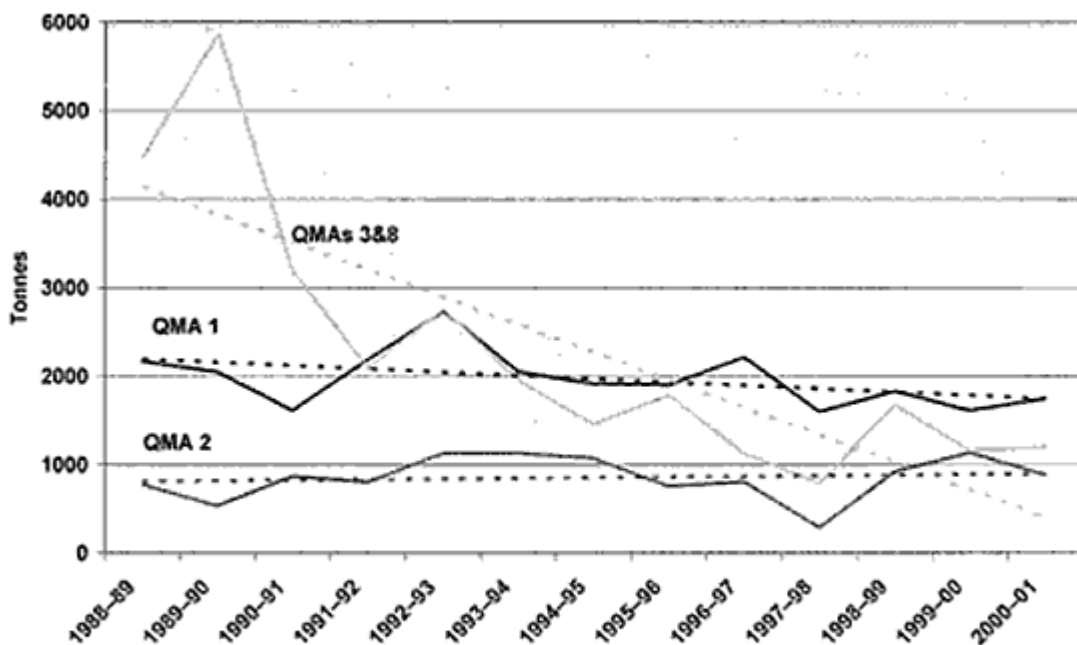


Figure 1. Kahawai catches by management area, 1988-2001. Broken lines show catch trends. Note that QMAs 3 and 8 are combined in this graph as the management areas used in the MFish document and stock assessment documents are for different sets of FMAs

Economic value of the kahawai fishery

17. Sanford operates five purse seiners from its Tauranga base. These vessels provide local employment for around 100 full-time equivalent share fishermen and shore staff.

	Full time equivalent staff
Share fishermen	27
Netmakers and engineers	7
Unloading and processing	48
Freezing and assoc roles	6
Shared support staff (70% of time associated with purse seine operation)	13
Head office (30% of time associated with purse seine operation)	3
Total	104

Table 1. Current number of full time or casual staff employed in association with Sanford's purse seine operation

18. Sanford's purse seine fleet operates year-round, fishing a multi-species catch plan comprised of skipjack tuna, jack mackerel, blue mackerel and kahawai. These vessels generate annual sales of \$18-25 million, 10-15% of which is from the kahawai catch.
19. Skipjack is caught over a 3-4 month period in summer and autumn, with kahawai and mackerels caught over the balance of the year. A year round operation is essential to maintain the economic viability of these vessels.
20. The mixed catch plan also buffers this operation against the effects of year-to-year variations in skipjack availability (a consequence of variable ocean temperatures) and variations in market prices of the different species. Consequently, all the species in the catch contribute to the viability of the purse seine operation. A reduction in Sanford's kahawai catch would render one or more vessels unviable.
21. Sanford's kahawai catch generates sales income of approximately \$2.5m per annum, of which more than 80% is export earnings. Sales value for the past 2 1/2 years is shown in Table 2. Sanford estimates the total value of the New Zealand commercial catch of kahawai at approximately \$3.2 million.
22. Kahawai also presents a significant development opportunity for the seafood industry. Higher valued markets are being developed, with exports currently being increased to countries such as Iran, where kahawai is displacing mackerel as a preferred species due to unacceptable parasite levels in the latter.
23. Kahawai sales in New Zealand are also increasing. Kahawai is traditionally popular as a smoked fish, while local demand is increasing for it in all forms, particularly in "ethnic" communities. However, kahawai has not generally been readily available in the past. The opening of the Auckland Fish Market later this year will result in further increases in kahawai sales, as it will draw on Sanford's supply chain to make high quality purse seine caught kahawai more readily available than through present distribution channels.

