

# Expanding New Zealand's Quota Management System

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**Abstract.** This paper explores New Zealand's experience with introducing species into the Quota Management System (QMS). The Fisheries Amendment Act 1986 implemented the QMS based on the allocation of individual transferable quota (ITQ) to those who met the allocation criteria. At that time the Ministry of Fisheries (MFish) introduced 32 species into the QMS. The intent was to eventually manage all commercial fisheries within the QMS. However, the QMS introduction process was halted due to fisheries claims by Māori, New Zealand's indigenous people, based on the Treaty of Waitangi 1840. Although Treaty-based claims had not been considered during the formation of the 1986 Act, in time the QMS was used to settle several claims. When introduction resumed, various constraints were encountered, and only a few species were introduced into the QMS in 1998 and 2000. The last major impediments to the QMS introduction process were removed with the full implementation of the Fisheries Act 1996 and the development of a new registry computer system. In 2001 MFish embarked on a project to introduce a further 50 species into the QMS within three years. This paper outlines the challenges encountered in the introduction process to date and explores why the QMS remains New Zealand's primary management system. The purpose of this paper is to contribute to the broader discussion on property rights-based management of fisheries and does not necessarily express the views of MFish.

**Key words:** property rights, individual transferable quota, fisheries plans, New Zealand.

## INTRODUCTION

While debate continues on economists' application of private property rights to fisheries management, New Zealand has remained committed to its Quota Management System (QMS), based on individual transferable quota (ITQ), since its implementation in 1986. Experience worldwide has shown that implementing an ITQ-type system requires a transition period that can be substantial and challenging, depending on a nation's, or particular community's, economic and social reliance on seafood. New Zealand has experienced a lengthy transition to the full implementation of the QMS. Around 100 commercially caught species remain outside the QMS, and a further 50 species are to be introduced into the QMS by 2004.

Changing to an ITQ-type system typically requires careful consideration of numerous issues, some of which can be disruptive for communities and individuals, thus reducing the initial attractiveness of the system. The incentives created by an ITQ-type system can lead to growth in some communities. However, others might experience recession through some people leaving the fishing sector permanently or those remaining finding that employment prospects have shifted to at-sea while on-shore facilities have become idle. ITQ-type systems invite challenge because they focus on meeting a set of narrow economic objectives (Copes and Pálsson 2000). The pain caused by implementing an ITQ-type system could induce policy makers to abandon the idea (Scott 2000), and the effects of the transition explain in part why comprehensive ITQ systems, such as New Zealand's, remain relatively rare throughout the world.

The basis for the initial allocation of quota remains perhaps the most contentious issue for all nations implementing ITQ-type systems. The most common basis for initial quota allocations is the catch or fishing history of particular vessels during designated base years. Quota is typically allocated to vessel owners exclusively, with no allocations made to those who have contributed to the build-up of vessels' catch history, such as skippers and crew members who have no investment in the vessels, as well as the wider fishing communities that support fishing fleets.

This allocation method can result in a windfall profit for vessel owners should the previous management system's access rights lack tradable market value and the new quota have exclusivity of the catching right, which can then reflect the expected future cash flows from catches in perpetuity. ITQ's transferability provides ITQ owners the option to exit the industry by selling their ITQ at current market value, thus providing opportunities for new entrants to become involved in particular fisheries. For these reasons, advocates of ITQ-type systems expect market mechanisms to lead to more economically viable fisheries (Jentoft et al 1998), and to transform fishers' behaviour from that of hunters to farmers of the fish stocks who take a stewardship role in sustaining the fish stocks. The ecological benefits of this stewardship role then encourage quota owners to sustain the fish

stocks (Pálsson 2000). Certainly, some quota owners have turned their attention from obstructing policies that could impact on the amount and distribution of their catch to adhering to biologists' proposals for increases or decreases in the stock. Most have realised the need to behave less rivalrously, provided each could bring in a harvest while respecting the limits of quota ownership (Scott 2000).

When the 'race for fish' is over, fishers then have incentives to increase the profit made on their catch by reducing costs and producing valuable products (Hannesson 1993). However, before incentives can emanate from the allocation of quota, any government will inevitably encounter challenges and resistance, as evidenced by the Icelandic Supreme Court declaring fisheries laws on ITQ unconstitutional due to discrimination of access, requiring changes to be made to the ITQ system (Gissurason 2000), and the Norwegian seafood industry having rejected an ITQ-type system in favour of a less flexible Individual Vessel Quota system (Hersoug et al 2000). In the face of inevitable challenges and resistance from some, New Zealand has remained committed to the QMS.

