Sustainable strategies for more fish in the water

Vision:

Healthy and abundant oceans with more fish in the water, providing all New Zealanders with access to kai moana and our future generations with the opportunity to enjoy a healthy ocean and sustainable fisheries.

Sustainable fisheries indicators:

- ⇒ Fish stocks in a healthy abundant state providing a sustainable catch for customary, recreational and commercial fishers and for non-harvest values.
- ⇒ No use of fishing practices and land uses that damage or destroy the marine environment and threatened species;
- ⇒ Future generations enjoy the riches and benefits of healthy, abundant and diverse marine ecosystems; and
- ⇒ Particular regard is given to the principle of kaitiakitanga in all management decisions.

Goal:

To achieve ecologically sustainable management of the marine environment and fish stocks so that present and future needs of tangata whenua and all New Zealanders are met and the 2030 vision is accomplished.

Achieved by:

Implementing sustainable fishing strategies, including the proposals in this paper, which rely on the fisheries management tools and mechanisms contained in the Fisheries Act and that are designed to achieve abundance, a healthy marine environment and sustainable fishing for all New Zealanders without removing present non-commercial fishing rights.

Submission by:

The mid north iwi fisheries forum, the Hokianga Accord, the New Zealand Big Game Fishing Council, the New Zealand Recreational Fishing Council, and option4.

17 June 2009

This document is work in progress.

Further amendments will be made in due course.

Contents

Introduction

In March 2009 the Minister of Fisheries, Phil Heatley, presented to the Cabinet Economic Growth and Infrastructure Committee a paper entitled *Actions to Unlock the Economic Potential of the New Zealand Fisheries Sector* containing a number of proposals to *"generate a significantly greater contribution to the economy"*.

The proposals are based on a report called *Fisheries 2030 – Vision, result areas and action plan* (*'Fisheries 2030')* from PricewaterhouseCoopers (PwC) commissioned by the Ministry of Fisheries (MFish). PwC suggest that significant problems exist in fisheries and say that, *"The status quo is, in this important sector, not a tenable option"*.

MFish has indicated that legislative reform may be required to support implementation of the plan in PwC's report, including new 'institutional arrangements and tools.' The Minister is due to make recommendations on the report to Cabinet in July.

Discussions initiated by MFish in mid-2008 were originally focussed on establishing *"a long-term vision that is understood and broadly supported by stakeholders*[1]*"*. Developing a strategy to achieve that vision was the second stage of the process aimed at providing *"sufficient certainty to encourage stakeholders to align their activities and investment with the vision"*. It is not clear how the three result areas, fifteen objectives and forty-six actions in *Fisheries 2030* were developed, but currently there is not broad support for the vision or the strategy.

We note that the Chief Executive's April 2009 document, *Delivering on 2030 and Government Priorities: Proposed Ministry Organisation Design,* and Statement of Intent 2009-14 are designed to give effect to *Fisheries 2030.*

The existence and content of both of these MFish documents suggests a measure of pre-determination on the Ministry's part. This pre-determined pathway, the vague non-statutory

[1] Fisheries 2030 Vision and Strategy workshop advice, GT (Stan) Crothers, Deputy Chief Executive Ministry of Fisheries, 25 July 2008.

language used in the PwC report and the Ministry's confirmation that the current discussions regarding the vision and strategy are not consultation but merely 'engagement' has made it difficult to respond specifically to *Fisheries 2030*.

Moreover, MFish officials have indicated that the *Fisheries 2030* process will continue irrespective of the feedback through their current 'engagement' process with selected individuals and interest groups. Any feedback will be used to inform advice to the Minister. If the government is determined to pursue this outcome then our advice is to prepare for a sudden and severe backlash from the public. Recent history has shown the sensitivity of the public to initiatives to separate them from their historical ties with the marine environment.

Summary

There is no consensus to reform legislation or management frameworks to enable allocation or trading of area or fishing rights because our non-commercial fishing rights and interests are not for sale.

If, as *Fisheries 2030* suggests, the status quo is not a tenable option then surely what we do implement must be both fair and effective. The proposals within *Fisheries 2030* and the Cabinet paper, *Actions to Unlock the Economic Potential of the New Zealand Fisheries Sector*, do not meet these terms. Therefore non-commercial fishing interests cannot support many of the *Fisheries 2030* proposals in their current form.

