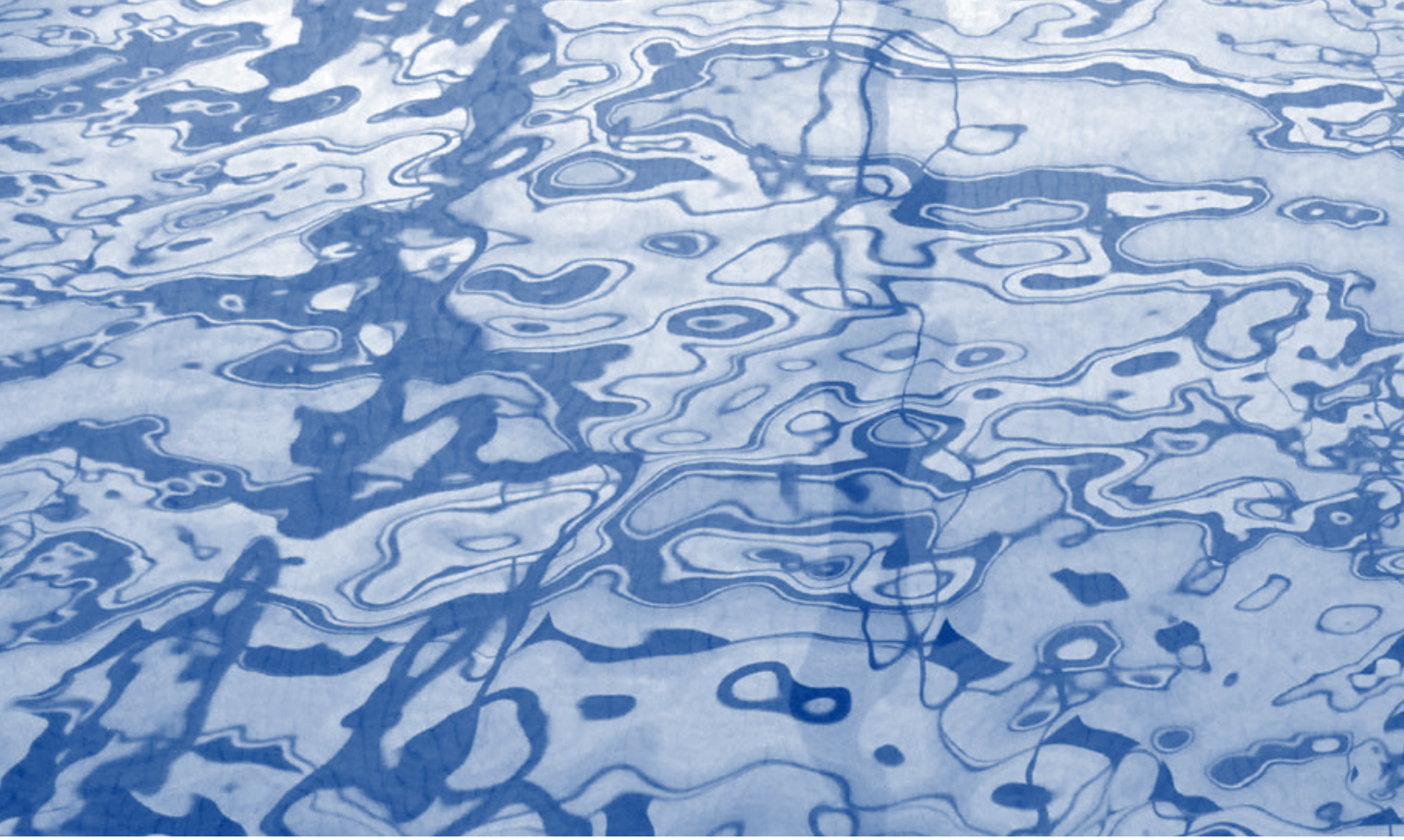
Quota management system

Growing pains of the quota management system



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Abstract

This paper reviews the current institutional framework within New Zealand's quota management system (QMS). It discusses some of the current issues that are acting as hurdles and preventing New Zealand's commercial fishing sector from maximizing value in the fishery, as well as those industry concerns about its ability to manage, such as the collective action of rights holders. It explores the opportunities and benefits of those who hold the rights to use the resources being assigned greater responsibility for managing their share of the fishery and fishing activity. It also discusses how users within such a framework would bear the costs of management and how they would become accountable for actions that impinge on their and other interests. This paper also provides comment as to the requirements necessary for the transfer of fisheries management responsibility, and discusses the design, implementation and devolution of fisheries management services that could be accepted and driven by the commercial seafood industry. Under the proposed model we argue that stakeholders would be incentivised to provide information more freely for better and more informed management decisions. There would be more 'buy-in' for all decisions by internalizing rules, which would improve compliance. Service delivery would become more efficient and the improved quota value would provide surety for long-term planning for all future projects, research and all other stakeholders. Fisheries management transfer will also impart industry ownership for all management decisions and encourage technological innovation to manage environmental, biological and economic concerns. Finally the transfer of fisheries management services would reduce industry's general resistance to change; including the TAC/TACC, deemed values (landing fees), spatial closures and protected species protocols.

Introduction

The New Zealand Quota Management System (QMS) was created in 1986. Defining the rights of commercial fishers through the use of Individual Transferable Quota (ITQ) was a key plank in its development. Its birth heralded a new way of thinking in respect of fisheries management for government, industry as well as all other stakeholders.

ITQs presented an opportunity for the commercial fishing sector in New Zealand to improve its economic performance and become more efficient. Its implementation, while critical for improved economic performance, should be seen however as only one step towards the development of an optimal fisheries management regime. The evolution of the QMS and the outcome of ITQs should continue to improve as rights holders assume direct involvement in management decisions such as catch, as well as a share in management of the biomass and its environment.