The second section of this paper describes the evolution of the QMS in New Zealand, focusing mainly on the legislative changes enacted to introduce species into the system. The third section takes a fisheries management perspective on statutory requirements to introduce species into the QMS. The fourth section describes two primary challenges to this process to date, the inclusion of highly migratory species into the QMS, and the basis to ITQ allocations. The final section briefly outlines the future management of fisheries in New Zealand.

## **THE QMS – AN EVOLVING CONCEPT**

New Zealand's implementation of the QMS in 1986 was a radical departure from its previous fisheries management system, which since the early 1960s had been based primarily on regulated open entry to encourage greater domestic participation in commercial fishing. Until the 1970s harvesting of fish focused on the inshore fisheries. The commercial sector was relatively small, with annual volume less than 50,000 tonnes (Major 1999). The Government expanded the opportunities for growth of the commercial sector with the Territorial Sea and Fishing Zone Act 1965 and the Exclusive Economic Zone (EEZ) Act 1977, which extended New Zealand's jurisdiction from 3 miles to 12 miles and established an EEZ extending 188 miles beyond the territorial sea. Once the 200-mile EEZ was in place, the Government was determined to encourage the domestic fishing fleet to catch the maximum amount of fish possible (Harding 1991). The Government launched a series of policies to encourage investment and expansion in the commercial sector. The combination of establishing the 200-mile EEZ and introducing incentives to expand the commercial sector with more vessels with greater catching capacity per vessel brought about the desired outcomes (Bess 2000).

While the Government looked for the commercial sector to grow through expansion into deepwater fisheries, it realised that the consistent growth rates in landings that occurred during the 1970s could not be sustained. By the late 1970s and early 1980s both the inshore and deepwater fisheries were showing signs of stock depletion. It was apparent that fisheries policies were not sustaining fish stocks, and the commercial sector voiced concern about how fisheries were managed and requested that the Government address the situation. The Government acknowledged that the Fisheries Act 1908 should be rewritten, but in the interim various regulations were used to reduce the inshore commercial catching effort.

The Fisheries Act 1983 introduced significant changes to the fisheries management system and statutory framework. Overall, the 1983 Act continued use of regulations that limited access to fisheries to reduce catching effort, primarily by way of a permit scheme that was intended as an interim management control. The permit scheme led to a dramatic reduction in the number of part-time fishers, which accounted for almost half of the commercial fishers in the early 1980s (Harding 1991). The 1983 Act was designed for the implementation of a new regime that utilised long-term planning to control commercial fishing effort by way of Fisheries Management Plans (FMPs), with the intent being to provide a more democratic approach to fisheries management. However, FMPs remained unsuccessful due in part to legal complications in the public planning process, which led many participants to question the relevance of this complex control mechanism.

The 1983 Act also provided for the allocation of individual quota (IQ) to participants in the seven main deepwater fisheries. IQ was allocated according to a mixture of criteria, including catch history, processing capacity and vessel ownership (Major 1999). The apparent success of the deepwater IQ system, in combination with the Government's increasing use of market solutions in the economy led to the implementation of the QMS based on ITQ. In 1986 amendments were made to the 1983 Act, establishing the QMS and converting the deepwater IQ into ITQ.

The QMS initially included 32 species, which account for approximately 85 percent of the commercial catch. It should be noted that when the QMS was first implemented, the overall intent was to manage all commercial fisheries within the QMS. Each species introduced into the QMS is defined by a Quota Management Area (QMA), which typically consists of one, or a grouping, of the ten Fisheries Management Areas (FMAs) that make up New Zealand's EEZ, depending on the distribution of a species' fish stock. Sedentary stocks are often defined by much smaller coastal QMAs. Initial ITQ allocations were based on a provisional maximum assessment of ITQ (PMITQ) based on each qualifying permit holder's catch history of the best two out of three years – 1981/82, 1982/83 and 1983/84 – which was then adjusted according to 'commitment and dependence' factors outlined in Section 28E(3). These factors were considered by an authority set up to hear allegations of unfair PMITQ allocations. Determinations were based on consideration of a permit holder's commitment to, and dependence on, the taking of fish of the species or class in question in a designated QMA, with a determination in favour of a fisher often resulting in an increase in the PMITQ allocation.