Alternative solutions

This document is designed to provide several recommendations and proposes a number of alternative management strategies to improve environmental outcomes, reduce the sustainability risk, potentially decrease the Minister of Fisheries' exposure to litigation and provide abundant fisheries for future generations while increasing the national wealth made from fishing.

To reduce both the present risk to sustainable fishing and potentially more risky initiatives proposed by PwC and MFish in *Fisheries 2030*, we suggest the following:

- ⇒ Increase the biomass of depleted, important fisheries;
- ⇒ Provide incentives to encourage innovation;
- ⇒ Improve environmental outcomes by reducing the sustainability risk;
- ⇒ Reduce conflict between interest groups and fisheries managers; and
- ⇒ Use spatial tools to provide for abundance and people's well-being.

Strategies for increasing value

Increasing the value from fisheries can be achieved using cost-effective solutions and applying the tools and mechanisms within the current Fisheries Act.

To optimise this yield we need to implement strategies that provides:

- ⇒ More flexible, responsive and sustainable fisheries management;
- ⇒ Implementation of cost-effective measures to increase stock levels;
- ⇒ A reduction in waste and elimination of destructive fishing practices; and
- ⇒ Investment and research into conservation efforts and sustainable technologies.

Advantages of implementation

If current management is unsatisfactory and stocks are insufficiently abundant to enable people to provide for the social, economic and cultural wellbeing then the obvious remedy is to increase the biomass.

Larger target biomass levels will lead to the following benefits:

Outcomes	***Benefits***
Higher biomass with broad representation of year-classes i.e. old and young fish	Improved certainty of sustainability
Lower fuel and other catching costs	Improved profitability for commercial fishers
Improved catch per unit of effort (CPUE)	Higher profits for industry
Less juvenile mortality and a greater proportion of the population over legal-size. (Not currently modelled by MFish)	Improved yield per recruit
Less trawling, set netting and longlining	Improved environmental outcomes
More successful customary fishing	Better delivery of the Crown's ongoing obligation to enable and provide for tangata whenua
Improved amateur fishing	Better size and numbers of fish.
Less need to reduce allowances or total allowable commercial catches (TACCs).	Improved management environment and potentially less litigation
Reduced disagreement and tension between fishing interests	Improved environment to encourage cross-sector management initiatives

Problem definition

Background

New Zealand's fisheries management system is focussed on the biomass level required to produce the maximum sustainable yield, called BMSY. For a virgin fishery this has meant fishing down the standing stock to remove about 80 percent of the biomass. According to the models, this results in increased recruitment and growth, to produce more yield. In practice this means a higher proportion of smaller fish dispersed over a wide area. While this outcome suits those able to bulk-harvest masses of individual fish it does not meet the aspirations of many New Zealanders, who desire more abundant fisheries and a healthy marine environment.

Having management aimed at this knife-edge target leaves little room for error and stocks can, and do, easily fall below the level required to provide for sustainable fishing while ensuring enough is left in the water for future generations.

As a representative of the Crown, the Minister of Fisheries' role is to protect the public interest in a national, natural resource. The Minister also has a statutory duty to have particular regard to kaitiakitanga while managing our valuable fisheries (taonga). Neither of these duties sit comfortably alongside the notion of maximum sustainable yield.

A strengthening of the Crown-Maori relationship will need to give effective recognition to the tools and mechanisms available to tangata whenua to manage local areas and fisheries. Enhancement of our moana and increases in fish abundance are beneficial for the wider community.

In the current economic downturn it is undeniable that New Zealand needs to maintain its income. In this regard, non-commercial fishing interests are supportive of fishing practices and management measures that do not waste fish or lose money.

It is spurious to suggest that there is potential to be unlocked in our fisheries without explaining the basis for those claims – it simply implies higher TACCs. Also, it is objectionable to infer in the *Fisheries 2030* report that uncontrolled non-commercial fishing is impacting on the returns available to commercial interests.

Previous MFish initiatives to reform fisheries laws such as *Soundings* and *Shared Fisheries*, sought to remove the present non-commercial fishing right, which the Minister must allow for, and replace that right with an arguably lesser, statutory proportional right. The public were given an opportunity to discuss those proposals and submit their response. The New Zealand public have not been offered the opportunity to discuss and therefore fully understand the proposals in *Fisheries 2030.*

Moreover, there is no clear explanation as to how the *Fisheries 2030* strategy will generate greater benefits or an in increase yield and therefore monetary returns, without significantly increasing the numbers of fish killed. It seems the vision is to reduce non-commercial catch so as to make more for commercial use and thus increase value.