Since 1986 there has been a range of evolutionary changes and 'growing pains' within the overall fisheries management regime that have tested and improved the institutional framework from which the QMS was built. These changes allow for more optimal fishing rules and enhance value in the fishery. These included the rationalisation of industry, treaty settlements (the recognition and provision of commercial customary rights), moves to proportionality (rights holders bear the risk of sustainability changes), cost recovery (management costs apportioned to those who benefit from the utilization of the resource) and institutional reform (the transfer of administrative delivery services through approved service delivery organisations).

A review of the literature shows that many of these evolutionary changes were contemplated as part of the original rights based fisheries framework envisaged through the use of ITQs (see Pearce (1990), Scott (1989a; 1989b)). What has not occurred, but was also proposed as a requirement for ITQs to work optimally, is the devolution of fisheries management services

whereby rights holders accept and deliver on fisheries management outputs and outcomes.

Although the New Zealand legislation provides for the production of fisheries plans, without a management coalition that can coalesce the majority share of rights holders in shared fisheries, optimal management decisions will be difficult to materialise and stakeholders will be slow to internalize management responsibilities.

So far industry organizations have been slow to internalize management responsibilities largely as a product of the commercial sector's relative immaturity, capacity constraints and realizing the extent of the requirements, responsibilities and disciplines associated with fisheries management transfer. Associated with these issues are those hurdles the commercial fishing sector face within the current management regime, such as the lack of a structured framework to manage competing users, the ability to manage sustainability and environmental concerns as well as the requisite for collective action amongst rights holders.

This paper is divided into three main sections. The first section discusses some of the current issues that are acting as hurdles and preventing New Zealand's commercial fishing sector from maximizing value in the fishery. The second section focuses on those concerns that the industry can manage such as the collective action of rights holders. It explores the opportunities and potential benefits available to those who hold the rights from taking greater responsibility for managing fisheries and fishing activity. It also discusses how users within such a framework would bear the costs of management and how they would become accountable for actions that impinge on their and other interests. The last section reviews the current institutional framework and the requirements necessary for the transfer of fisheries management services. It also discusses the design, implementation and devolution of fisheries management services that could be accepted and driven by the commercial seafood industry.