The 1986 Amended Act retained several provisions in the 1983 Act, including the fishing permit scheme and retention of various input controls, such as restrictions on fishing gear, fishing methods, landings, fishing seasons and fishing areas. These input controls were required for management of non-QMS stocks, despite such provisions contradicting the basis for the QMS where ITQ owners determine the most efficient timing and means of catching the resource (Bess 2000). While the 1986 Amended Act was designed to enhance the competitiveness of the commercial sector by providing for improved efficiencies in the fishing sector, sustainable levels of commercial catch were more an expected outcome than an expressed purpose of the Act.

Furthermore, the 1986 Amended Act did not address claims by Māori of indigenous rights guaranteed by the Treaty of Waitangi 1840. While the 1986 Act prompted further Treaty-based claims to large areas of fisheries, enacting an injunction against further ITQ allocations, the QMS proved to be an effective means of resolving these claims. The Māori Fisheries Act 1989 and the Treaty of Waitangi Settlement Act 1992 led to Māori being allocated, *inter alia*, 10 percent of the ITQ from the 1986 QMS introductions and 20 percent of ITQ from subsequent QMS introductions, respectively, the latter being the full and final settlement of all commercial fishing claims (Bess 2001).

Continuation of the non-QMS management system proved problematic, as it provided fishers with opportunities to 'race for fish' in anticipation of any increased intensity of fishing effort influencing their ITQ allocations once non-QMS stocks were introduced into the QMS. This situation led to a moratorium placed on the issuance of fishing permits for most non-QMS species, as of 30 September 1992, in accordance with the 1983 Act Section 63(13). The permit moratorium was originally intended as an interim measure to prevent further expansion of effort in non-QMS fisheries in light of concerns over whether catches were sustainable and in recognition of the Crown's obligation to Māori. Those with permits issued prior to 30 September 1992 continue to fish commercially with the benefit of exclusive access to fisheries.

At the same time the Ministry of Agriculture and Fisheries, later to become MFish, reviewed the 1983 Act and 1986 Amended Act to develop a new Fisheries Bill whose purpose was to provide for utilisation while ensuring sustainability, and the intention at that time was that all commercially caught species would be introduced into the QMS. In so doing, the new Bill focused on eliminating incentives for fishers to 'race for catch history' and on changing the basis for ITQ allocations by revoking the 'commitment and dependence' factors. Initially the Government proposed to revoke the rights of non-QMS permit holders to have their catch histories converted into ITQ upon QMS introduction. The Government proposed to implement a tendering scheme for all ITQ resulting from QMS introductions, either on an open-market basis or by some means of preferential tendering for existing permit holders. As expected, the commercial sector resisted this proposal.

In early 1994 the Government modified its stance by approving further ITQ allocations on the basis of the best twelve consecutive months of catch history during the 1990/91 and 1991/92 fishing years or by individual catch entitlements (ICE). ICE refers to a catch limit for a commercial fisher that apportions an annual amount of any stock that can be taken exclusively by that fisher. The purpose of ICE management has generally been to facilitate the rational fishing of stocks that were fully developed at the time the permit moratorium was introduced to minimise over-capitalisation and the resulting 'race for catch' under competitive catch limits. Subsequently ICE management has been implemented in a few fisheries where catch limits are required to ensure sustainability pending introduction into the QMS (Hodgson 2001). ICE is considered to be inferior to ITQ due to its lack of divisibility and transferability.

Once passed into law the Fisheries Act 1996 provided for the utilisation of fisheries resources while ensuring sustainability, as outlined in Section 8. The 1996 Act's purpose reflects the original aim of the Fisheries Bill

1994 to facilitate the activity of fishing, and that all fishing ensure sustainability of the resource. Since the enactment of the 1996 Act the QMS introduction process has been slower than first expected, with only a few species being introduced in 1998 and 2000. However, the last major impediments to the QMS introduction process were removed with the full implementation of the 1996 Act and the development of a new computer system and administrative and reporting systems, as of 1 October 2002. In mid-2001, with over 100 commercially caught species still outside the QMS, MFish embarked on a project to introduce a further 50 species into the QMS by the start of the 1 October 2004 fishing year.

## THE QMS INTRODUCTION PROCESS

Although computer system capacity constraints are no longer an issue in the QMS introduction process, the number of species or stocks that can be introduced at any one time is still limited. Legislative requirements cause some of these limitations. Once the QMS introduction process commences, there are set timeframes for key administrative steps that are difficult to extend. Furthermore, Section 19(7) requires the Minister of Fisheries to consult with the persons or organisations considered by the Minister to be representative of those classes of persons having an interest in the following matters: QMAs; fishing years, 1 October to 30 September or 1 April to 31 March; units of measure in respect of the stocks concerned; and provision for such matters as may be contemplated by the 1996 Act.