2001-02

Sale Destination	Quantity (kg)	Value (\$)	\$ / kg
Miscellaneous	60	\$ 89	\$1.49
Australia	1,781,865	\$ 1,812,865	\$1.02
Russia	83,245	\$ 131,163	\$1.58
New Zealand	370,913	\$ 479,625	\$1.29
TOTAL	2,236,083	\$ 2,423,743	\$1.08

2002-03

Sale Destination	Quantity (kg)	Value (\$)	\$ / kg
Miscellaneous	38,250	\$ 44,295	\$ 1.16
Australia	1,591,240	\$ 1,838,946	\$ 1.16
Europe	7,500	\$ 9,284	\$ 1.24
Middle East	60,270	\$ 83,168	\$ 1.38
Russia	50,085	\$ 114,525	\$ 2.29
New Zealand	294,110	\$ 404,102	\$ 1.37
TOTAL	2,041,455	\$ 2,494,319	\$ 1.22

2003-04 (5 months only)

Sale Destination	Quantity (kg)	Value (\$)	\$ / kg
Australia	911,875	\$ 1,196,880	\$1.31
Middle East	86,650	\$ 100,166	\$ 1.16
Russia	17,175	\$ 22,451	\$1.31
New Zealand	97,799	\$ 132,000	\$1.35
TOTAL	1,113,499	\$ 1,451,497	\$1.30

Table 2. Sales value of the Sanford kahawai catch**General comments on the management proposals**

24. In general Sanford supports the management measures set out in the IPP, specifically
- a. The addition of kahawai to the quota management system, which will improve the management of the fishery.
 - b. The proposed deemed value regime
 - c. The removal of commercial catch limits. These will no longer be necessary once kahawai is managed under the QMS.
25. However, Sanford is concerned at the methodology for calculation of the Total Allowable Commercial Catch. Sanford believes that the Ministry's proposals are inconsistent with the provisions of the Fisheries Act 1996, and that implementation of the Ministry's proposals will significantly erode Sanford's property rights in this fishery. These concerns are discussed in further detail below.

Sanford's concerns

26. Sanford has concerns with the process for calculation of the TAC and with the level of allocations to the various stakeholder interests.
27. Sanford believes the Fisheries Act is quite specific in terms of the steps involved in calculation of a TAC and TACC:
- a. Firstly, a TAC must be determined (S13) that "*Maintains the stock at or above a level that can produce the maximum sustainable yield...*", subject to consideration of "*such social, cultural, and economic factors as [the Minister] considers relevant*". Read in conjunction with the information principles (S11), we believe this requires that any relevant stock assessment will be the first reference point for calculation of the TAC.
 - b. Next, an allowance is calculated for recreational and customary fishers
 - c. Lastly, the TACC is determined as the TAC less this allowance.
28. On the other hand, in the kahawai fishery, the Ministry proposes to:
- a. Calculate an allowance for recreational fishers
 - b. Calculate an allowance for customary fishers
 - c. Calculate recent commercial catch levels
 - d. Make an allowance for incidental mortality in the purse seine fishery
 - e. Then determine the TAC as the sum of items a to d.
- Sanford believes this is procedurally incorrect.
29. Sanford has several concerns with the above approach. These are:
- a. The TAC is not based on the best available scientific information.
 - b. The recreational harvest estimates are based on two surveys with acknowledged shortcomings. However, while the earlier of the two surveys has been subject to a robust peer review process, the later survey has not been signed off according to the agreed process.
 - c. The basis for calculation of customary fishing is totally inadequate, as it is not based on any meaningful assessment of likely levels of customary harvest.

As a consequence of the above, Sanford believes that excessive allowances have been made for recreational and customary fishing, which in turn erodes the amount available for allocation as the TACC. This will have significant economic consequences for Sanford and other pelagic fishing companies.