ITQS IN BRIEF

Kompas (2005) defines a fishery to be economically efficient when the management targets are set correctly, enforced effectively and delivered in a least cost and incentive compatible manner. He goes on to say that "an efficient outcome is important not only because it protects fish stocks and guarantees sustainability, but also because it assures that resources will be allocated to the fishery correctly in a way that maximizes the returns from fishing". Individual quotas that are tradeable provide a framework from which the most economically efficient outcomes can be obtained.

ITQs are not meant to replace traditional approaches to fisheries management. Self-management fishing rules that include input controls and other technical measures are most often retained by rights holders to enhance the ITQ regime. These tools continue to provide useful mechanisms to ensure sustainability, good recruitment, and size selectivity which enable fishers and quota owners to respond better to market demand as well as improving the quality and quantity of their product. With ITQs the opportunity for self management should allow the regulatory arrangements imposed by government to be altered to help achieve maximum economic yield in the fishery.

Experience has taught us that without the support of well defined rights, government fails to provide the incentive for those who fish to do so efficiently and in a manner that gives industry a long term stake in the future of the fishery. In 'The tragedy of commons', Hardin (1968) describes a pasture "open to all." He asks us to imagine the grazing of animals on a common ground. Individuals are motivated to add to their flocks to increase personal wealth. Yet, every animal added to the total degrades the commons by a small amount. Although the degradation for each additional animal is small relative to the gain in wealth for the owner, if all owners follow this pattern the commons will ultimately be destroyed. Therein is the tragedy. "Each man is locked into a system that compels him to increase his herd without limit - in a world that is limited. Ruin is the destination toward

which all men rush, each pursuing his own interest in a society that believes in the freedom of the commons."

ITQs are the most effective instrument for an efficient fishery and to manage the commons when the institutional framework to support them is in place. Despite the potential erosion of those rights in New Zealand through the failure to define recreational and customary fishing rights as well as the implementation of marine reserves and fish farms without providing for proportionate compensation, the New Zealand ITQ system has remained surprisingly robust. Newell *et al.* (2004) suggested a well-functioning ITQ market. They found evidence of economically sensible behaviour in the relationship between quota lease and sale prices and fishing input and output prices, quota demand, ecological variability, and market rates of return. They estimated an increase in the value of quota prices that was consistent with an increase in the profitability of the fisheries. And furthermore they found larger gains for fish stocks that were initially overcapitalized and overfished that faced significant reduction in total allowable catches.

To further improve efficiency and maximize returns there is a necessity to allow the industry to adjust fishing rules so they respond quickly to any sustainability and/or economic concern. Like any responsive system (as within components of the medical and transport sectors) it is necessary for representative parties to organize themselves as well as have government facilitate the development of an institutional framework that will allow such sectors to improve management and efficiency outcomes.

Within the fishing sector this should involve quota owners adjusting their own fishing rules by setting the catch limit, landing fees, as well as replacing and amending gear restrictions or imposing their own spatial or temporal closures. As long as a government's biological bottom line and environmental standards have been met, the question whether industry can develop a harvest strategy that will allow continuous monitoring and review of such sustainability measures will depend critically on the internal organization and institutional framework from which it is built.

Concerns amongst NZ quota owners

Framework to manage competing users

While the QMS is lauded internationally as a model for fisheries management, there are increasing threats to its stability while the New Zealand government fails to confront the requirement to define and protect rights across all sectors including recreational, customary and commercial.

When quota rights were introduced in the commercial sector, their status relative to the recreational and customary sectors was left unclear. Despite the fact that courts have ruled that regulations and plans must not interfere unduly with these rights, these rulings are yet to flow through into administrative policy and guidelines. The current uncertainty as to how these rulings may apply to marine reserves, marine farms, mataitai and recreational fishing is creating considerable uncertainty within the commercial fishing sector as incentives for long-term investment and planning continue to be undermined[1].

