

15 June 2007

Dear Stakeholder

## **SUSTAINABILITY AND OTHER MANAGEMENT MEASURES FOR 1 OCTOBER 2007**

The Ministry of Fisheries (MFish) has undertaken a process to review the management measures for some of New Zealand's fisheries. The Initial Position Paper (IPP) provides you with MFish's initial position on the sustainability measures and other management measures being reviewed. If approved, these would take effect on 1 October 2007.

The purpose of this letter is to provide you with a summary of the issues in the IPP, so that you can decide if you would like to examine the issue further, and potentially provide comment to MFish.

The issues summarised in this letter include:

### **FISHSTOCKS FOR REVIEW**

- Orange roughy (ORH 1, ORH 3B, ORH 7B);
- Hoki;
- Oreo (OEO 1);
- Squid (SQU 1T);
- North Island Eel stocks (SFE 20-23, LFE 20-23);
- Flatfish (FLA 3);
- Red cod (RCO 3);
- Tarakihi (TAR 1);
- School shark (SCH 1);
- Dredge Oyster (OYS 7C);

### **REVIEW OF OTHER MANAGEMENT MEASURES**

- Review of deemed value rates for an assortment of fishstocks;
- Rubyfish (RBY 8) – correction of administrative error.

A copy of the full IPP for the above issues can be found on the MFish website [www.fish.govt.nz](http://www.fish.govt.nz) under the "Consultations" section. If you do not have access to the website, or have any queries on the content of the IPPs, you can contact Tracey Steel at (04) 8194585 or [tracey.steel@fish.govt.nz](mailto:tracey.steel@fish.govt.nz) to request a paper copy to be posted to you.

## ORANGE ROUGHY (ORH 1)

Information on ORH 1 to underpin an assessment of stock status and long-term yield is not available. There is neither an evaluation of stock size in relation to the biomass that can produce the maximum sustainable yield ( $B_{MSY}$ ), nor an indication of the likely trend in stock size under the current Total Allowable Catch (TAC).

Despite uncertainty, MFish proposes that the Minister of Fisheries (the Minister) set the TAC under section 13(2)(a) to maintain the stock at or above a level that can produce  $B_{MSY}$ , having regard to the interdependence of stocks. Given the level of uncertainty, it is also open to the Minister to consider setting the TAC under section 13(2)(b) to restore the stock at or above a level that can produce  $B_{MSY}$ .

MFish proposes three options to manage the orange roughy fishery in ORH 1. All options include a variety of management and sustainability measures that existed under the Adaptive Management Programme (AMP), and currently are implemented through industry agreement. These include: sub-area limits, feature limits, biological sampling, observer coverage, and regular reporting. Their adoption would result in a structured fishing plan to manage risks of localised depletion or sustainability risks to localised stocks that might exist.

Option 1 (*status quo*) retains the existing TAC, Total Allowable Commercial Catch (TACC), sub-area and feature limits. Option 1 places more weight on short-term utilisation and the existing management approach (catch spreading, etc.) as the means to manage risk. Although retaining the current TAC is not likely to pose a high risk to the stock in the short term, the longer term sustainability risks are unknown. A TAC is set to move the stock to  $B_{MSY}$  over time; a higher TAC increases the risk that the stock will not move to  $B_{MSY}$ . Option 1 proposes a TAC for which there is little risk that there will be stock depletion resulting from catching 1,400 tonnes of roughy this year; this is different from a sustainable catch over the long term, moving the stock towards  $B_{MSY}$ .

Due to the biological characteristics of orange roughy, the nature of the ORH 1 fishery (relatively small aggregations widely dispersed over a large fishing area), and the sort of information that is being collected on the fishery, evidence of unsustainable harvesting will likely only be available following a major decline in stock size.

Accordingly, Option 2 adopts a more cautious approach than Option 1 by reducing the TAC by approximately 20% to 1,208 tonnes, and the TACC to 1,150 tonnes. Sub-options 2a and 2b provide different catch limits by sub-areas to effect the TACC reduction. 2a imposes a reduction of approximately 20% to each sub-area, whereas 2b only reduces sub-area C where the limit has never been caught.