Determination of the Total Allowable Catch

30. The IPP proposes to calculate the TAC as the sum of average commercial landings between 1997 and 2002, plus, allowances for recreational and customary fishing and incidental commercial fishing-related mortality. The IPP notes that this coincidentally gives a total tonnage the same as the lower bound of the MCY estimate.
31. The IPP suggests that this is the best approach as the stock assessment is considered to be out of date.

The stock assessment

32. Sanford submits that the stock assessment should be used as the primary reference point for calculation of the TAC. The stock assessment was last updated in 1996. By then, the purse seine fishery had been underway for at least 17 years. Over the period from 1983/84 (the earliest date for which we have been able to obtain catch data) to 1995/96, the commercial catch averaged 5862 tonnes.
33. The IPP reports estimated rates of natural and total mortality for the years 1980-1992. Natural mortality (M) was estimated to be below 0.2, while total mortality (Z) was estimated at 0.31. Assuming a conservative value for M of 0.2, then the rate of fishing mortality (F) can be calculated at 0.11, around half of the rate of natural mortality. The 2002 stock assessment report [1] (p277) states that "*Levels of F near or below M are generally considered sustainable*". A value of F half that of M would indicate that catch rates over the period up to the assessment were conservative
34. Although there are uncertainties in the estimate of Z, nevertheless it is likely that fishing pressure is relatively light and biomass is well above BMSY (the level that produces the maximum sustainable yield).
35. Total commercial catch over the years 1980-1992 averaged 6000 tonnes, yet fishing mortality for most of this period was low, estimated at half the sustainable level. This suggests that the proposed TAC is also very conservative.
36. Recreational fishing organisations have suggested that kahawai catch rates have declined substantially in all areas, and that this indicates a substantial decline in kahawai abundance due to high levels of commercial catch. However, we are unaware of any data to support this assertion.
37. It is axiomatic that harvesting a fish stock will lead to a reduction in biomass, but other factors (such as increased recreational fishing pressure and land use changes) will also affect availability of kahawai in near-shore waters. Nevertheless, the stock assessment estimated that biomass in the mid-1990s was around 50% of virgin biomass (B_0), well above BMSY (the biomass that provides the maximum sustainable yield), indicating a healthy kahawai resource.
38. If kahawai stocks were under pressure, one would expect to see other signs of this, such as a reduction in the proportion of older fish, or reductions in catches by non-target fishing methods.
39. However, the most recent age frequency data (Taylor et al, 2004 [2]) from the late 1990s shows a broad spread of ages and a strong proportion of older fish, consistent with a relatively low exploitation rate.
40. Kahawai bycatch rates in non-target fisheries could be expected to decline in some proportion to declines in overall abundance. Figure 2 shows commercial kahawai bycatch by method for the period 1993-2002 (the only years for which method information is available). None of these fisheries target kahawai, so trends in kahawai bycatch could reasonably be expected to follow changes in underlying abundance, and parallel any reduction in recreational catch per unit effort. Instead, Figure 2 shows that total bycatch has been relatively stable over this period, in spite of the reduction in trawl effort in some areas due to TACC reductions. In fact, there was an upward trend in trawl bycatch over this period.