Optimal allocation of any scarce resource among competing users requires the ability to transfer parts of that property right to someone else. Transfer and/or reallocation of that property right in the absence of a market across sectors or appropriate compensation undermines the fundamental objectives of ITQs and in turn, quota owners argue, the New Zealand Ministry of Fisheries overall fishery outcome; that "the value New Zealanders obtain through the sustainable use of fisheries resources and protection of the aquatic environment is maximized" (MFish 2005)

In the absence of markets or explicit compensation for reallocation decisions, the process is exposed to political bargaining. Invariably, few disciplines are placed on the user who is seeking a greater share of the resource or on the decision-making process. If the premise that ITQs are the centrepiece of the management system is correct, there is a need for

1 A mataitai is a customary food management area in New Zealand that is designed to allow customary users to manage their fishery resources within designated areas.

a policy framework that will make it more robust. The ambiguity about the legal precedents among the competing resource usage such as marine reserves, marine farms, mataitai and recreational fishing has appeared, in some cases, to have even overridden the rights of quota holders (see MFish 2001; Sykes 2004).

Collective action amongst rights holders

The ongoing strength of the New Zealand dollar in recent years has seriously eroded export earnings. In addition to the strong dollar, fuel costs are up 50% on a year ago and interest rates continue to rise. Given that the majority of New Zealand seafood products are exported, a strong currency and the rising costs of fuel reduce the return on capital for seafood products.

In order to off-set the impacts of the high dollar, soaring fuel prices and sector allocation issues, there is the necessity for industry to drive overall development through collective action amongst rights holders in shared fisheries. The industry needs to reassess its management approach and develop strategies that allow quicker responses to the market, economic forces and fisheries planning.

To manage these economic uncertainties and reduce economic inefficiencies, the management targets need to be set correctly, enforced effectively and delivered in a least cost and incentive compatible manner. To do this, rights holders in shared fisheries need to organise themselves to make rules and undertake projects to help maximise their return on capital and the value from the stock. This involves making collective decisions about marketing, processing, and harvesting as well as developing fishing rules and adjusting those rules during regular sustainability reviews.

Managing sustainability and environmental concerns

To enable quota holders to engage in collective action to manage sustainability and environmental concerns, government must externalise the fisheries management planning process. Although the New Zealand Ministry of Fisheries has already successfully devolved some functions, such as the delivery of administrative registry services to an Approved Service Delivery Organisation (ASDO), it also needs to recognise the need to devolve more responsibility and authority of fisheries management to resource users. Such a framework would need to provide for the devolution of what are currently regulatory decisions.

In New Zealand ITQs together with deemed values, which are civil penalties for landing fish without Annual Catch Entitlement (ACE), are the key

regulatory measures used to maintain the sustainability of stocks[2]. The QMS has evolved into a hybrid system that employs both quantity (ITQ) and price instruments (deemed values) in the form of landing fees to control catch. Without a devolved fishing management process where rights holders can have primary input into setting these regulatory controls, effective management decisions cannot be made.

For example with a devolved management process, when the Total Allowable Commercial Catch (TACC) is constantly exceeded and there are no sustainability concerns, quota owners would invest in the research to adjust the TACC upward. When there are sustainability concerns and the TACC is constantly exceeded, quota owners would adjust the deemed value so that fishers balance catch with ACE and reduce overall catch. Both initiatives by rights holders are only protecting and enhancing the value of their quota.

Since it is legal to land fish without ACE, paying the deemed value on a tonne of catch represents a substitute to purchasing a tonne of ACE. Deemed values therefore have consequences depending which party receives the payments associated with a given level of catch, i.e. quota owners or government (see Newell 2004). Currently government receives the value associated with all deemed value payments The commercial fishing sector argue that for all catch beyond the TACC limit, the legitimate claimant should be the quota owners themselves given that deemed values are capturing commercial value from the stock.