When proposing QMAs for stocks to be introduced into the QMS, MFish determines what it considers to be sensible and effective long-term management boundaries based, first and foremost, on the biological characteristics of each stock. However, MFish acknowledges that there may be compelling reasons to set QMAs that are different from the boundaries of the biological stock. In some instances it may be appropriate to set a QMA that encompasses more than one biological stock, and move to smaller units of management using the tools in the 1996 Act as more becomes known about the boundaries of a biological stock. Smaller units of management can be implemented using fisheries plans, which are described later. MFish took into consideration the above issues when developing seven key principles to guide the determination of proposed QMAs and their fisheries management outcomes, listed in order of importance in Table 1.

Key Principles	Fisheries Management Outcomes
1. Management areas should be based principally on the biological characteristics of the stock.	<ul style="list-style-type: none"> <li>• Sustainability requirements of the 1996 Act (based around 'stock') are met.</li> </ul>
2. The stock boundaries should take into account the existing characteristics of the fishery (known fisheries, relevant fisheries management issues).	<ul style="list-style-type: none"> <li>• Sensible stock boundaries.</li> <li>• Simplified allocation of ITQ.</li> <li>• Reduced business compliance costs.</li> </ul>
3. Where practicable, QMAs for species that are taken together in the same fisheries should be aligned.	<ul style="list-style-type: none"> <li>• Integrated management of interrelated stocks.</li> <li>• Reduced complexity and business compliance costs.</li> </ul>
4. Where practicable the same QMAs should be set for different species.	<ul style="list-style-type: none"> <li>• Reduced complexity and business compliance costs.</li> <li>• Consistent with direction in s19(2) of the 1996 Act.</li> </ul>
5. A separate QMA should be set for the waters surrounding the Chatham Islands if the stock can be managed effectively as a unit.	<ul style="list-style-type: none"> <li>• Consistent with direction in s19(3) of the 1996 Act.</li> </ul>
6. QMAs with new boundaries may be appropriate for species with populations whose distributions do not align with existing QMA boundaries.	<ul style="list-style-type: none"> <li>• Sensible stock boundaries.</li> <li>• Sustainability requirements of the 1996 Act are met.</li> <li>• Improved control of harvest and reduced risk to the aquatic environment.</li> </ul>
7. Subject to the principles noted above QMAs should be as large as possible.	<ul style="list-style-type: none"> <li>• Reduced complexity and business compliance costs.</li> <li>• Flexibility for exercise of customary rights.</li> </ul>

**Table 1 Key principles in setting proposed QMAs**

As well, Section 19(8) states that the Minister must have regard to the costs and benefits of introducing a stock into the QMS. For this reason, MFish undertakes an assessment of the costs and benefits prior to stocks' introduction into the QMS. MFish selected the 'incremental' approach for this assessment, which compares the expected incremental changes in costs and benefits to a 'baseline' scenario where the stock is not introduced into the QMS. Because of the lack of some historical quantitative data on the QMS and the inherent complications of assessing relevant costs and benefits of QMS introduction, MFish uses expert judgment to assess expected incremental changes in costs and benefits. Expert judgment is assisted by a multi-objective decision support system based on the analytic hierarchy process (AHP), a methodology designed to facilitate decision making by

using both empirical data and the subjective judgments of decision makers. The AHP supports decision makers by providing a structure to organise and evaluate the importance of various objectives, or criteria, and the preferences of alternative solutions to a decision. Comparison of the two alternatives, whether or not to introduce a stock into the QMS, is based on four criteria categories. Because the categories cover a reasonable and practical range of possible arguments for and against introducing a stock into the QMS, MFish considers the assessment of expected costs and benefits to be consistent with the purpose of the 1996 Act. The four criteria categories are outlined in order of importance as follows:

- **Environmental Sustainability** – this category measures the likely incremental differences in the ability of the QMS relative to the ‘baseline’ scenario to meet the sustainability measures outlined in Section 11. This category includes evaluation factors to measure expected changes in the ability to provide for stock sustainability, the quantity and quality of information about the stock and harvest effort, and the impacts on associated and dependent species and the aquatic environment, including biodiversity.
- **Treaty of Waitangi** – this category incorporates Section 5b, which requires persons exercising functions, duties and powers under the 1996 Act to have regard to the Treaty of Waitangi Settlement Act 1992. There are two major obligations of the Crown in the 1992 Act, which are included as evaluation factors. The first obligation is to provide for Māori participation in commercial fisheries. This evaluation factor is intended to reflect Māori commercial preferences for some stocks’ introduction into the QMS. The second obligation is to provide for and protect Māori customary (indigenous) fisheries. This evaluation factor measures the changes in predicted customary fishing opportunities and Māori preferences for management within or outside the QMS.
- **Economic** – this category is intended to assess the economic benefits and costs of QMS introduction according to four evaluation factors: (1) Fisheries Management Costs include the initial cost of introducing a stock into the QMS, the ongoing management costs, and changes in fixed or variable costs associated with changes in harvest levels; (2) Fisheries Output Benefits arise from changes in fishing revenue associated with changes in harvest levels or price levels; (3) Property Rights Benefits assess the expected willingness of fishers to pay for access to stocks under the QMS compared to their willingness to pay for access under the baseline scenario; and (4) Fishing Capacity refers to the indirect consequences that QMS introduction may have on the fishery and attempts to measure expected changes in the capacity of the fishery after QMS introduction.
- **Social** – this category contains measures that indicate whether the introduction of a stock into the QMS is expected to improve overall social wellbeing. Evaluation factors consider the impact QMS introduction would have on recreational fishers, coastal communities and commercial fishers, as well as the potential effects on future generations’ ability to meet their reasonably foreseeable needs (MFish 2001a).

After the initial assessment of costs and benefits is completed, a sensitivity analysis is run to demonstrate how changes in the weights (level of importance) of the categories or their evaluation factors can influence and change the outcome of the decision to choose one alternative over the other.

On behalf of the Minister, MFish determines initial proposals on how the above matters incorporate the 1996 Act’s purpose to provide for sustainable utilisation and then consults with stakeholders on these matters. Upon receipt of written submissions in response to these matters, MFish considers all points raised when formulating its final advice to the Minister. Once the Minister makes final decisions, a gazette notice is declared, which outlines each stock’s QMA, fishing year, unit of measure and the date of QMS introduction. Once the notice has been declared several administrative requirements are completed prior to the commencement of a second consultation process with stakeholders.

Section 12 of the 1996 Act requires the QMS introduction process to undertake consultation a second time regarding the setting of a Total Allowable Catch (TAC) for each stock’s QMA and allocations of fishing rights to various interests when setting a Total Allowable Commercial Catch (TACC). The TAC is a measure of the sustainable level of utilisation of a stock, which comprises all catch allocations, plus an allocation for other sources of fishing mortality. The non-commercial interests are customary (indigenous) and recreational, and the commercial interest is specified as the TACC. The sum total of the TACC plus allocations for other interests cannot exceed the TAC. The 1996 Act does not provide guidance on the apportionment of the TAC between the various interests in terms of either a quantitative measure or prioritisation of allocation. However, the 1996 Act does allow for preference to be given to one interest over another, and a number of statutory provisions indicate the nature of each interest’s right and the manner in which it can be modified. When determining the allocations for all interests, the Minister is obliged to carefully weigh the competing demands on the TAC in the context of the 1996 Act’s purpose before deciding how much to allocate to each interest.

The primary method of measuring the extent of an interest in a stock is the level of existing utilisation. However, the actual method used may vary depending on the level of available information. Less information is available on commercially caught non-QMS stocks than QMS stocks, and even less is known about recreational and customary catch, with information typically gathered through recreational surveys and liaison with Māori. In the absence of information, the Minister has discretion to determine the best estimates for an allocation to each interest.

Once MFish determines initial TACs, TACCs and allowances for customary, recreational and other sources of mortality, along with changes to those regulations that might contradict the QMS, consultation with stakeholders commences. Upon receipt of written submissions in response to these matters, MFish considers all points raised when formulating its final advice to the Minister. Once the Minister makes final decisions, a gazette notice is declared, which outlines each stock's TAC, TACC and all other allowances. Once the notice has been gazetted the remaining administrative requirements of the QMS introduction process are completed, ending with the allocation of ITQ prior to the commencement of the new fishing year.