Claims that the vision and action plan in *Fisheries 2030* has broad support are unsubstantiated. There is no consensus to reform legislation or management frameworks to enable allocation or trading of area or fishing rights.

Are there specific problems being targeted by 2030, or is it a general drive for greater value and simpler and less expensive processes? Broad statements on strategy are made in the PwC report without any clear problem statements being made.

There has been limited opportunity for environmental, customary and amateur fishing interest representatives to have input into this *Fisheries 2030* process. The public remain largely unaware this process is underway.

Preliminary feedback from non-commercial fishing interests reflects major concerns about:

- ⇒ The lack of any attempt to consult with the public;
- ⇒ A change of management focus from sustainable fishing to maximising economic outcomes; and
- ⇒ The likely effect of changing the nature of present non-commercial fishing rights that could further limit customary Maori and amateur fishers' access to abundant fisheries and a healthy marine environment.

Fisheries reform

There has been a sustained push by MFish and commercial fishing interests for more 'certainty' in fisheries management. Defining and confining non-commercial fishing rights to an allocation or proportion of the total allowable catch (TAC) for a particular fish stock seems to be the commonly promoted solution.

While such reform may strengthen the quota right and therefore the balance sheets of quota holders, it does nothing to improve the health and abundance of fish stocks. These proposed reforms will not increase national income.

It is not the strength of quota holder's balance sheets that adds value to the country, it is overseas exchange that exporters earn, and the company's profitability that enables them to employ people who pay tax on their earnings.

A strategy of weakening non-commercial fishing interests, as advocated by MFish and the PwC report, will enhance neither the net value obtained from catching fish nor the profitability of commercial fishing.

Solutions must be found that will allow fish to grow larger before they are taken, to provide more income and create wealth for the nation. This is called increasing the yield per recruit and can be done without the need to reduce allowances or commercial allocations.

Management reforms must provide incentives and reward fishing practices and behaviours that are aligned to achieve the objective of optimising catch rates, yield and income from sustainable fishing.

Different fishing interests

The quota management system (QMS) was introduced in 1986 with the intention of effectively controlling commercial fishing to halt the rapid decline in our fish stocks. This would both enable our depleted coastal fisheries to rebuild and improve the viability of commercial fishing, while enabling non-commercial fishing interests to access sustainable fish stocks.

The Fisheries Act 1996, which underpins the QMS, is based on sound principles but debate on how the fisheries management tools and mechanisms should be implemented has led to conflict among commercial, non-commercial fishing interests and MFish.

For many years the fishing industry has used a myriad of loopholes and 'mechanisms' including Quota Appeals Authority allocation increases, by-catch tradeoffs, deeming, and dumping to legitimise catches above the TACCs set. In recent years MFish has moved to close many of these loopholes and abundance is increasing in some inshore stocks as a result.

If non-commercial interests are able to access sufficient abundance and quality of fishing then it is more likely the Minister can provide an environment where the inshore commercial fishery can thrive and reach its potential. Moreover, management, compliance, and enforcement costs are likely to be less.

As an example, in the late 1990s amateur fishers agreed to a number of measures to limit their catch to assist fisheries to rebuild, in the interests of sustainability and the mutual well-being of all New Zealanders. These measures included an increase in minimum legal size for snapper, a 50 percent reduction in longline hook numbers, and a reduced daily bag limit. Recreational fishers have conserved over 26 percent of catch in Snapper 8[2] alone, since these measures were implemented.

These savings are possible and are mutually beneficial for all interests. This management environment is preferable to any tension and lack of trust referred to in the PwC report, which could potentially undermine the QMS and increase public distrust.

[2] Snapper 8, North Island west coast snapper stock north of Titahi Bay, Wellington, to North Cape.

Proportional shares

Changing the non-commercial allowances in a fishery to proportional shares in the total allowable catch (TAC) then trying to limit each sector to those proportions will neither increase the average age-at-capture of the fish population nor generate more wealth.