Without a devolved fisheries management process and until such time the Crown and industry agree on how deemed values and TACCs be set and used, unnecessary economic costs and sub-optimal fishing rules will continue to be imposed on fishers and rights holders, and the integrity of the QMS would continue to be compromised.

2 At the beginning of each fishing year quota owners receive ACE equal to their share of the TACC. Deemed values (landing fees) are payments made to the Crown as a defence for landing QMS stocks without ACE. At present, many stocks experience extremely high levels of overcatch (eg. CDL4 at 2950%) (Clement, 2004).

Moves towards self-management

It has been argued that over the past 20 years the 'growing pains' of the QMS have been a distraction for rights holders within New Zealand to pool their quota in order to improve management and efficiency outcomes. However when rights holders decide to pool their ITQs and hold a larger share of the TACC in common, such pools become the next step in the process toward integrated management for year-to-year catch control with permanent stock protection and enhancement (Scott 1988).

Under such a framework it is expected that more of the rights holders would become incentivised to take a long run interest in the betterment of their fish stocks as their individual quota assumes more of the fundamental characteristics of property such as duration, exclusivity and transferability (Scott 1988). Recent fisheries management literature supports the view that stocks that are jointly managed under an ITQ regime will improve rule making and rule compliance, as well as reduce friction between fishers, rights holders and all other stakeholders (OECD 1997).

The recent tender of Crown held quota in new and developing fisheries has provided a perfect opportunity for self management. From the onset, the development of management coalitions in these fisheries will ensure that more efficient, responsive and targeted management decisions can be made for the benefit of the rights holder and the respective fishery as a whole.

Within this framework the individual quota would become a share in a growing enterprise. Investments would be determined on the status of the stock, i.e. long-run management to improve numbers, availability of local stocks, and size and age composition. Rights holders could jointly undertake marketing, processing, research, enforcement, and protection of personnel and vessels; as well as develop agreements concerning bycatch, overlapping and shared stocks. This approach would enable rights holders in single and multi-species fisheries to collectively make win-win investment and management decisions.

Through collective action the individual quota would act as a building block which becomes incorporated as part of a single management coalition. Some ways of assembling them would be better than others, resulting in different internal management and information costs, different external costs of information and coordination, and different economies of scale in harvesting and stock enhancement. However amid all these influences, the most influential and permanent voice in arranging the building blocks and establishing management coalitions would be the owners, the rights holders themselves.

Management coalitions will allow rights holders to act collectively to advance their interests by increasing the yield of the fishery as well as improve the security and integrity of their fishing right. As the individual quota becomes more valuable rights holders will develop a keen interest in protecting them against free-riders, poachers or government actions that might in some way threaten or diminish their value. Moreover it provides the opportunity for rights holders to cooperate more fully in conservation measures, the management of seabird and marine mammal bycatch, surveillance and enforcement as well as data collection and research.

To facilitate the shift to self-management government also needs to provide the institutional framework that enables quota-holders to manage their own affairs. To be able to cooperate effectively rights holders need an independent management organization. It must represent the majority share of all those having rights to fish, have a clear mandate as well as authority to make fishing rules that are then protected by statute. One way that would be accepted by the majority of quota owners would be the transfer of fisheries management services to an industry owned agency.

Fisheries management transfer

Despite the generally positive outcome from the introduction of ITQs, as with any change in the structure and philosophy of an industry, the QMS has also brought its own share of sceptics, problems and controversies. This has included such things as adjustments in the total allowable catch (TAC) and its allocation between the three fishing sectors (commercial, recreational and customary), setting management targets where the by-catch will either limit the target catch or will be over-caught, setting deemed values and its redistribution, the implementation of marine reserves, mataitai's and fish farms and the concentration and industrialization of the fishery.

Given all the associated concerns, there is clearly a need to continue to revise and adjust policy to make the QMS work better. Pearce (1991) stated that for the QMS to be retained and built upon and if its potential contribution to fisheries management was to be realised "major improvements must be made to the quota system itself, and to the regulatory framework within which it is embedded". He went on to say that the key to these improvements was that "those who hold rights to fish should have more responsibility for managing them".