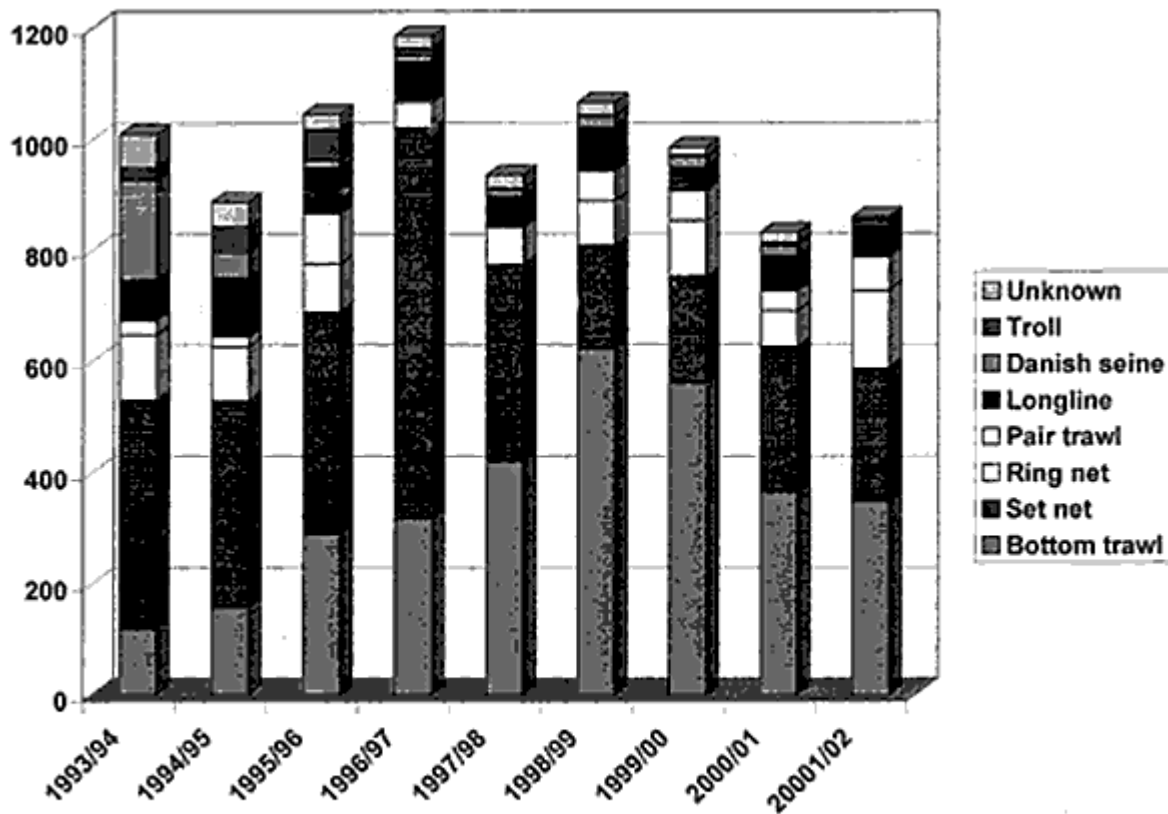


Figure 2. Commercial kahawai bycatch by method, 1993-2002.

Data from IPP page 85.

41. Recreational fishing groups have also claimed substantial reductions in surface schooling kahawai, both in number and size of schools. Purse seine operators have been using fish spotting aircraft since the late 1970s, with some of the original pilots still flying. Analysis of fish spotting data is attached as Appendix 1 to this submission. This analysis doesn't show any clear trends over this period. Rather, it highlights the large variations in schooling kahawai from year to year, presumably a result of environmental and other factors, which will affect availability of surface schooling fish to both recreational and commercial operators.
42. The IPP (page 90) summarises the 1996 assessment, which estimates Maximum Constant Yield (MCY) at between 7600 and 8200 tonnes for a value of M of 0.20, but also acknowledges that this estimate is conservative.
43. The stock assessment, completed almost 20 years after the commencement of the kahawai purse seine fishery, indicated that the stock was being fished at conservative levels. Commercial catches over the decade leading up to the assessment averaged around 6000 tonnes, while catches in the last decade have averaged less than 4500 tonnes. We believe that the assessment - acknowledged as conservative by the stock assessment working groups - remains the best available information and should be used to set the TAC.
44. Further, given that the MCY estimate is acknowledged to be conservative, using the lower bound of this estimate (7600 tonnes) would be excessively conservative. Sanford submits that the upper bound of the MCY estimate (8200 tonnes) would be more appropriate.

Calculation of the Total Allowable Commercial Catch

45. Section 21 of the Fisheries Act 1996 provides that:

1. *In setting or varying any total allowable commercial catch for any quota management stock, the Minister shall have regard to the total allowable catch for that stock and shall allow for*
 - (a) *The following non-commercial fishing interests in that stock, namely*
 - i. *Maori customary non-commercial fishing interests; and*
 - ii. *Recreational interests; and*
 - (b) *All other mortality to that stock caused by fishing.*

46. We have several concerns over the manner in which S22 is applied. These concerns relate to:

- a. The determination of allowances for recreational and customary fishing
- b. The allowance for other mortality caused by fishing
- c. The basis for calculating the TACC

The process

47. Any allowance for catch by non-commercial stakeholders, and for other sources of mortality, has the potential to reduce the value of commercial stakeholders' interest in the fishery. We believe it is incumbent on the Ministry to make a reasoned assessment of the current scale of these non-commercial interests. It is not sufficient to follow arbitrary guidelines or principles. Rather, each fishery should be examined in reasonable detail, and a reasoned assessment made as to the required allowance to accommodate that sector. We consider that the Ministry has failed to do this.

