

option4 Submission to the IPP (Fisheries Management Proposals) - 26/7/02

5. TARAKIHI – TAR1

5.1 Tarakihi Recreational Fishery

Tarakihi is an important recreational species. It is the third most important species in terms of catch in FMA 1 after snapper and kahawai in the 1996 National Recreational Harvest Survey. Tarakihi is particularly important to recreational fishers in the Bay of Plenty and east Northland. The management of tarakihi in TAR1 (Tirau Point to Cape Runaway) will be critical from the recreational fishers' viewpoint, and will set a standard for fisheries management to come, as this fisheries management area (FMA) is where the majority of the recreational fishing population of New Zealand resides, and where most of our international recreational fishing tourism industry operates.

5.2 Biological Information

We have not had the opportunity to review any recent technical information available on this species. There is no summary of the species' basic life history, recruitment, reproductive biology, fecundity, life cycle, geographical range, habitat preferences, and interactions with other species, as might be expected when considering fisheries management decisions, nor is a list of references provided in the IPP. We note here that this in itself is not satisfactory – a short summary as provided for species in the *New Stocks into the QMS 2003* document would have been helpful. We have therefore gone back to primary source information where available.

5.3 Known Issues and Problems

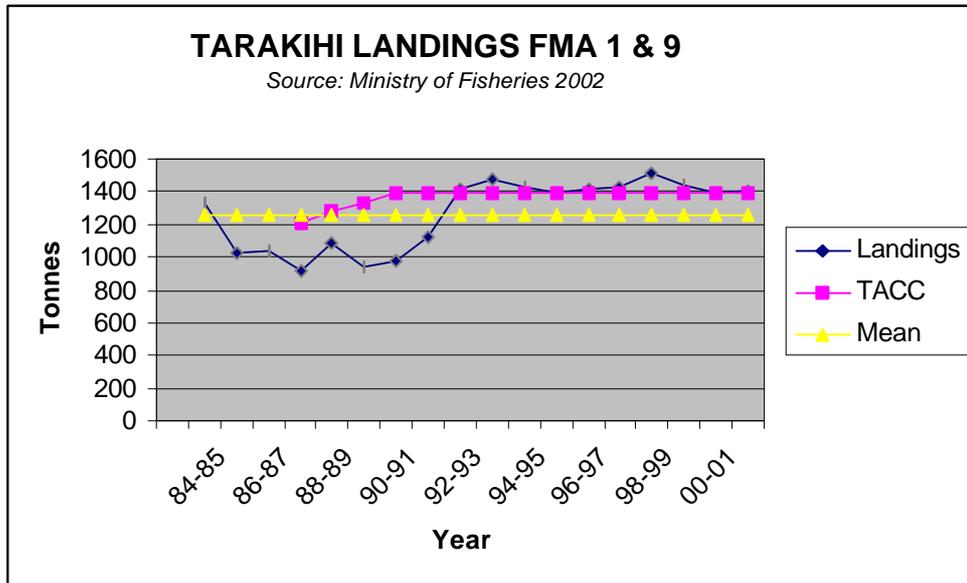
Tarakihi are known to be subject to localised depletion, providing some evidence that populations have a relatively limited geographical range, and therefore are probably reliant on specific habitats for successful recruitment and growth. Recreational fishers are aware of this problem, and have concerns that commercial pressure on the resource is minimised, particularly in areas of Bay of Plenty and East Northland where tarakihi are a sought-after recreational species.

5.4 Commercial Catch Data

We have reviewed the commercial catch data for TAR1 provided in the IPP, and have plotted it simply as a time series with an arithmetic mean computed over the total record available. This data is shown in Figure 5.1 below.

We do not have access to Catch Per Unit Effort (CPUE) information, nor do we have any fisheries modelling tools to refer to, so our comments below on trend analyses are necessarily restricted to observations made on first principles.