While the quota system can facilitate the economic efficiency of fishing, it also depends on other processes to encourage quota owners to assume additional management responsibility. In 2001 the Ministry of Fisheries successfully devolved the delivery of administrative registry services, duties and powers to an ASDO. To encourage the industry to take more responsibility to manage stocks we argue that government should devolve responsibility for and authority over fisheries management to resource users and other rights holders. The role of government will then be directed towards the audit of conservation and environmental standards and sustainability measures.

The role of government and resource users

Fisheries management needs be assigned to those who hold the rights to fish; protecting broader public interests and the conservation of resources should continue to be the responsibility of government.

Pearce (1991) reminded us of government's essential role for resource use in New Zealand: "…to identify those public interests that were affected by fishing, and to protect them by setting out enforceable ground-rules within which those who have rights to fish can organise themselves and exercise their rights". He went on to say that those "broader public interests in a fishery can best be protected by specifying the standards of management that those who use the resources are obliged to achieve". These standards would deal strictly with conservation objectives and related environmental concerns, and how performance would be measured and enforced. In other words, they would set out the constraints within which the resources can be harvested and developed.

If the responsibility of government is to set the standards from which stakeholders can plan and conduct their operations, and government separates the responsibility for managing fishing from the responsibility of protecting public interests, externalizing the fisheries management process should be quite simple once appropriate rights-holder organizations are established and the institutional framework has been arranged.

The 2005 Ministry of Fisheries statement of intent identified performance standards as being a key to achieving the overall fishery outcome (p.18). They also identified process standards to specify minimum requirements for the processes used to manage fisheries. Within this framework, the New Zealand government continues to specify the minimum stock size or productivity that must be maintained so that QMS stocks are not fished down to a level below a specified proportion of the virgin biomass (or equivalent proxy). Furthermore, the New Zealand government prescribes the protection of sea birds and mammals and the avoidance of environmental impacts so that adverse effects do no exceed specified levels. It is within this framework that the management of fishery resources and fishing operations should evolve to become the sole responsibility of the rights holders themselves, taking account of all the costs and benefits of their actions.

Devolution of fisheries management services

Fisheries management transfer should involve industry making collective decisions about fishing patterns and fishing rules, projects of enhancement, exploratory fishing and research. This would incentivise quota owners to adopt an optimal approach to reviewing and monitoring TACCs, deemed

values and other fishing rules in order to respond to the necessary biological and economic requirements of the fishery. In New Zealand much of this work is currently driven by the Senior Fishery Management Advisors (SFMAs) and their teams with the drafting of initial planning papers and final advice papers.

To enable quota-holders to engage in this kind of collective action, they will need the expertise similar to those of the SFMAs as well as the infrastructure of such teams to organise themselves. With fisheries management transfer (much like the controlled process that was used to give FishServe the responsibility to deliver the administrative registry services) stakeholders can begin to make their own fishing rules and carry out their own projects[3]. Once the Ministry devolves the delivery of fisheries management, rules and projects to an ASDO; the Commercial Stakeholder Organisations (CSOs) could levy assessments on themselves to support their own fisheries advisors. This would ensure that mutually beneficial programmes and projects were undertaken with assurance of the co-operation and compliance of all participants.

The exceptional performance of FishServe should erase the trepidation of industry and government when formally considering devolution of fisheries management planning processes. The credibility of the ASDO model through the actions of FishServe is recognised both nationally and internationally, and could easily be expanded from only administrative services to include the role of independent advisor to industry and government for fishery management services.