Option 2 (and 2a in particular), places greater weight on the uncertainty of the current information regarding stock status, and the biological characteristics of the species. In the absence of an assessment of stock status relative to the sustainability of current catches and the current TAC, Option 2 seeks to reduce risk to the long-term sustainability of the stock. Given the biological characteristics of this species, the approach under Option 2 recognises the risk that isolated features within ORH 1 are particularly susceptible to over-fishing. A TAC reduction is appropriate under 13(2)(a) if the Minister is satisfied that maintaining the biomass at or above  $B_{MSY}$ , or avoiding a risk that the biomass may decline below that target stock level, is best achieved by a lower fishing mortality.

Option 3 places the greatest weight of any of the options on the uncertainty of the information, takes the most cautious approach in favour of sustainability, and imposes the greatest short-term economic loss. It is the option that best suits the setting of a TAC if the Minister judges s 13(2)(b) to be the appropriate section. Option 3 would reduce the TAC by 38% to 914 tonnes, the TACC to 870 tonnes. Requested sub-area limits of 150 t for sub-area A, 380 t for sub-Area B, 190 t for sub-Area C, and 150 t for sub-Area D are calculated by applying a 25% reduction to the average catch by sub-area over the past five years.

## **ORANGE ROUGHY (ORH 3B)**

ORH 3B is a large and spatially complex fishery and it is generally agreed that it is comprised of several biological stocks. A range of sub-QMA catch limits were requested by the Minister in 2006 and are managed under a voluntary agreement by the Deepwater Group (DWG) which represents 97.95% of the ORH 3B quota owners. Monthly reports on catch by sub-stock and sub-area are provided to MFish.

Although information at the stock level is uncertain, on balance MFish considers that the ORH 3B stock is likely to be below  $B_{MSY}$  and that it is appropriate to manage this stock under section 13(2)(b) of the Act. MFish considers that the management measures in place for the Northwest Rise, Arrow Plateau, Puysegur and the Sub-Antarctic sub-stocks are appropriate. Options considered in the paper address management measures for the South and East Rise.

No new stock assessment information is available this year. A proposed South Rise assessment was not progressed due to evidence to suggest that the East and South Rise do not constitute separate sub-stocks. Separate stock assessments for sub-areas within the East Rise were accepted by the Plenary in 2006. While the reasons for rejecting the South Rise assessment raise concerns over the stock assessment boundaries, the East Rise assessments stand as the best available information on the status of the East Rise fishery. Based on the 2006 assessments the Andes and the Northeast Hills sub-areas are below  $B_{MSY}$ .

Prior to the 2006-07 fishing year Industry proposed a staged reduction of the catch limits on the East and South Chatham Rise of 1,000 t per year for three years. The Minister ultimately supported this reduction in combination with a reduction in the catch limit on the Northwest Rise, and reduced the ORH 3B TAC accordingly. As part of his decision, the Minister also requested that Industry limit the catch taken from the two principal feature complexes on the East Rise (the Andes Complex and the Northeast Hills sub-areas) in response to his concerns of localised depletion. Industry expressed the view that managing to these sub-area limits was not possible, nor was it warranted on the basis that fish moved freely between features on the East and South Rise. Accordingly, Industry has not managed to the sub-area limits for Andes and the Northeast Hills, although the sub-stock catch spreading arrangements (Northwest Rise, East Rise, South Rise, Spawning box, and Sub-Antarctic) requested by the Minister have been respected.

MFish considers that, although uncertain, there remain sustainability concerns for the South and East Rise sub-stocks. Industry share this view and have confirmed their proposal for a further 1,000t reduction to the TAC for the 2007-08 fishing year, to be effected by a reduction in catch levels on the South and East Rise. Industry remains opposed to sub-area feature limits.

MFish proposes under options 2 and 3 to retain the existing South Rise boundary and to simplify the management arrangements within the East Rise. These simplified arrangements

retain catch spreading arrangements to ensure that effort is not concentrated on any of the recognized feature complexes within the East Rise. Effectively they provide for the East Rise catch limit to be spread between the spawning box, the Northeast Rise (incorporating the Northeast Hills) and the Southeast Rise (incorporating the Andes Complex).

Under option 2, a 1,000 t reduction in the TAC would be effected by reducing the South and East Rise catch limits, spread between the South Rise and the three East Rise areas. Option 3 proposes a reduction of 2,000 t incorporating the same catch split arrangements.