Figure 5.1 : Tarakihi Landings TAR1



We observe from Figure 5.1 above that:

- (1) Tarakihi landings dropped 31% from 1984-1987, then improved slightly over the next five years before recovering completely to fluctuate more or less steadily around the 1,400 tonne mark. The reasons for this significant drop in commercial catch are not addressed in the IPP.
- (2) The last decade's catch variability is in the order of plus or minus 3-5% around an arithmetic ten-year mean of 1,430 tonnes. This would indicate that the fishery is quite stable around that mean, with the 3-5% variance probably due to natural fluctuations in the population, *provided that* CPUE (as the Ministry states in the IPP) has remained more or less the same over the last decade. However, we cannot conclude, as the Ministry has (at paragraph 3, p30 IPP), that the abundance of tarakihi has increased over the past ten years. Rather, the data indicates that the fishery is stable at present. The Ministry's view in the IPP contradicts the view in the Plenary Report which states "*The TAR 1W index peaked in 1996, but has since declined slightly. The CPUE indices calculated for TAR 1E and TAR 2 have been essentially flat over the time period.*" (Page 613 Plenary Report 2002)
- (3) We note that the arithmetic mean over the entire 18 year catch record is 1,262 tonnes, with the unexplained drop in 1984-1987 contributing to a 12% decrease in the overall 18 year average. Perhaps this was natural variability, the effect of El Nino? To be expected in the fishery again?

- (4) It would appear that the TAR1 fishery is exhibiting a sustainable commercial catch pattern (given that CPUE is in fact the same now as it has been over the last ten years). That is, the commercial catch is exhibiting an approximately level straight-line trend around a reasonably stable average catch tonnage.

5.5 The AMP Proposal

5.5.1 Original Purpose of AMP

option4 understands that the Adaptive Management Programme (AMP) process was introduced in 1991 as a way of allowing an increased commercial catch in Quota Management System (QMS) fisheries where there is limited information on stock size, in exchange for fishers collecting more detailed information (mostly catch and effort, however we note that no additional CPUE data will be required in this proposal). We thought that the purpose allowed for the expansion of new or exploratory fisheries. There now seems to be a category for “*existing or established fisheries for which there is no estimate of stock size relative to the Biomass that will produce the Maximum Sustainable Yield (MSY)*”. We consider that there is a dangerous precedent being set here, as it would appear that AMP could also be applied to many other inshore stocks of importance to recreational fishers. option4 would like to know when were existing or established fisheries included in AMP’s?, and when and who was consulted on this major policy change to the management of important shared fisheries?

5.5.2 Legality of Proposed AMP

option4 believes that the AMP as proposed for TAR1 is actually illegal under the Fisheries Act 1996, as AMP’s were meant for industrial only species.

Some of option4’s members were active in the issue when the AMP framework was first developed in the early 1990s. It was always explained to us that AMP’s would only be used for low value industrial only fisheries. This was because these fisheries would never generate enough income to allow a proper stock assessment to be done.

It was never conceived that AMP’s would be used on important shared inshore species like TAR1. If the fishing industry wanted a catch increase, then it would have to be proved by conventional methods that the resource was sufficiently large to allow the extra catch. This would involve regular sampling and monitoring programmes, without any extra catch increase until it was proven that the resource existed.

Therefore, it is unacceptable to option4 members that an AMP is being considered for tarakihi. option4 requests the Minister to establish through a legal opinion whether it is legitimate for the Minister to consider an AMP proposal for tarakihi.

5.5.3 Key Aspects of the Proposal

This proposal requests the Minister to:

- (1) Increase the TACC from 1,398 tonnes to 1,997 tonnes (a 43% increase);
- (2) Allow the Northern Inshore Fisheries Company Limited (NIFC) to assume responsibility for updating standard CPUE analysis for the TAR 1 fishery; and,
- (3) Allow NIFC to implement catch splitting arrangements to avoid localized depletion.

In effect, this hands over control of the TAR 1 fishery to NIFC for the next five years.