Proportional shares simply represent an eventual transfer of interest from non-commercial fishers to individual commercial fishing company balance sheets.

Refined solutions that provide incentives to conserve and opportunities to generate national wealth are to be preferred over free-market concepts such as those contained in PwC's report, previous MFish initiatives such as *Soundings* and *Shared Fisheries*, and fishing industry 'spin' which suggests there is vast untapped wealth apparently lurking below the waves which they can unlock.

Lost opportunities

Any untapped potential in fisheries lies in the catching, processing and marketing of the fish New Zealand sustainably extracts from our waters. The opportunity cost and lost earning potential is in the complex management structures and policies, and commercial monopolies that have arisen due to management of the quota system. Arguably these structures and policies have stifled innovation, yet it is competitive innovation that creates the potential to increase earnings by adding new markets and products.

Currently there are few incentives to be innovative. For example, practices in the northern inshore fishery have changed little since the 1970s, despite declining profitability. Capture methods for crayfish are the same as they were 50 years ago and the marketing of those fish is similar to that of twenty years ago.

Rock lobster case study

Opportunities to increase earnings from the rock lobster fisheries exist now yet they are not being optimised. The commercial fishing industry could be moving the fish population to a larger size, reducing mortality and handling-associated diseases while making more money now. For example, a crayfish at double the average size is potentially worth four times more than the current average size fish.

Despite this potential quota owners have continued to extract as many fish as they can, which has driven the rock lobster populations down to very low levels in some areas. Taking concession size fish while the public are denied access and maintaining an iron-grip on management strategies for the crayfish populations has not helped improve sustainability or overall value either.

Some, perhaps more enlightened, quota owners further south consider higher abundance is more profitable. By actively managing the fishery and constraining catch over time, southern fishers can now meet market demand and fulfil their quota entitlements by selecting the optimum sized fish, those worth the most. This practise maximises the return per fish for both fisher and country while leaving non-commercial fishing interests feeling comfortable that there are still plenty more fish in the water.

Finfish case study

A strategy that moves the age structure of finfish populations upwards to increase yield per recruit is a preferable solution over current management strategies. Environmental standards that relate to gear, location, and seasons maybe required to generate this growth.

Recreational snapper catch

A project looking at the number and size of snapper caught by recreational fisheries in northeastern New Zealand was undertaken for the Ministry of Fishers. This project used observers on charter boats and fishers own measurements to capture data on the size and condition of snapper returned to the water. This was the first time this information had been collected and over 30,000 fish were measured over three seasons. 46% of the fish caught where less than 27 cm (minimum legal size for recreational fishers, Figure 1) and 56% snapper were released (Figure 2) (Holdsworth and Boyd 2008).