## **ORANGE ROUGHY (ORH 7B)**

The TAC and landings in the ORH 7B fishery reached a peak in the late 1980s and early 1990s and have subsequently declined to the point where the TAC is now less than 10% of its highest level. The TAC of 110 tonnes is the maximum constant yield (MCY) level estimated in 2001 (110 t mean, with a range of 80 t to 180 t). This TAC has not been fully caught in four of the five years since it was reduced to this level. Catch rates have also decreased with their mean values now less than 10% of those at the start of the fishery.

A new stock assessment was attempted in 2007 but was rejected on the basis that it was insensitive to the recent CPUE data and predicted a rebuild that was not supported by any observations in the fishery. The 2007 Plenary report concludes that no estimate of current biomass is available, although it is likely that the biomass of the stock is below that which can support the maximum sustainable yield ( $B_{MSY}$ ). The Plenary further states that it is not known if catches at the level of the current TAC will allow the stock to move towards a size that will support  $B_{MSY}$ .

Analysis of catch and effort data shows a spatial and temporal dispersion of effort, an increase in tow duration and a decrease in both catch per tow and catch per hour. It appears that fishers are finding it increasingly difficult to locate significant aggregations of orange roughy, suggesting concerns over the state of the ORH 7B fishery.

Three management approaches are considered to address the current situation in ORH 7B – retain the existing catch limits (options 1 and 2), reduce the TACC moderately below the level of current catch (option 3) or effectively close the fishery (option 4). For the Minister of Fisheries (the Minister) to effectively close the fishery he must consider that no level of commercial take will allow the stock to rebuild at an acceptable rate. Under this option no fishery dependent data would be collected and there would be little prospect of the TAC being increased in the short to medium term. Administrative requirements necessitate that a one tonne TAC is provided under option 4.

Under options 1, 2 and 3, the Ministry of Fisheries (MFish) proposes to require all operators in the fishery to report on Trawl Catch Effort Processing Return (TCEPR) forms to improve the spatial and temporal resolution of the CPUE data. MFish also considers it may be appropriate to set an allowance for other sources of fishing related mortality in line with other orange roughy fisheries in New Zealand (option 2). Under this option the total allowable commercial catch (TACC) remains the same and, although increased, the TAC better reflects the existing total fishing related mortality (commercial extractions and incidental mortality) in this fishery.

## HOKI

The hoki fishery is managed as one quota management system (QMS) stock, HOK1, although HOKI is considered to be two stocks, an eastern stock and a western stock. The 2007 hoki stock assessment results indicate that the western stock is below maximum sustainable yield ( $B_{MSY}$ ) but the eastern stock is at or above  $B_{MSY}$ .

The 2007 stock assessment predicts that the western stock will rebuild only if recruitment is better than it has been in recent years or catches in the western stock are reduced in comparison to recent catch levels. Three management options are proposed in the initial position paper (IPP). The model runs used to develop these management options have been based in recent hoki recruitment levels. This is a cautious approach, as below average recruitment occurred in the western stock from 1995 to 2003. All options should facilitate a rebuild towards  $B_{MSY}$  for HOK1 overall, though at differing rates.

The options available for consideration are:

- a) Option 1 (status quo): Leave the HOK1 TAC and TACC unchanged at 101,040 and 100,000 tonnes respectively. The catch split arrangement will also remain unchanged, with 60% of the TACC being harvested from the eastern stock and the remaining 40% of the TACC being harvested from the western stock.

This option is not strictly the status quo given that the western limit has been exceeded in the past two fishing seasons; rather this option reflects the harvest levels that should have occurred in the past two fishing seasons.

- b) Option 2: Reduce the HOK1 TAC from 101,040 tonnes to 81,040 tonnes and the TACC from 100,000 tonnes to 80,000 tonnes (a reduction of 20%); and request industry to alter the voluntary catch split arrangement so that 60,000 tonnes (75% of the TACC) are taken from the eastern stock and 20,000 tonnes (25% of the TACC) are taken from the western stock.
- c) Option 3: Leave the TAC and TACC unchanged at 101,040 tonnes and 100,000 tonnes respectively but request industry to alter the voluntary catch split arrangement so that 65% of the catch is taken from the eastern stock and that this additional 5,000 tonnes is caught from the Cook Strait fishery so as to protect juvenile hoki found on the Chatham Rise.