## **CHALLENGES TO QMS EXPANSION**

This section outlines two challenges to the QMS introduction process to date. The first is the inclusion of highly migratory species (HMS) into the QMS. The second challenge focuses on the basis to ITQ allocations. Both challenges may impede MFish in meeting its target to introduce around 50 species into the QMS by 1 October 2004. Should this target not be met, the non-QMS management system will likely need extension, which will bring challenges of its own, as briefly outlined at the end of this section.

### **Highly Migratory Species**

Late 2001 MFish proposed that several tuna species and other HMS be introduced into the QMS on 1 October 2004. However, the issues raised by these species' introduction are unique, causing some to question whether the issues are best addressed within the QMS. The first issue surrounds New Zealand's international and regional obligations in the management of HMS, including the 1982 United Nation Convention on the Law of the Sea article 64, and article 8 of the United Nation Fish Stocks Agreement, which outlines a framework for Regional Fisheries Management Organisations (RFMOs) for the management of HMS. New Zealand participates in two RFMOs, the Commission for the Conservation of Southern Bluefin Tuna (CCSBT), and the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPFC). Although the latter Convention has not yet come into force, member nations are already establishing a commission to manage tuna and other HMS. New Zealand is also party to several other international agreements pertaining to the management of HMS.

The first issue in question is that one purpose of RFMOs is to make annual catch allocations of HMS for member nations. For example, the CCSBT makes annual allocations of southern bluefin tuna, and New Zealand's allocation is 420 tonnes. For the purpose of QMS introduction, this allocation could be used as the species' TAC. However, setting TACs for other HMS in the absence of national allocations is problematic. Any attempt to set TACs prior to national allocations could unduly constrain New Zealand fishers in some HMS fisheries that are currently expanding. Despite Section 14 of the 1996 Act already providing for alternative TACs, further work must be done to determine how to set them for HMS in the absence of national allocations.

Secondly, the QMS is designed to manage stocks within the New Zealand EEZ and currently does not accommodate foreign catch of HMS within the EEZ and conversely New Zealand vessels' catch of HMS within other nations' jurisdiction or in international waters. This issue will require amendments to the 1996 Act.

Lastly, the 1996 Act exempts tuna species from the use of the catch history years – 1990/91 and 1991/92 – as the basis for ITQ allocations. This exemption was granted due to the tuna fisheries being viewed as expanding significantly and, therefore, it being inappropriate to allocate ITQ based on catch during these two fishing years. However, since the catch history years apply to all other species, including bycatch in the tuna fisheries, there is a mismatch in the basis for ITQ allocations that requires resolution prior to QMS introduction of both tuna species and their bycatch species.

The introduction of HMS into the QMS will require innovative thinking and amendments to the 1996 Act. MFish has approached this challenge by preparing a discussion paper on various options for the future management of HMS and their bycatch species. The discussion paper will seek stakeholder comments before

any decisions are made about future management, while QMS introduction on 1 October 2004 remains a viable option for many of these species.

### **Basis to ITQ Allocations**

The second challenge is the basis used for ITQ allocations. As mentioned, Section 33 of the 1996 Act establishes catch during the 1990/91 and 1991/92 fishing years as the basis for ITQ allocations in a fishery not exclusively controlled by ICE. In most cases, the only other basis to allocating ITQ is ICE, as outlined in the second section above. Only a few fisheries are managed with ICE, and the reasons for implementing ICE vary between fisheries. MFish holds the view that while QMS introduction is imminent for a species there is little merit in implementing ICE on an interim basis.

However, the basis to a recent High Court judicial review was that some fishers involved in four fisheries scheduled for QMS introduction on 1 October 2002 wanted these fisheries to be introduced after their management had been changed from competitive to ICE so that their allocations of ITQ would be commensurate with the ICE. MFish held the view that these fisheries did not warrant ICE management, and more broadly asserted that ICE is a fisheries management tool, not an allocative tool, thus concluding that ITQ should be allocated on the basis of the catch history years.

The High Court's judgment (High Court 2002) declined to grant the reviews sought, and the relief sought was refused. The judge commented that the QMS was the preferred fisheries management system, and the general expectation was that fisheries would be introduced into the QMS unless there was some good reason why they should not. The judgment also commented that ICE appeared to contemplate long-term management and control of commercial fishing of non-QMS species that could not readily be transferred into the QMS. The judgment held that it would be wrong to allocate ICE purely to circumvent a perceived unfairness in the application of the catch history years in the allocation of ITQ.

The High Court judgment has been appealed, and this will be heard by the Court of Appeal. MFish has advised the Minister that the QMS introduction process must continue due to the 1996 Act providing a clear statutory process, which flows from the Section 18 gazette notice, dated 18 October 2001, to introduce species into the QMS on 1 October 2002, and this process should not be stopped except by Court Order.