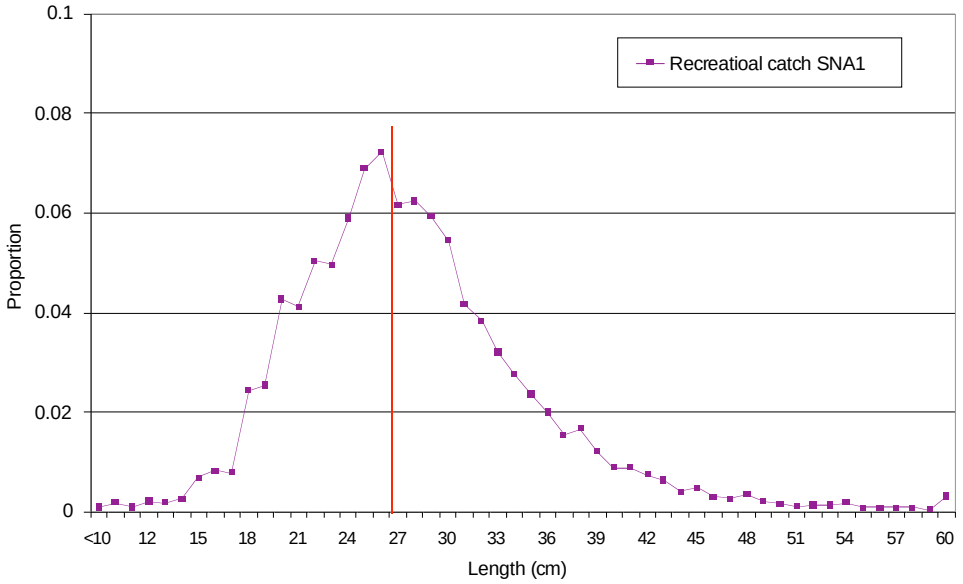


Figure 1: Size of fish caught by recreational fishers in SNA1 2006–07

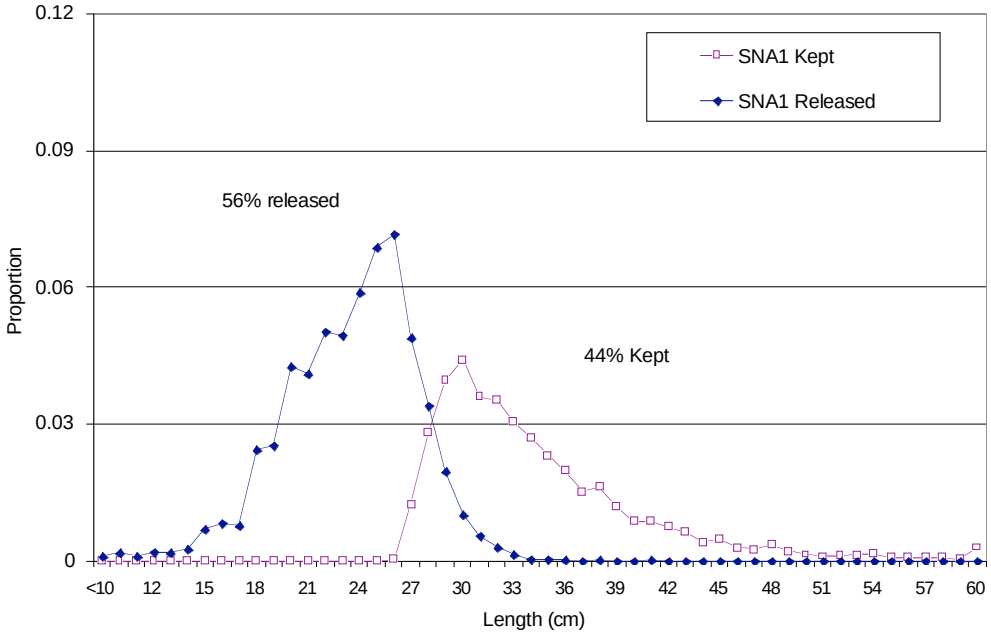


Figure 2: Proportion of fish kept or released by length for recreational fishers in SNA1 2006–07

There is potential for significant release mortality in SNA1 due to the high proportion of the recreational catch that is released. Using the estimated harvest weight of snapper from the

2004–05 aerial overflight survey it is possible to estimate the potential release mortality in the SNA1 recreational fishery.

Depending on the assumptions used release mortality would be between 211,000 and 617,000 snapper per year in addition to the fish that were kept by recreational fishers.

The higher estimate uses the results of an Australian study on snapper caught in traps at different depths, brought to the surface, and then lowered back to the seabed. They found 39% mortality of snapper caught in 30 to 44 metres of water and 55% mortality when the depth was 45 meters or more (Stewart 2008).

Because of the small size of fish released, the potential additional mortality by weight it is just 2.7% to 8.2% (65–198 t) of additional mortality on top of the estimated 2004–05 recreational snapper harvest of 2,420 tonne. However, if most of these fish had survived they would have continued to grow and could have yielded far more than this. More large fish would be available for commercial and non-commercial fishers.

Note, while these estimates should be considered preliminary in nature recreational fishers should be encouraged to reduce the fishing induced mortality of small fish they catch by using larger hooks and bait, using circle hooks, and moving away from locations where small fish are prevalent.

A research proposal to determine the incidental mortality of snapper released by recreational fishers, and suggest ways to reduce it, was turned down by MFish in 2008.

Using Spatial Tools

Spatial tools have been used largely to exclude fishing from areas and perhaps for that reason they often generate emotional and vigorous negative responses. Marine reserves have raised the greatest opposition and more recently there has been an increase in mataitai reserve applications.

It is Government policy to create some amateur-only fishing areas, although there are few details about the proposed extent or number. If these areas are intended as fisheries management tools then they will need to be large and well sited to be effective because of the mobile nature of most inshore fish stocks. One suggestion has been an area within and out to three miles from the coastline and adjacent islands as being a reasonable starting point!