Option 1 contributes to a stock increase by reducing catch levels in the western stock compared to the past two fishing seasons. Option 2 increases stock size through a reduction in the hoki total allowable commercial catch (TACC) for the 2007-08 fishing season. Option 3 provides for a stock increase by transferring fishing effort from the western stock to the eastern stock while maintaining the TACC at its current level. None of the options are predicted to rebuild the western stock to  $B_{MSY}$  within 5 years. Returning the western stock to  $B_{MSY}$  in that timeframe is only possible by closing western stock to all fishing effort.

All options include an east: west catch split arrangement which is a voluntary agreement. However, Option 3 relies most heavily on fishing operators adhering to a range of voluntary initiatives. Given the issues associated with codes of practice and voluntary initiatives in the past the Minister must have confidence that the voluntary initiatives in place to support this option have integrity.

Recent efforts by both MFish and the Deepwater Group Ltd (DWG) to develop a collaborative management arrangement across deepwater fisheries suggest that this integrity is achievable. However, evidence will only come from the success of various management initiatives being developed for the 2007 winter hoki fishery. MFish is confident that there will be some indication of the success of these initiatives in time for the Minister's decision in August/September 2007.

The deemed value rates for hoki are also being reviewed for the 2007-08 fishing season as part of the wider deemed value review process.

## OREO (OEO 1)

The OEO 1 TACC has been well under caught for the past few years. Although information on stock status and the sustainability of the harvest is uncertain, information based on catch history and current catch levels suggests that the current TAC and TACC is too high. If the Minister considers that the sustainability risk that would result from catch at the level of the current TAC and TACC is unacceptably high, then a TAC and TACC reduction is appropriate.

Two options are proposed: *status quo* (TAC and TACC of 5,033 tonnes) and a reduction of approximately 50% (TAC and TACC of 2,500 tonnes).

There is unanimous agreement by shareholders owning 95.95% of OEO 1 quota for a reduction of the TAC and TACC by 50% (Option 2). The best available information currently available, including that of the biological characteristics of the species and current catch levels, supports Option 2 as a cautious and conservative approach to catch limits. However, the consultation process may provide further information on the sustainability of the stock and other issues relevant to the Minister's decision.

## SQUID (SQU 1T)

Squid is managed under section 14 of the Fisheries Act 1996 (the Act) which means the TAC for the stock is set without reference to maximum sustainable yield ( $B_{MSY}$ ). Squid is also listed on the Third Schedule of the Act which permits fishers to seek an in-season TACC increase from the Minister.

Industry stakeholders have recently requested a permanent increase of 30% to the SQU1T TACC and the Initial Position Paper sets out the following three options:

- a) Option 1: Leave the TAC and TACC unchanged at 44,740.88 tonnes. Quota owners can still request an annual increase to the TAC. This option reflects the status quo.
- b) Option 2: Increase the TAC and TACC for SQU1T by 20%, from 44,740.88 tonnes to 53,689 tonnes. This option reflects the in-season increases provided to quota owners in some recent fishing seasons.
- c) Option 3: Increase the TAC and TACC by 30%, from 44,740.88 tonnes to 58,163 tonnes, as requested by commercial stakeholders.

Under each option, zero allowances within the TAC for customary Maori interests, recreational fishery interests and other sources of fishing-related mortality will be maintained.

A key factor in the squid trawl fishery in 1T is the interaction between squid trawling and seabirds. The squid trawl fishery is believed to have the highest level of interaction with seabirds across all of New Zealand's fisheries. Section 15 of the Act requires the Minister to take such measures as he considers necessary to avoid, remedy or mitigate the effect of fishing-related mortality on any protected species. A number of species of seabirds that interact with squid trawl vessels are protected. Therefore, a TACC increase is only a viable management option provided the impact of such an increase on the seabird population is considered by the Minister to be either not adverse, or can be sufficiently mitigated.

The IPP also assesses the likely impact of a TACC increase on marine mammal populations and on the sustainability of bycatch stocks.

MFish is in the process of developing a seabird standard which will allow the Minister to more explicitly determine the point at which he considers fishing is having an adverse effect on the seabird populations. The option of delaying a TACC increase until the standard has been fully developed and implemented is discussed. During this period industry could continue to request an in-season increase. However, MFish does not consider it appropriate to delay the consideration of this management option at this time.

The deemed value rates for SQUIT have also been considered as part of the wider deemed value review process. MFish is not proposing to change the deemed value rates.