5.5.4 Lack of Scientific Data Supporting Proposal

We have not been provided with a copy of NIFC's AMP proposal, and so we are restricted to an analysis of the TAR1 information summarised in Table 2 of the TAR1 section of the IPP (page 31).

Specifically we record that the following critical scientific information is either missing or unavailable:

- (1) **No estimate of current absolute biomass (B_{TOTAL}) or 'stock size'** is available, despite the presence of 18 years' worth of commercial catch data and 13 years of survey data on the West Coast, and over 20 years' experience in the fishery;
- (2) **No estimate of B_{MSY} , CAY , B_{MAY} , CSP , MAY , MCY** , or any other essential, and related estimates are provided;
- (3) **Biomass index, abundance indices, age structure, population-weighted length frequencies, and sex ratio information is limited**, unavailable, or is still a work-in-progress with research contracts. B_{MSY} cannot be even approximated without at least some of this data;
- (4) **Possible effects of increased bottom trawling activities on benthic habitats and on non-target or by-catch species are not described.** It is well-known that bottom trawling methods are very destructive of benthic habitats and cause major, sometimes irreversible adverse effects on some key habitat areas. We have no analysis provided of the possible effects of a 43% increase in trawling activities on benthic habitats, and no proposals on how the industry intends to manage fishing pressure (for example how will they ensure that fishing locations and target species are not mis-reported?), and mitigate adverse effects (if any) of increased bottom trawling activities on sensitive habitats. In respect of by-catch species, MFish report (p32 paragraph 11), for example, that school shark is a significant by-catch and then (in paragraph 13), that there are no concerns about effects on associated species!

However the MFish Plenary Report on school shark describes them as slow growing and females may only breed once every two or three years. There is concern about the over-fishing that has occurred in Australia where the largest females have been fished out and “*a stock collapse is very probable. The most important conclusion from this for New Zealand is that fishing pressure on large mature females should be minimised to maintain the productivity of the species.*” (page 514 Plenary Report 2002) In fact school shark landings have increased and have exceeded the TACC for the last 6 year SCH1 by up to 23%. Trawling is one of the many methods of taking school shark in the north. Thus it is likely that this AMP proposal could have a significant effect on school shark as a by-catch species;

- (5) **Lack of meaningful data on Maori customary take;**
- (6) **Recreational allowance based on an out-of-date survey** – New Zealand’s population has increased significantly in the last two Census periods, with the “northward drift” and problems with the methods used in the 1996 recreational survey suggesting that recreational fishery demand is likely to be significantly under-estimated in the IPP. The draft 1999/2000 estimate of recreational harvest for TAR1 is 531 tonnes (Draft report to Recreational Working Group May 2001). When will the Ministry get on with the job of finalising the survey results that it has had for 14 months. The continued use of the 1996 survey results will unfairly under- allocate the recreational share in all major fisheries
- (7) **Possible effects of a 43% increase in commercial take on the abundance, availability or quality of fish available for customary Maori and recreational fisher take**, especially in the Bay of Plenty and east Northland, have not been assessed.

5.5.4 Flaws within the Proposal

Apart from the above critical information gaps, we see a number of flaws with the proposal as follows.

(1) **Reliance on limited data collected for other purposes** - The Ministry places some weight on the West Coast research trawl survey and it’s ability to provide “*fishery-independent information on abundance*” (Table 2 and paragraph 30). But we have major reservations with this. The survey results can fluctuate wildly from one survey to the next. A tarakihi “biomass index” has yet to be developed, despite surveys going 13 years or more. This survey will not have the resolution to detect anything other than a massive decline (or rise) in abundance, and it is only operating on the West Coast.

The West Coast ‘Kaharoa’ trawl survey was originally designed at targeting juvenile snapper for a snapper recruitment index. Tarakihi can be caught in shallow water, but start to become more common in waters greater than 50 metres depth. Most of the trawl tows are actually trawled in the shallow water. Very few tows targeting tarakihi are done in water less than 50 metres depth. option4 doubt whether much tarakihi would even have been caught.