Industry representatives will likely object to such a proposal but the real question is why are non-commercial fishing and environmental interests so adamant that commercial fishing has to go?

Maybe they do not have to go, but they do have to improve their environmental performance if we are going to maintain our biodiversity and sustain abundant fisheries so all New Zealanders can provide for their social, economic and cultural well-being.

The ongoing use of habitat-destructive bulk harvesting methods that induces high juvenile mortality rates is no longer acceptable in our inshore areas.

Spatial tools are potentially good and bad. Those who have the planning right obviously see them as beneficial, while those who do not have this authority see them as a threat.

Presently non-commercial and commercial fishers are being driven into more conflict with an ever-decreasing share of sea-space to operate in.

Generally it is recognised that current spatial tools provide little towards increasing productivity of our fisheries. This is because the various tools are designed to achieve different outcomes; some are for fisheries management while others are more about protecting biodiversity.

Abundance is the key driver of non-commercial fishers satisfaction and it is time we all worked together to deliver on it. Identification of key habitats and the roles they play are essential. Measures must then be taken to provide protection, which may include total exclusion for all.

Spatial tools can improve the management of our fisheries and lead to better, more secure harvests with less sector conflict.

Setting higher target biomass levels

If stocks are depleted and struggling to support sustainable fishing then the obvious remedy is to increase the biomass.

The biomass in a particular fishery can be increased by:

- ⇒ Reducing mortality and unnecessary wastage; and
- ⇒ Improving the yield from fisheries.

There are a number of factors that have conspired against sensible management and these include, but are not limited to:

- ⇒ A lack of incentives to innovate or conserve
- ⇒ Loopholes that have allowed catch in excess of the TACC (deeming, high grading)
- ⇒ Over allocation so that there is no constraint on catch (Grey mullet, red gurnard)
- ⇒ Proportional fisheries decisions that fail to distinguish between those who conserve and those who waste fish (eg. through poor practices, inappropriate gear)
- ⇒ Poor historical recognition of customary and amateur interests
- ⇒ The pretence that current non-commercial allowances are somehow permanent ‘allocations’
- ⇒ Poor data and inappropriate science.

Fisheries managers and scientists use stock models to predict outcomes from various harvest strategies. Currently the models focus on a strategy to maintain a fish stock at a biomass level that produces the maximum sustainable yield (BMSY). These models omit or poorly represent many of the variables such as yield per recruit, juvenile mortality at different biomass levels and year class strengths, illegal fishing and wastage at different levels of biomass.

Catching costs can vary significantly depending on the level of biomass. The main advantage of increasing yield per recruit and maintaining higher biomass levels is that maximum benefits accrue to all New Zealanders, irrespective of their particular interests.

Maximising value fishing strategy

A consequence of having fisheries managed below the level that can produce maximum sustainable yield, BMSY, is that smaller fish make up a greater proportion of the biomass.

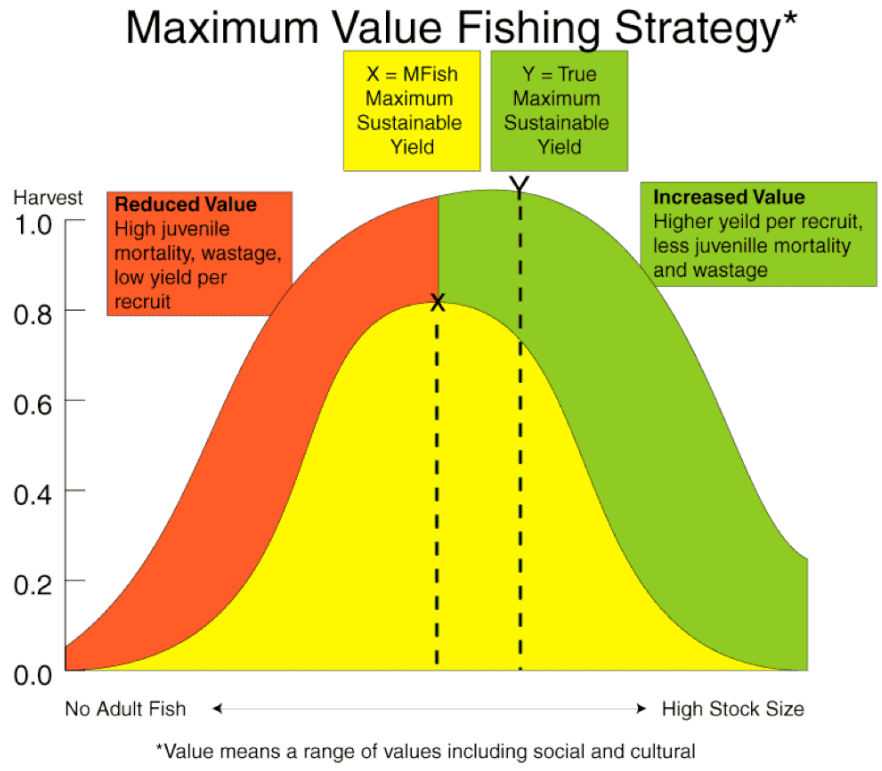
Moreover, because so many fish are close to legal size under a BMSY strategy, current fishing gear targets and catches very small, just-legal sized fish. An inevitable consequence is that many undersized fish are caught and unnecessarily killed by commercial fishing methods.