Calculation of customary fishing allowance

48. Kahawai is an important fishery for tangata whenua. Allowance must be made for customary harvest, but Sanford argues that the allowance proposed in the IPP is unnecessarily high.

49. The Ministry has commissioned a number of studies of recreational fisheries which provide estimates of recreational catch rates, but the IPP indicates that there are no available quantitative estimates of customary catch. However, it states that "*... it is unlikely that customary catch is near the level of the recreational catch...the number of recreational fishers is likely to significantly exceed the numbers of customary fishers...* " and "*.... proportion of the customary catch is probably taken within the bounds of the daily recreational allowance...* ".

50. The IPP proposes to provide "*in the absence of quantitative information ... customary allowance set at 50% of the current level of recreational utilisation*".

51. We consider that the sections of the IPP quoted in the above two paragraphs (and the Ministry policy guidelines noted in paragraph 40 of the IPP) show a misunderstanding or disregard of the intent and effect of the customary provisions of the Act and of the effect of the customary regulations. This leads to overestimation of the extent of customary fishing and an excessive allowance for customary fishing.

52. The IPP's suggestion that "*.... the number of recreational fishers is likely to significantly exceed the numbers of customary fishers* " implies higher levels of customary fishing than could possibly

occur. The two most recent recreational surveys give a number of recreational fishers at somewhere between 370,000 (Bradford 1996 [3]) and three times that level (Boyd and Reilly 2002 [4]). By contrast, the 2001 Census of Population and Dwellings recorded a total Maori population of 525,281 - the number of recreational fishers is likely to be greater than the total Maori population, let alone the number involved in customary fishing.

53. The regulations providing for customary fishing (Regulation 27 and the customary fishing regulations) delineate the nature and extent of this class of fishing activity. Regulation 27 constrains customary fishing to provide kaimoana for hui and tangi. While the customary regulations that replace regulation 27 permit a wider range of purposes for customary fishing, nevertheless such fishing will only be permitted for a limited range of purposes, while customary permits will be for strictly limited areas and periods.
54. It is clear, therefore, that most fishing by Maori New Zealanders for recreation or sustenance, except for fishing under a customary permit in relation to these activities, will not by definition be customary fishing.
55. Recreational fishing by Maori should have been adequately sampled by the two recreational fishing surveys:
 - a. These surveys were based on random sampling techniques which were intended to provide balanced sampling across socioeconomic and ethnic groups, and across urban and rural areas. In fact, the 1999/2000 National Marine Recreational Fishing Survey collected demographic data by telephone survey to ensure statistical balance.
 - b. The 2001 Census of Population and Dwellings shows that approximately 89% of Maori have access to a telephone (compared to 96% of the total population). Although Maori are slightly less likely to have access to a telephone than non-Maori, it can be concluded that the recreational telephone surveys would have sampled Maori fishers in about the same proportion as non-Maori.
 - c. The 1996 census indicated that 83% of Maori are urban dwellers, compared to 25% in 1945, indicating a high proportion of Maori no longer reside in their tribal rohe.
56. Given the above, it would seem unlikely that a high proportion of the Maori population will be engaged in customary fishing as provided for in the regulations. Such fishing would be carried out by the relatively small number of Maori remaining in their tribal rohe, and those that periodically return to their rohe. The 1996 census recorded a Maori population of 525,281 of the total population of 3.6 million (14.7%). If the Maori population is only around 15% of total population, and if few Maori reside in their tribal rohe, then genuine customary catch is likely to be small compared to the total recreational catch by hundreds of thousands of Maori and non-Maori recreational fishers. If so, then an allowance of 50% of the estimated recreational catch would seem to be a substantial over-allowance.