## **NORTH ISLAND EEL STOCKS (SFE 20-23, LFE 20-23)**

The North Island eel fishery was introduced into the QMS in 2004. Catch limits were applied to the four shortfin and four longfin stocks, noting that a further review of the catch limits was anticipated to ensure that the fishery was sustained for the future. Having reviewed the available information on the status of the eight stocks, the MFish is of the view that the present management strategy and its intended outcomes are not presently being met, and future refinement of these settings are now required.

For shortfin stocks, the proposals seek to reduce the TACs to either a mid-point between the existing TACs and recent catches, or to levels of recent catch. For longfin stocks, the proposals seek to reduce the TACs to levels at or about recent catches, or to levels that are about 20% below recent catches. The catch reductions proposed for longfin stocks are greater than shortfin stocks because there are greater sustainability concerns for this species.

Having reached a view on the TAC that should be allowed from each eel stock, a decision is then required on how the use of the fishery for different purposes should be altered so that the TAC is not exceeded.

MFish is not proposing to reduce the tonnage allowance for customary fishing purposes in any of the eel stocks, or the tonnage allowance for other sources of fishing related mortality. MFish proposes that, either recreational allowances are retained at their existing levels while TACCs are reduced (non-proportional approach), or recreational allowances and TACCs are reduced by the equivalent percentage amount (proportional approach). MFish believes that a non-proportional approach would be more consistent with the statutory obligations, and if acceptable to the current Minister, the management strategy determined for the North Island eel fishery. The impacts of these allocative options on the commercial sector are not considered significant in the short term as the TACCs for most stocks are not fully caught.

## FLATFISH (FLA 3)

The Minister has asked the MFish to review FLA 3 catch limits in response to sustainability and utilisation problems.

Anecdotal information from commercial and recreational fishers suggests current catches of FLA 3 are not sustainable. Some commercial fishers consider that intensive fishing effort in recent years is affecting the sustainability of FLA 3. Some recreational fishers consider FLA 3 abundance is so low that they are effectively being denied access.

Commercial fishers are normally unable to harvest the TACC so there is typically more Annual Catch Entitlement (ACE) available than there is catch. This disparity creates incentives to overcapitalise catching capacity and race for catch – inefficiencies characteristic of open access fisheries.

MFish cannot yet determine the status of FLA 3 biomass relative to the biomass that would sustain the maximum sustainable yield ( $B_{MSY}$ ). The best available information suggests FLA 3 abundance is declining and that constant catch at the TACC is probably not attainable or sustainable.

MFish proposes four TAC options including, three options with lower TACCs. The first option reflects status quo management.

Flatfish abundance is naturally variable (in relation to environmental variables) and some commercial fishers are concerned that a lower TACC will limit their ability to catch more fish in years of high abundance. MFish notes that FLA 3 is listed on the Second Schedule of the Fisheries Act 1996, allowing the Minister to increase the TAC *during* the fishing year. There is no rationale for maintaining a high TACC to cover years of high abundance.

Lower TACCs will have social and economic impacts on commercial fishers, although MFish notes that, with the exception of option 4, the TACC options reflect current catches. In addition, impacts need to be balanced against the longer term sustainability and utilisation benefits associated with shorter term TACC reductions.

## RED COD (RCO 3)

Red cod (RCO 3) is a key target species within a complex of fished species in the Southern Inshore (trawl) Finfish Fishery (SIF fishery). Fishers target their operations around the inter-annual variation in the abundance of the species that make up this fishery complex.

Anecdotal information from all fishery sectors has raised concerns about the sustainability and utilisation of RCO 3 stocks off the east coast of the South Island. Commercial landings have declined substantially since the mid 1990s and recreational fishers consider some valuable local fisheries are lost.

The Minister has asked MFish to review RCO 3 catch limits in response to these concerns. Currently, there is no TAC set for this fishery.

MFish believes that the current situation requires a review of the assumption that the fishery be managed at a level that is independent of biomass (because of the life history of red cod) and that reflects the inclusion of red cod on the Second Schedule of the Fisheries Act 1996. The Second Schedule allows for adjustment to the TACC within a fishing year.

MFish believes that, on current available information, the RCO 3 biomass is below maximum sustainable yield ( $B_{MSY}$ ) and requires rebuilding to a level that will support the  $B_{MSY}$ .