Fishing related juvenile mortality (or small fish killed by fishing) increases as the stock size reduces, because at low stock sizes the catch per unit of effort (CPUE) drops. Commercial fishers' increase effort in this situation to maintain their catch, so if CPUE is halved in a depleted fishery juvenile mortality will likely double. This important factor is not included in population modelling exercises so the cost in lost production is not obvious.

The diagram below is not to scale or representative of any particular fishery but it illustrates what could be achieved by implementing a strategy to increase the yield from each fish, by letting them grow older, referred to as higher yield per recruit. It also demonstrates the benefits of reducing the numbers of juvenile fish that are killed.

The red area shows undersized fish currently wasted whilst the green area shows a likely outcome in increased catch and biomass if those fish were not killed, or if fish were harvested at larger sizes.

The green area could be further increased through improving the yield per recruit. For example, if commercial and amateur fishers used sustainable or environmentally best fishing practices and methods targeted at catching reasonable-sized adult fish then very significant gains in yield could be generated.



Creating incentives to conserve

Aside from personal choice there are few incentives for fishers to conserve and enhance fish stocks, whether those fisheries are shared between commercial and non-commercial, or solely utilised by commercial fishers.

This is a fundamental flaw of the quota management system because there are:

- ⇒ No incentives to avoid catching small fish;
- ⇒ No penalties for catching or killing small fish; and
- ⇒ No incentives to work towards improving the yield per recruit.

Due to this unconstrained freedom to waste and dump undersized fish, fishing technology is designed to capture everything around or above legal size.

Moreover, by managing fisheries in tonnages, instead of counting the total fish numbers killed by fishing, true fishing-related mortality is disguised and the logic of MFish 'management' becomes blurred/disproved.

Managing fisheries by gross tonnes of legal sized fish extracted and reported fails to take account two important factors:

- ⇒ That recruitment is limited to a finite number of fish; and
- ⇒ The young age-at-capture of those fish.

Table 1: Estimated number of snapper per metric tonne.

Size (mm)	Estimated weight per fish (grams)	Estimated number of snapper per tonne
< 250	-	4000 - 6000
250	320	3125
300	600	1660
320	710	1408

Conservation incentives for commercials

One often-discussed way of providing an incentive to commercial fishers to avoid catching small fish is to implement a no-size limit regime and a land-all fish policy. However, without observer coverage on every fishing vessel the incentive to dump small or damaged fish will continue.

In addition, there is a greater incentive for commercial fishers to conserve annual catch entitlement (ACE) rather than the actual fish, particularly in higher valued species. If dumping of lesser-valued and therefore unwanted fish cannot be done without risk during daylight hours it will probably occur at night.

The worst aspect about a land-all fish policy is that it may create the illusion that the serious issue of wastage has been addressed, when the opposite is true.

A more cost effective way to optimise yield and rebuild important fisheries is to implement soundly-based size limits and effective input controls that protect small or undersized fish from harm.

Input controls such as minimum mesh sizes, shape i.e. square mesh, or hook sizes are easily enforced in inshore commercial fisheries as compliance checks can be undertaken at sea or at the wharf.