Recreational fishing allowance

57. We are concerned at the simplistic approach to determination of recreational catch levels, and the reliance on the 1999-2000 harvest estimates.
58. The IPP notes that technical working groups have identified shortcomings with the methodology for both the 1996 and the 1999-2000 harvest estimates (such that the former estimate was too low and the latter probably too high), and proposes (paragraph 100) to average the estimates from

these two surveys. This provides a proposed recreational allowance of 2780 tonnes.

59. Sanford is deeply concerned at this approach. While agreeing that the 1996 survey may have underestimated recreational kahawai catch (for example, by ignoring catches by children under 15), nevertheless this survey has been subject to a robust peer review process. On the other hand, a number of issues raised in relation to the later survey have still to be resolved, and the results of this survey have yet to be signed off by the pelagic or inshore working groups. Given this, Sanford considers that the 1999-2000 survey estimates should not be used for calculation of a recreational allowance. Instead, the 1996 harvest estimate should be used, adjusted as necessary for the identified factors leading to underestimates of recreational harvest.

Suggested customary and recreational allowances

60. The Act requires that TACCS be determined after allowing for customary and recreational fishing. Unresolved issues with recreational surveys mean that recreational harvest estimates are very uncertain. There is even less information on customary harvest levels.
61. Sanford considers that MFish cannot justify recreational and customary allowances at the level proposed in the IPP (4171 tonnes). Sanford suggests that a level of 3000 tonnes for recreational and customary harvest would adequately provide for harvest by these two sectors. This can be adjusted (and TACCs adjusted if necessary) as further information becomes available in future.

Other fishing-related mortality

62. The IPP states that "*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 relating mortality*" (sic). In fact the Act doesn't require that an allowance must be made - rather it requires that such mortality be allowed for if it actually occurs.
63. We believe an allowance of 5% of purse seine catch for fisheries-related mortality is unnecessary. The IPP states that "... *there are a number of sets when the purse is set but no catch is recorded, possibly because of gear failure or other related factors...* " and "...*some incidental mortality is likely especially in instances of gear failure*".
64. In fact, purse seining is a very benign fishing method, in that fish are alive until they are in the hold of the vessel. As a result, the catch can be released from the net with negligible mortality in the event of gear problems.
65. Gear failure is a rare occurrence (much less than 5% of sets), and where there is a gear failure, the catch can be released with near-zero mortality. The main reason for the reported sets with no catch is that the fish escaped before they could be surrounded or before the net could be pursed.
66. Sanford submits therefore that no allowance is necessary for incidental fishing related mortality.

Calculation of the TACC

67. The IPP follows guidelines that provide for the use of "...average catches when landings have been stable for in excess of three years". It also notes that "commercial landings of kahawai declined between 1988 and 1998 and have stabilised thereafter, particularly in the important management areas QMA1 and QMA2". The latter statement is in fact incorrect. Figure 1 shows that catches in QMAs 1 and 2 have been stable over those years, while the only area where catches have reduced substantially is QMAs 3-8. The reduction in QMA3, as noted above, is a result of voluntary exclusion from prime fishing grounds and the eventual sale of one of the two purse seiners operating in the area. Catches have remained stable in QMAs 1 and 2 as they have been constrained by commercial catch limits.
68. We consider the use of recent catch history to be an inappropriate basis for setting the TACC in this fishery, especially as catches have been constrained by the catch limits applying during the 1990s, by voluntary agreements excluding purse seiners from prime fishing grounds, and by economic decisions made by the vessel owners.
69. While use of recent catch history may be the only means available for setting TACCs and TACs for fisheries where no stock assessment are available, in the case of kahawai we consider that the TAC should be based on the best biological information available, that is on the 1996 stock assessment.
70. As noted above, the 1996 stock assessment concluded that biomass was around 50% Bo and rates of fishing mortality were low after even after a period of 12 years where annual catch averaged 6000 tonnes.
71. Sanford recommends a new basis for calculation of the TACC:
- The TAC should be set at the upper bound of the MCY calculated in 1996, which was acknowledged at the time as being conservative (8200 tonnes)
 - A combined allowance should be made for recreational and customary fishing of 3000 tonnes
 - No allowance be made for fishery-induced mortality

This would provide a national TACC of 5200 tonnes. A nominal TACC of 10 tonnes should be set for each of KAH4 and KAH10, with the remaining 5180 tonnes apportioned in proportion to average catches since 1993/94, as shown in Table 3.