There are approximately 33 CSOs in New Zealand that represent quota owners in respective fisheries, some of which require organization and restructuring to accept management responsibilities. However there are several which are already well established and provide services other than what has been provided by government. There are also examples of CSOs that have raised money for various purposes connected with research, information, enforcement and storage. For example the Lobster Company initiated research to allow an increase to the minimum legal size of female rock lobsters. They provided a better alignment of escape gaps in pots; advocated for a move away from a 'one stock' all New Zealand assessment model; successfully initiated two marine reserves in Fiordland; developed and implemented codes of practice in relation to packaging materials used for lobster bait; as well as promoted and eventually oversaw the implementation of improved escape gap design in rock lobster pots.

3 FishServe is a commercial company where many of the Ministry of Fisheries registry-based services are now devolved.

With the development of fisheries management teams under the auspices of an ASDO, fisheries service levies currently appropriated by the ministry to support the SFMAs could be paid under formal contract with the CSO or even the ASDO directly. Their new responsibilities would then feed into the existing structural framework, and continue to be used to monitor and adjust fisheries rules and other fisheries management responsibilities. To maintain conservation and environmental standards and sustainability measures, recommendations by the fisheries management teams could continue to be assessed, reviewed and audited within the standards and operations group of the Ministry of Fisheries.

The benefits of the new approach would be that the CSOs would become the vehicle for fisheries management. Instead of the ministry attempting to interpret industry concerns given their own budgetary, personnel and other fiscal constraints, the CSO would position itself to respond instantly to all environmental, biological and economic concerns in the fishery. In some cases CSOs may even find it advantageous to adopt more stringent standards set and approved by the ministry to build up stocks (and harvests), to reduce their fishing costs and to produce a more valuable product. A devolved fisheries management regime would benefit government and all other stakeholders.

Discussion and conclusion

The development of management coalitions and the devolution of fisheries management processes demand a review of existing administrative and management services. For example there would be a need for rights to be strengthened by adopting a new policy of cost recovery for public fisheries management and administration. This will have the effect of realigning the costs and benefits of services, closing the loop between those who pay and those who gain, and focusing attention on the scope for improved efficiency.

In the current system costs are allocated and recovered using a simple formula that takes into account the port price, TACC and a fishers' share of the total quota for a particular fish stock. One of the primary concerns amongst quota owners with the current methodology is that for many stocks the port price does not reflect its relative value because of the potential 'game playing' in survey responses as well as the high level of vertical integration in the industry. Consequently there is little link between the estimated port price of the fish stock and the value of the service being recovered. Even without a full review of the cost recovery regime it would be economically sensible, where possible, to base the cost recovery levies on the ACE price instead of the port price. This would immediately remove bias survey responses and allow real benefits to equate to allocated costs[4].

In 1994 the Challenger Scallop Enhancement Company was established. It provided the framework for the development of policy and management plans in which Challenger took full commercial fisheries management responsibility in the Southern Scallop Fishery. These plans were developed to integrate commercial rights with the interests of recreational and customary fishers, as well as provide the support and services to implement such plans.

4 The ACE transfer price is recorded on a voluntary basis. For this system to work effectively either the Ministry of Fishery would need to make it legally binding to accurately record the price of all ACE transfers and/or quota owners develop a terms of agreement to accurately record the price and quantity of all trades.

This model is viewed as an indication that management decisions implemented in a fishery by quota owners are successful in optimising harvest rates and stock biomass. In 2000 the CEO of Challenger stated that the high degree of self-governance had facilitated maximizing financial returns from scallop (*Pecten novaezelandiae*) quota (Arbuckle, 2000).

Challenger's annual expenditure ranges between NZ$1.6-2 million which is used to develop annual management and business plans for three fishery management companies, as well as an additional NZ$2 million to operate capital equipment for enhancement and research purposes. Levies are collected from payments made to fish harvesters and/or directly from the quota owners to fund such management activities. Although Challenger continues to report to the Minister of Fisheries on an annual basis to ensure quality and timely delivery of research and other management information, the establishment of the self-governing management regime through the 'Memorandum of Understanding' has precluded Challenger and any of the scallop quota owners from paying the Crown additional fishery and conservation service levies.