The most recent stock assessment (2001) is largely based on data which is now nine years old and that followed an extended period of high landings. The Plenary considered that, if fully caught, the existing TACC is unlikely to move RCO 3 towards a level that could sustain  $B_{MSY}$ . Red cod abundance is naturally variable (in relation to environmental variables) but the length and magnitude of the decline in commercial landings and recreational returns indicates fishing pressure may have significantly reduced spawning stock abundance.

In addition, the current substantial disparity between available catch and available ACE has created a “race for catch” fishery whereby there is (i) competition for access to local fishing grounds (ii) fishing in nursery areas (iii) discarding of non-marketable fish and bycatch and (iv) unnecessary sea bed damage caused by trawling for insignificant amounts of red cod. The disparity also distorts the ACE market. All these effects prevent RCO 3 fishers from using the resource efficiently in a sustainable way.

Red cod on the south-east coast lends itself to the provisions of the Second Schedule. An analysis of the recruitment-environment relationship shows there is a strong correlation between recruitment and environmental variables, with a 14 month lag. Further, the South-east coast trawl survey has recommenced this winter and will be able, in future years, to provide fishery independent information on the relative abundance of year class strength and recruitment into the fishery.

MFish proposes four TAC options including, three options with lower TACCs. The current TACC for RCO 3 is 12 396 tonnes. A TAC and other allowances have not yet been set for RCO 3.

- a) Option 1 - set a TAC of 13 299 tonnes for RCO 3 and within that TAC set: a customary allowance of 5 tonnes; a recreational allowance of 280 tonnes; an allowance of 618 tonnes for other sources of fishing-related mortality; and a TACC of 12 396 tonnes.

- b) Option 2 - set a TAC of 9 735 tonnes for RCO 3 and within that TAC set: a customary allowance of 5 tonnes; a recreational allowance of 280 tonnes; an allowance of 450 tonnes for other sources of fishing-related mortality; and a TACC of 9000 tonnes.
- c) Option 3 - set a TAC of 7 635 tonnes for RCO 3 and within that TAC set: a customary allowance of 5 tonnes; a recreational allowance of 280 tonnes; an allowance of 350 tonnes for other sources of fishing-related mortality; and a TACC of 7 000 tonnes.
- d) Option 4 - set a TAC of 4 930 tonnes for RCO 3 and within that TAC set: a customary allowance of 5 tonnes; a recreational allowance of 95 tonnes; an allowance of 230 tonnes for other sources of fishing-related mortality; and a TACC of 4 600 tonnes, and reduce the recreational daily bag limit for red cod in RCO 3 from 30 to 10.

## TARAKIHI (TAR 1)

Commercial stakeholder organisations believe that a utilisation opportunity exists in TAR 1. Citing stable or increasing CPUE indices and a long, stable catch history since catch reporting began in the fishery in 1983/84, they propose that higher catches are likely to be sustainable. Recent catches have exceeded the TACC by up to 10% (averaging 5% over-catch during the last 10 years) with no sustainability concerns becoming apparent. The May 2006 Plenary report notes that “current catches and the TACC for TAR 1 appear to be sustainable.”

However, other than CPUE indices, TAR 1 is a comparatively information-poor fishery. There is little fishery-independent information currently available, with no estimates of stock size or maximum sustainable yield ( $B_{MSY}$ ) available. Two research projects pertaining directly to TAR 1 are scheduled to begin on 1 October 2007, and these may provide more information for monitoring the stock. TAR 1 is an important shared fishery with strong recreational interest, especially in the Bay of Plenty and East Northland areas. In these areas, recreational fishers have previously noted overlap between commercial and recreational fisheries for tarakihi. Recreational groups have previously opposed adaptive management programmes, primarily on the grounds that tarakihi size and availability could be reduced if the TACC were to be increased.

Despite uncertainty, using the best available information, MFish advises that the Minister should set the TAC under section 13(2)(a) of the Fisheries Act 1996: measures to maintain the stock at or above the biomass level that can produce the  $B_{MSY}$ , having regard to the interdependence of stocks. MFish proposes three broad options for managing the TAR 1 fishery:

- maintaining the current TAC;
- increasing the TAC by 70 tonnes; or
- increasing the TAC by 140 tonnes.