	KAH1	KAH2	KAH3	KAH4	KAH8	KAH10	Total
TAC	3,832	1,635	1,563	16	1,139	16	8,200
Recreational and customary allowance	1,705	550	324	6	410	6	3,000
TACC	2,127	1,085	1,239	10	729	10	5,200

Table 3. Recommended TACs and TACCs

Recreational fishing concerns

72. Recreational fishing organizations argue that availability of kahawai and kahawai school size have reduced. While it is axiomatic that there will be a reduction in biomass in any harvested fishery, the stock assessment in 1996 estimated biomass at approximately 50% of B_0 , well above BMSY (16% of B_0). Given the limited reduction in biomass, it is unlikely that abundance of schooling fish and prevalence of schools will have declined substantially. As commercial harvests are now much lower than in the late 1980s and early 1990s (as is the TACC recommended in this submission), we believe it is likely that kahawai biomass will now be at levels higher than at the time of the assessment.
73. While recreational groups argue that their kahawai catch rates have reduced over recent years, they have supplied little (if any) quantitative information to support their contention of declining recreational opportunities. MFish surveys shed little light on recreational catch trends, while any surveys carried out by recreational groups themselves have not (as far as we are aware) been made available for review by appropriate technical working groups.
74. As noted above (paragraph 39), commercial bycatch levels over the past decade have remained stable, suggesting the fishery has also remained stable. As well, the IPP notes that aerial spotting data fails to indicate any decline in abundance of kahawai schools. As noted above, analysis of this data shows that sightings of surface schools are highly variable from year to year, but fail to support suggestions of a dramatic decline in school size or abundance.
75. Recreational groups argue that purse seine fishing impacts on the quality of the recreational fishery. In fact, the commercial fleet has worked closely with local recreational interests to minimise any such impact, with area and seasonal closures in place for more than a decade in Northland, the Bay of Plenty, Gisborne/ Hawkes Bay, Tasman Bay, the Marlborough Sounds and Kaikoura.
76. Recreational groups also criticise the sale of kahawai for rock lobster bait. However, it should be noted that these groups themselves concede that a large proportion of the recreational kahawai catch is used for bait or released (dead or alive). Kahawai is not a preferred fish for many recreational fishers, and much of the catch is discarded.
77. On the other hand, the commercial industry supplies a range of customers in New Zealand and overseas, with the bulk of the catch sold for human consumption. In New Zealand, the commercial sector provides an invaluable social function in providing safe, healthy seafood for the majority of the New Zealand population who do not fish for sport.
78. Recreational groups suggest kahawai be managed as a non-commercial fishery, with target fishing for kahawai prohibited. However, the Fisheries Act provides for sustainable utilisation of fisheries, with provision for both recreational and commercial fishing. The stock assessment clearly indicates that this fishery can support viable fisheries for both sectors.
79. The commercial fishery contributes valuable employment and foreign exchange earnings to the New Zealand economy, as well as providing valuable food for those who do not fish for sport. This economic contribution would be lost if recreational demands were met.

Summary

80. Sanford considers that the kahawai fishery is a robust resource capable of providing for both high quality recreational fisheries and target and bycatch commercial fisheries. Both fisheries will generate economic value from a renewable resource.
81. Sanford considers that the current management regime is conservative and can be expected to sustain the resource at least at present levels. In fact, as current levels of harvest are lower than those of the late 1980s and early 1990s, kahawai are likely to increase in abundance.
82. Sanford seeks a revision of the proposed recreational and customary fishing allowances, and the proposed TACC, as set out in Table 3.

[1] Report from the Fishery Assessment Plenary, May 2002:stock assessments and yield estimates. Ministry of Fisheries May 2002

[2] Taylor, P, D Ayers, B. Harthill and D. Fisher, 2004. Characterisation of the amateur fishery for kahawai (*Arripus trutta*) in New Zealand. NIWA Client Report WIG2004-012.

[3] Bradford, E. 1999. Harvest of major recreational species: comparison of results from the regional and national diary surveys. NIWA Technical Report 60.

[4] Boyd. R.O and J.L. Reilly. 2002 1999/2000 National marine Recreational Fishing Survey: harvest estimates. Draft New Zealand Fisheries Assessment Report.