We request that the Ministry provide us with data on how many tarakihi were caught by shot on each survey. We suspect that the existing 'Kaharoa' time series on the West Coast is irrelevant, or of limited use to the TAR 1 fishery, which would explain why a tarakihi biomass index for the West Coast is still unavailable;

- (2) **Industry CPUE Index**– we are skeptical of the industry's interpretation of CPUE allegedly showing a slight rise in abundance of tarakihi in TAR1. As discussed previously, the plenary report notes a decline in CPUE in TAR1W since 1996. Because tarakihi are often caught with snapper and trevally, it would be essential to compare data from all three species before presenting conclusions that a stock is 'rebuilding';
- (3) **Self-Monitoring of CPUE by Industry** – we consider that the proposal for the industry to self-monitor and report catches and CPUE is totally unacceptable. This is putting the foxes in charge of the chicken coop. It is essential that a completely independent, suitably-qualified authority undertake CPUE analysis for any inshore species with a non-commercial interest. In addition, the monitoring programme must be properly designed with internal controls, checks and statistical analyses so that robust and reliable results are presented. Fisheries research that will be used to determine the level of quota in any fishery must be independently observed and validated.
- (4) **No consideration of the effect on non-commercial users** – the proposal does not adequately consider the effect on the quality of recreational fishing. The commercial sector can readily increase fishing power and fishing effort to catch more fish even at a lower catch rate. It is very difficult for a recreational fisher to increase his/her fishing power particularly in 60 to 100 metres water depth. Allowing another 3000 tonnes of commercial catch over 5 years will reduce the size of fish available to recreational fishers and decrease their catch rate. This is not consistent with the Ministers stated priority that is "to enhance the value and enjoyment of New Zealand's fisheries for all New Zealanders". A decline in the quality of the 3rd most important recreational species in Northern New Zealand will have significant social and economic effects, especially in the regions. There are many sustenance fishers and Maori customary fishers, that rely on tarakihi as a reliable food source. Does the ministry expect the non-commercial sectors to accept a decline of up to 30% in our CPUE just to demonstrate that the current management strategy is about right? Why haven't the Ministry considered reducing commercial fishing for tarakihi by 43% for five years then measure the increase in CPUE? The answer is obvious, the fishing industry would not want to reduce their catches. What makes the Ministry think we would want non-commercial CPUE to plummet just to prove the fishing industry can have some more quota. Reallocation of recreational catch to the commercial sector is an inevitable outcome of this proposal.

- (5) Reallocation of recreational catch to the commercial sector is an inevitable outcome of this proposal. This proposal makes less sense than the Japanese scientific whaling programme.
- (6) **Underestimate of Recreational Harvest** – the unqualified use of a seven year old recreational harvest estimate from a survey that the Ministry knows is deficient is unacceptable. The 1999/2000 estimate is yet to be finalised (the Ministry has had draft estimates for the last 14 months), but is likely to be in the order of 530 tonnes. Therefore TAR1 will have to be revisited in next year's IPP review of sustainability measures as the TACC would have to be reduced. Or will the Ministry just ask the Minister to increase the TAC yet again with little or no supporting data, as is the case with this proposal?
- (7) **Inadequate mitigation of Environmental effects** – specific proposals are required on mitigation measures to protect habitats of significance such as north of North Cape and Cape Reinga, and the increase in catch of already stressed stocks such as school shark. Where is the snapper quota to cover by-catch going to come from?

5.5.5 Conclusions

It appears to option 4 that industry has observed an apparently stable commercial catch rate at TAR 1 over the past ten years, and in the absence of sufficiently robust and reliable fisheries data, is making a "suck it and see" proposal to fish down the stock from what may well be a sustainable catch level. The TAR 1 fishery may be at B_{MSY} now.

They have provided no independently-verified scientific information to prove that the TAR 1 fishery can sustain the massive 43% increase in TACC that they propose. In the 18 year record of commercial catches, the fishery has never been exposed to this level of fishing pressure.