### **Continuation of Non-QMS Management**

As mentioned, the 1996 Act retains several aspects of the 1986 Amendment Act for the management of non-QMS species. In the unlikely event that MFish cannot meet its target of introducing around 50 species into the QMS by 1 October 2004, there may be a need to extend the current non-QMS management system. MFish has acknowledged that the non-QMS system is problematic in a number of areas, which has been one of the drivers for expanding the QMS. Most of the problems stem from the moratorium on the issuance of fishing permits, which continues to inhibit the development of some fisheries by excluding new entrants from these fisheries.

The authorisation to take non-QMS species by way of fishing permits issued under Section 91 of the 1996 Act requires fishers to have specified on their permit any species taken. If species are taken and not specified on the permit, an offence is committed. The defence in Section 241 is: that fishers must show that they took the species by mistake, or by some cause outside of their control or due to the act or inaction of another person; they must take all reasonable steps to avoid the taking of non-permitted species; and they must return to the sea any non-permitted species caught.

As almost all non-QMS species are subject to the permit moratorium, fishers are limited in terms of the non-QMS species they can have specified on their permits. The requirement to have a species specified on a permit before a fisher can lawfully take it has been amended to mitigate the impact on fishers by allowing an interim exception to Section 89, which requires fishing to be authorised by a fishing permit. The exemption means that Section 89 does not apply if the species is non-QMS, and it has been taken as an 'inevitable consequence' of targeting a species that is listed on a permit. However, this exception has a sunset clause of 30 September 2004, hence the target date for introducing further non-QMS species into the QMS. The problems caused by the prolonged use of the permit moratorium can best be remedied by QMS introductions and development of the various management controls available within the 1996 Act, including the development of fisheries plans, as outlined in the next section.

## **FUTURE MANAGEMENT OF NEW ZEALAND'S FISHERIES**

The expansion of the QMS is best understood within the context of what is intended for the future management of fisheries, which will be put into effect within the next few years and involve the full implementation of the QMS. MFish intends to manage within the QMS all species that require active management either due to utilisation by any of the designated interests (commercial, customary or recreational) and/or due to sustainability concerns. The introduction of more species into the QMS will reduce reliance on the non-QMS management system, which remains conceptually opposed to the QMS. The QMS is designed to allow fishers flexibility and discretion regarding when and by what method to catch ITQ species, while the non-QMS system remains a top-down approach utilising a full range of fisheries regulatory mechanisms (Bess and Harte 2000). The two systems create confusion about the best way to manage fisheries and inconsistencies in management practice (Bess 2000). So long as the non-QMS system continues to be used to the extent it is currently, the various interests in fisheries may encounter difficulties when exploring new ways to evolve the QMS into a more dynamic and integrative management system.

For example, some non-commercial interests equate QMS introduction with expansion of commercial harvests. However, the sustainable utilisation purpose of the 1996 Act may require commercial harvests of some fisheries to be reduced once introduced into the QMS. Action may be required to mitigate the impact fishing activity might have on stocks already considered vulnerable. The dual purpose of the 1996 Act was reflected in the Minister's commitment to sustaining fish stocks, as stated in his first speech to the commercial sector in May 2000. The Minister stated that any tension between sustainability and utilisation was 'make-believe', and that it only existed in the short term because 'unsustainable utilisation is by nature a short-term idea. Long-term unsustainable utilisation is a nonsense' (Hodgson 2000).

MFish acknowledges that the QMS provides better incentives for maximising economic returns from commercial fishing and investing in fisheries for the long term, and it is the intention of MFish to direct these incentives by way of fisheries plans, as outlined in Section 11A of the 1996 Act. The intended purpose of fisheries plans is to improve the management of fisheries by providing people a means of taking the initiative in developing arrangements that best suit their fisheries (MFish 2001b). At minimum, fisheries plans should include fisheries management objectives and strategies to achieve the objectives, and they may include performance criteria to measure the achievement of the objectives and strategies, sustainability measures and rules to manage the interaction between different sectors, conservation services, contingency strategies to deal with foreseeable variations in circumstances and any other arrangements put forward by those concerned and agreed to by the Minister.