Conservation incentives for non-commercial fishing interests

A major concern for non-commercial fishing interests is a lack of confidence in either the will or ability of MFish and successive governments to protect Maori customary, recreational and environmental interests in fishing. This is partly due to the poor application of the sustainable fishing purpose, and environmental protection and use of best information principles of the Fisheries Act.

The purpose and principles direct and oblige the Minister to ensure that all fishing is sustainable so that people can provide for their social, economic and cultural well-being from fisheries, while conserving enough for future use.

Over the past 50 years the non-commercial fishing interests of all New Zealanders have become subservient to fishing by commercial interests. A consequence of pursuing maximum yield is that many fisheries both in shore and deep water have been depleted or fished down, thereby increasing the interdependence of and environmental risk to all our fisheries.

Non-commercial fishers have serious concerns about the proportional reduction policy preferred by the Ministry and reforms to enact that policy that would have non-commercial allowances reduced when the total allowable catch is reduced for sustainability reasons, irrespective of who caused the depletion.

Proportional reductions are a soft option that allow the Ministry and government to both sidestep the real issues and avoid taking necessary and required action to address the known cause of depletion – overfishing or unsustainable fishing by the commercial fishing industry.

A prime example in the context of commercial fishing is the out-of-control deeming above the total allowable catch (TAC) that has occurred in Snapper 8 (SNA8) for around twenty years. This North Island west coast fish stock has been well below B_{MSY} since at least the early 1980s. In 1998 the Fisheries Minister reduced the TAC and set a ten-year rebuild timeframe. By 2003 it was obvious the northern snapper fishery was not rebuilding so another rebuild strategy was implemented and recreational allowances and commercial catch limit were proportionally reduced in 2005.
Amateur fishers have much more scope for conservation and improving yield per recruit than commercial fishers. Most of the positive actions they have taken to date have been voluntarily offered and accepted. Species such as kingfish and marlin, and fishing methods including size limits, bag limits and longline hook limits in all snapper fisheries are examples of amateur fishers' willingness to conserve.

An ideal outcome would increasing productivity and yield per recruit without causing any additional mortality of undersized fish or causing excessive hardship. This could be done by incremental increases of the minimum legal size of snapper in each quota management area. In areas with a fast growth rate this increase could be from 250mm to 320mm.

This will need to be an agreed strategy by the Minister, MFish, commercial and non-commercial fishers to be effective. Or, an agreement reached between officials and non-commercial fishing interests, to ensure the conservation benefits accrue to this sector.

Non-commercial fishing organisations are currently exploring governance models to improve the long-term prospects of maintaining meaningful input and participation in fisheries

management processes. This will have benefits both for the non-commercial sector and fisheries managers.

Such progressive and inspiring fisheries management initiatives are both necessary and required to ensure much greater yields from fisheries while improving the national economy and making the Minister's decision-making process less susceptible to challenge.

Conclusion

Optimum gains can be achieved from our coastal fisheries. These benefits can accrue to commercial and non-commercial fishing interests and extend to the Minister and his management teams.

Improving fish stock health makes economic sense and provides for the wellbeing and enjoyment of all New Zealanders. A wide range of marine activities are an integral part of the Kiwi lifestyle. A long-term view that protects the marine environment and threatened species is far better that pushing short-term yield to the edge of environmental limits.

Reducing juvenile mortality and improving yield per recruit are realistic options that will enable all New Zealanders to provide for their social, economic and cultural well-being. It will ensure abundance for present use, reduce the effects of fishing on the marine environment, and ensure that there are fish in the water for our mokopuna.

If, as *Fisheries 2030* suggests, the status quo is not a tenable option then surely what we do implement must be both fair, effective and have broad support. Currently there is no consensus to reform legislation or management frameworks to enable allocation or trading of area or fishing rights because our non-commercial fishing rights and interests are not for sale.

Implementation of the sustainable fishing strategies proposed in this paper, through application of the management tools and mechanisms within the current Fisheries Act is the most cost-effective solution for the Minister to optimise the yield from fisheries while offering incentives to conserve and enhance fisheries for all New Zealanders.

Representatives of the non-commercial interests of the Hokianga Accord, the New Zealand Big Game Fishing Council, the New Zealand Recreational Fishing Council, option4 are available to discuss these proposals in more detail with the Minister at the earliest opportunity.