Neither have the applicants provided information on the possible effects of the proposal on benthic habitats, non-target and by-catch species, or on the customary and recreational catch. Their monitoring and CPUE proposals provide no assurance that catches and CPUE data will be transparently and independently analysed and reported. They have not provided convincing evidence that they have a mandate with other quota holders, or that they will be able to adequately control the industry's behaviour in this fishery.

In our view, NIFC has *not* demonstrated that:

- (a) there is a reasonable probability that current biomass is greater than the size that will support the MSY; and,
- (b) on balance the new TACC and TAC level are likely to allow the stock to move towards a size that will support the MSY, or remain at or above the level that will support the MSY over the five year period of the programme.

5.6 Preferred Management Option

One of the main problems that we have seen with the TAR1 proposal is the implicit assumption that fisheries should be managed at B_{MSY} . However the Fisheries Act 1996 specifically allows fisheries to be managed at or above a level that supports B_{MSY} . There seems to be a theme within the IPP that fisheries should be managed as close as possible to B_{MSY} . But, there are many problems with managing at B_{MSY} . First, it assumes that we have good knowledge. This is not the case for any of New Zealand's fisheries. Second, it was attempting to manage **at** B_{MSY} that led to the collapse during the 1970's and 1980's of most of our precious inshore species.

In 1996, when the Fisheries Act 1996 was created, Parliament deliberately decided that the Minister should be allowed to manage above B_{MSY} . Parliament totally rejected the industry submissions wanting to manage below B_{MSY} . And more importantly Parliament was not impressed by the MFish idea that management should be at the B_{MSY} knife-edge. This is because with natural systems there is just not enough room to maneuver when things start to go wrong, and this is why the precautionary principle applies with fisheries management.

Option4 strongly urges the Minister to reinforce Parliament's directive in the Fisheries Act that fisheries should be managed at or above B_{MSY} , and calls upon you to make your decisions in the matter of the TAR 1 AMP proposal with this foundational sustainability principle in mind.

We also have grave concerns regarding the use of AMPs in shared fisheries. The whole purpose of an AMP is to apply a mortality shock to the biomass through increased fishing pressure sufficient to cause a measurable reduction to that biomass so the corresponding reduction in CPUE in the fishery can be measured.

As the drop in CPUE, and reduced abundance of tarakihi, likely to result if this proposal proceeds will adversely affect non-commercial fishers through reducing and ultimately reallocating non-commercial fish to the fishing industry we oppose it totally.

TAR1 is a significant commercial target fishery which we believe warrants proper non destructive research. In this proposal it almost appears that when we finally get a stable fishery with few conflicts between sectors the Ministry have supported this proposal that will disrupt the balance and create conflict.

5.7 Decisions Sought

The decisions that we seek from the Minister regarding the TAR 1 AMP proposal are:

That the Minister:

1. Rejects the AMP proposal in it's entirety and sets the TACC for 2002-2003 at 1,430 tonnes.
2. Instructs the Ministry to conduct a robust fisheries assessment for TAR1 before it proposes any increases in the commercial catch
3. Instructs the Ministry that commercial AMPs in shared fisheries are not an appropriate method for increasing the knowledge on fishstocks. If the fishing industry or Ministry believes that such stocks can stand higher catches they should invest in proper science rather than risky destructive experiments such as this AMP.
4. Instructs the Ministry to finalise and correct the TAR1 recreational allowance according to the latest recreational fishing survey.
5. Clearly indicate to the Ministry and commercial sector that no TACC increases in shared fisheries will be considered until the fishery is scientifically assessed to be at or above BMSY
6. Instructs the Ministry to incorporate more than just the fishing industries position when giving advice to the minister in shared fisheries and seek independent advice on environmental, social and cultural impacts of proposals
7. Instructs the Ministry to continue to take responsibility for updating standardised CPUE analysis for the TAR 1 fishery