Since 1994 cost recovery has been an integral element of New Zealand's fisheries management regime. The purpose of the fisheries cost recovery regime was to enable the Crown to recover its costs in respect of the provision of fisheries services and conservation services, as far as practicable, from those people who benefit from the provision of those services or cause the adverse effect that the services are designed to avoid, remedy or mitigate. These costs are recovered from the commercial seafood industry under the principles defined in the 1996 act. If management costs are not directly adding value to quota then this turns the incentive to invest into an impost and resistance becomes the norm.

The costs to individual fish stocks are based on the level of services planned for that stock, however on average approximately NZ$34 million is appropriated from the commercial seafood industry each year[5]. While government has agreed to continue to deliver the services necessary to ensure the sustainable utilisation of fisheries resources, it is hoped that through the introduction of fisheries plans stakeholders will take a hands-on role in managing their fisheries. Even if rights holders were given consent to undertake fishery management responsibilities and were precluded from paying the recoverable costs, the NZ$34 million would be redistributed amongst the remaining quota owners.

5 For the 2003/04 and 2004/05 fishing years the Fisheries Amendment Act 2004 gave effect to a negotiated settlement reached between the commercial seafood industry and the Crown relating to the over and under recovery of costs of fisheries and conservation services between 1994 and 2002.

Without a review of the current cost recovery regime, the costs associated with greater responsibility to manage fisheries will be an add-on to those additional costs already required to manage fisheries. The effectiveness of industry driven management plans as a mechanism for managing fishing will therefore depend on government's ability to separate the responsibility for managing fishing from the responsibility for protecting broader public interests and the conservation of resources.

Some of the primary concerns of rights holders within the current fisheries management regime are poorly focused governmental services, bureaucratic waste and inefficiency, and the lack of control over expenditures and research. Through management coalitions such as cooperatives and/or joint ventures rights holders in New Zealand can begin to organize themselves to finance their own research directly, enhance other activities such as market development, determine catch limits and deemed values and make their own fishing rules. This will only strengthen their fishing right and expand their management role.

Self-management is an opportunity for the future development of fisheries management and fishing rights in New Zealand. Rights holders need to act as joint owners and organize their activities collectively that they not only manage fishing but manage the fish stock and its yields as well. The prospect of rights holders doing more than simply harvesting fish, by accepting management and development responsibilities presents a new frontier of opportunities.

With the development of management coalitions those who hold the rights to the resources will be well placed to assume fisheries management responsibilities. The QMS encourages such initiatives as clearly stated in the 1996 act. However without an adequate institutional framework in place CSOs and all quota owners cannot begin to capture the benefits from investing in more of the fisheries management processes.

Under the proposed model we argue that all stakeholders would provide information more freely for better and more informed management advice. There would be more 'buy-in' for all decisions by internalizing rules, which would improve compliance. Service delivery would become more efficient and the improved quota value would provide surety for long-term planning for all future projects, research and all other stakeholders. Fisheries management transfer will also impart industry ownership for all management decisions and encourage technological innovation to manage all environmental, biological and economic concerns. And finally the transfer of fisheries management services would reduce industry's general resistance to change; including the TAC/TACC, deemed values, spatial closures and protected species protocols.

Under a devolved fisheries management process government would continue to ensure the new arrangements work fairly, efficiently, and in the public interest. The commercial seafood industry would accept government's responsibility to identify those public interests that are affected by fishing; such as environmental protection and maintaining the sustainability of stocks. With fisheries management transfer industry will become the provider for utilization advice and the paradigm for fisheries management and accountability will shift.

In the absence of meeting governments' environmental and/or conservation standards and sustainability obligations, stakeholders will assume responsibility for any consequence. The challenge for government and all stakeholders will become the development of agreed protocols and contracts that transfers the respective environmental, conservation and sustainability risks so that fisheries management responsibilities need not be carried out within government itself. So far the QMS has been adopted only partially. If it is to continue to evolve a lingering gap in the ITQ regime needs to be closed - those who hold the right to fish should take responsibility to manage.

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