Each of these options represents a different level of risk to the underlying stock. The Minister may choose from the three TAC options (but is not necessarily limited to these options), and will then determine allowances within a chosen TAC for Māori non-commercial fishing interests, recreational fishing interests and all other sources of fishing-related mortality before determining the TACC.

## SCHOOL SHARK (SCH 1)

The SCH 1 TACC has been set at 668 tonnes since 1994/95 and no TAC has previously been set. The Northern Fisheries Management Stakeholder Company Ltd has requested that a TACC increase be considered this year.

Commercial landings of SCH 1 were consistently above the TACC from 1995/96 to 2004/05 (inclusive). Landings fell below the TACC in 2005/06; probably because a reduction in the SNA 8 TACC in 2005/06 led to less school shark being taken as bycatch in the snapper fishery. The current TACC may be constraining fishing for SCH 1 and for the stocks with which it is taken as a bycatch.

It is not known whether recent SCH 1 catch levels, the current TACC, or the options presented (see below) are sustainable or if they are at levels that will allow the stocks to move towards a size that will support the maximum sustainable yield ( $B_{MSY}$ ). However, catches and TACCs of SCH 1 have been relatively stable and there are no indications that current catches are not sustainable in the short-term.

Estimates of school shark biomass are unavailable. School shark is a species that is late maturing, slow growing with low fecundity and productivity and it is predicted to have a slow rate of recovery from over fishing. Pregnant school shark gather in the Kaipara Harbour to pup; the biological characteristics of the species mean that fishing for them could pose a sustainability risk.

School shark fisheries are found within the range of Maui's dolphin on the west coast of the North Island. Increasing the SCH 1 TAC could increase the risk of Maui's dolphin interaction with fishing gear.

Sharks, including school shark, are an important taonga species and anecdotal information suggests that school shark formed part of a significant traditional customary fishery. School shark is of moderate importance to recreational fishers.

MFish proposes three options for setting the SCH 1 TAC:

- Option 1: set the TAC at 866 tonnes. This represents the *status quo*, providing for the existing TACC of 668 tonnes and estimates of current customary and recreational catches and other fishing-related mortality.
- Option 2: set the TAC at 893 tonnes, an increase of 27 tonnes. This reflects the average commercial landings in the past five years, plus allowances for customary and recreational fishing and other fishing-related mortality.
- Option 3: set the TAC at 944 tonnes, an increase of 78 tonnes. This reflects the average commercial landings in the past ten years, plus allowances for customary and recreational fishing and other fishing-related mortality.

Within options 2 and 3 the Minister may choose to allocate the increase proportionally to all sectors or non-proportionally in favour of one sector.

## DREDGE OYSTER (OYS 7C)

MFish recommends increasing the TAC for the Dredge Oyster (OYS 7C) fishery to provide the commercial sector with greater utilisation opportunities. The fishery extends from the east coast of the Marlborough Sounds (from West Head) in the north to Clarence River in the south. Most known dredge oyster beds are found within Cloudy and Clifford Bays.

The Minister set a nominal TAC of five tonnes (gwt) to support entry of the OYS 7C stock into the Quota Management System (QMS) on 1 October 2005. The TAC includes allowances of one tonne for customary and recreational interests, and other sources of fishing-related mortality, respectively, and a TACC of two tonnes.

A reason for setting the nominal TAC was to initially allocate commercial harvest rights to encourage rights holders to invest and develop a viable sustainable fishery while taking into account the effects of fishing on the benthic environment. New stock assessment information is available to suggest the fishery can sustain a higher harvest yield than the current TAC allows.

Industry seeks a review of the TAC to enable a higher commercial harvest from the fishery based on the new stock assessment information.

The impacts of commercial dredging on the benthic environment will increase under a higher catch level and is an important consideration in setting an appropriate TAC level. Various areas within the fishery (mainly inshore and around foul ground) are understood to support a range of invertebrate species including soft corals, large erect and divaricating bryozoans, starfish, horse mussel, crabs, etc. While the fishery has been subject to very little commercial dredging to date, the bottom type where dredge oyster beds occur is likely to be already modified by long-term commercial bottom trawling. The industry is proposing to voluntarily restrict commercial dredging to two specified harvest areas to mitigate the impacts of fishing under a higher TAC.

The paper presents four TAC options. These options range from retaining the current TAC at five tonnes, and increasing the TAC to either 25 tonnes, 50 tonnes, or 100 tonnes.