While QMS introduction is not a prerequisite for the development of a fisheries plan, the allocation of ITQ is perhaps the best means of establishing property rights and appropriate incentives for participants to invest in a fishery's future management. Scott (1993) asserts that an ITQ system is an important first step toward forming fishery groups, and that ITQ ownership becomes more of a membership card in the management of a fishery. Mace (1996) concludes that the most effective institutional arrangements will most likely involve a balance between government and user control, however, Mace warns that in many fisheries, stakeholders fail to even agree on the problem, let alone any solution. MFish acknowledges that fisheries plans may not work for all fisheries, and that it may take some time before participants in some fisheries are willing and able to take responsibility for the development of management objectives and strategies. At the same time, it is understood that fisheries plans cannot be enforced. They must be developed with the ideas of participants, not those of fisheries managers (Yamamoto 2000). There is general agreement in the commercial sector that more species should be introduced into the QMS, and there is growing acceptance that fishers should have more involvement in the management of their fisheries (Bess and Harte 2000). With the expansion of the QMS during the next few years, and further emphasis placed on the development of fisheries plans, it appears that the time has come for participants to become more involved in the management of fisheries.

Fisheries plans have the potential to address outstanding management issues, some of which stem from property rights for the commercial sector being well defined and secure while the rights of other interests remain uncertain. Fisheries plans could be used to redefine what is meant by participation in a fishery. A more inclusive definition could be the impetus for developing new institutional arrangements that address the needs of all interests, resulting in unique collective uses of ITQ and further clarification of the responsibilities and obligations that accompany ITQ ownership. Thus, fisheries plans could be an integral step in the further evolution of the QMS, and its evolution would be limited only by the visions put forward by participants and the willingness of MFish to embrace those visions by giving them the institutional legitimacy they require.

## CONCLUSION



Property rights applied to fisheries remain one of the greatest challenges facing fisheries managers (Mace 1996). There has been worldwide interest in the application of private property rights to fisheries, and within New Zealand there has been growing evidence that the QMS can best address utilisation needs while ensuring resources are harvested sustainably. The QMS is recognised to have lessened the ecological consequences of the incentive for fishers to 'race for fish' (Annala 1996) at the same time that the commercial sector has experienced substantial growth in the volume and value of products, bringing about an underlying mood of confidence about the future management of fisheries (Bess and Harte 2000). Because very few comprehensive ITQ-type systems operate in the world from which to draw comparisons, New Zealand has had few opportunities to learn from other nations' experiences. Instead, since 1986 New Zealand has continued to break new ground as the QMS has evolved as a comprehensive management system. In hindsight, however, the New Zealand QMS appears 'deceptively simple' (Hersoug 2002).

MFish's commitment to the QMS and its expansion during the next few years provide more opportunities to improve the management of New Zealand's fisheries while also providing the means for the Crown to meet its obligations to Māori under the Settlement Act 1992. MFish acknowledges that there are particular problems yet to be resolved in the management of some non-QMS fisheries, and that the QMS provides the flexibility needed to address these problems. For this reason, MFish has been clear in its intent to consider for QMS introduction all those species that require active management either for utilisation and/or sustainability reasons.

However, it is apparent that the basis for ITQ allocations remains a contentious issue in expanding the QMS. Stakeholder submissions received to date and the recent legal challenges attest to the fact that some will experience personal loss from expansion of the QMS. The lesson learnt is that the initial implementation of any ITQ-type system, and its subsequent expansion, inevitably lead to some winning and others losing in the allocation process. It is expected that some will continue to view ITQ allocations as unfair and advocate a return to the 'commitment and dependence' factors used in previous ITQ allocations. However, the 1996 Act replaced these factors with statutory catch history years. While MFish has taken into account fishers' perceptions of unfairness, the focus remains on ITQ allocations by way of statutory catch history years and the improvements to be made to the management of fisheries with those willing to take up the challenges put to them through the development of fisheries plans. There is the risk, however, that perceived unfairness in the ITQ allocation process could impede some fishers' willingness to participate in fisheries plans.

Nonetheless, once the QMS has been fully implemented, it is expected that participants will have greater involvement in the management of fisheries. Because fisheries plans have no restrictions on what they might include, the potential exists for substantially more flexibility and participant-supported initiatives to be brought into the management of QMS stocks than has been the case to date. It is conceivable that within the next three to five years, the incentives provided by ITQ allocations, coupled with participants' development of fisheries plans, will transform the QMS into a more adaptive and integrated system that better provides for sustainable utilisation of fisheries resources while meeting the reasonably foreseeable needs of future generations, as required by the 1996 Act.

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