## DEEMED VALUES

Under s. 75 (1) of the Act the Minister is required to set interim and annual deemed value rates for each quota management stock. Section 75 (2)(a) requires the Minister, when setting deemed value rates, to take into account the need to provide an incentive for every commercial fisher to acquire and hold sufficient ACE that is not less than the total catch of that stock taken by the commercial fisher. Section 75 (2)(b) sets out the factors the Minister must have regard to when setting deemed values. These factors form the basis of the information sheets that have been produced for each stock under review.

MFish recently developed a deemed value standard to set out a process for managing the setting, reviewing and amendment of deemed value rates. This standard has been used to review the deemed value rates as part of this sustainability round.

The new deemed value standard details a set of criteria which determine if a fish stock should be considered for a deemed value review. Table 1 details the stocks that met one or more of these criteria and therefore were eligible for a review.

**Table 1: Stocks that met the review criteria set out in the Deemed Value Standard**

<b>Species Name</b>	<b>Fish Stock for review</b>
Barracouta	BAR5 (BAR4, BAR5 & BAR7)
Blue Cod	BCO3 (BCO4 & BCO5)
Bluenose	BNS2
Red Gurnard	GUR7 & GUR8
Hoki	HOK1
Hapuka Bass	HPB3
John Dory	JDO7 (JDO2)
Ling	LIN7 (LIN1, LIN2, LIN3, LIN4, LIN5 & LIN6)
Gemfish	SKI2
Snapper	SNA1, SNA2, SNA8 (SNA7)
Spiny Dogfish	All stocks
Rig	SPO2
Silver Warehou	SWA3 & SWA4 (SWA4)
Swordfish	SWO1
Trevally	TRE2
Blue (or Common) Warehou	WAR3 & WAR7
White Warehou	WWA3, WWA4 & WWA7

In addition, stocks that are being considered for a TAC review as part of the October 2007 sustainability round are also included in this review process. These stocks are listed in Table 2 below.

**Table 2: Stocks that are being considered for a TAC adjustment and therefore will also require a review of their deemed value rates**

<b>Species Name</b>	<b>Fish Stock for review</b>
Flatfish	FLA3
Longfin & Shortfin Eels	LFE20, 21, 22, 23 & SFE20, 21, 22, 23
Dredge Oysters	OYS7C
Oreo	OEO1
Orange Roughy	ORH1, ORH3B, ORH7B
Red Cod	RCO3 (GUR3)
School Shark	SCH1
Arrow Squid	SQU1T
Tarakihi	TAR1 (TAR2, TAR7 & TAR8)

All stocks on the review list were considered at the deemed value review group meeting held Tuesday 15 May 2007. If the review group considered a deemed value adjustment was appropriate, a range of information sources were used to propose the new deemed value rates. The individual assessments for each stock can be found in the IPP.

In a number of cases, stocks associated with the stock under review were also considered for a deemed value adjustment. These associated stocks include neighbouring stocks of the same species e.g. BAR4 is included in the review of BAR5, or the bycatch stocks of a target stock under review e.g. GUR3 is included because it is a bycatch of RCO3. These associated stocks are included in Table 1 in brackets.

## **RUBYFISH (RBY 8)**

The purpose of this paper is to propose a technical alteration to the total allowable catch (TAC) and total allowable commercial catch (TACC) for ruby fish in area 8 (RBY 8) from 55 tonnes to 6 tonnes, to correct an administrative error.

The Ministry of Fisheries (MFish) proposes that the TAC and TACC for RBY 8 be amended from 55 tonnes to 6 tonnes so that it reflects the original proposal in the final advice paper approved by the Minister of Fisheries in September 2006.

MFish welcomes written submissions on the proposals contained within the IPP. **Written submissions are due by Friday, 27 July 2007** and should be posted to Tracey Steel, Ministry of Fisheries, PO Box 1020, Wellington. Alternatively, electronic submissions can be emailed to [tracey.steel@fish.govt.nz](mailto:tracey.steel@fish.govt.nz).

Finally, we note that all submissions that are received for the purposes of the regulatory measures process are publicly available under the Official Information Act 1982. Should any person or organisation wish for any information contained in their submission to be withheld under the Official Information Act 1982, the grounds for withholding the information must be provided in the submission.

Yours sincerely

Russell Burnard  
**Manager Regulatory and Information**