

3. Allocation, Trade and Holding of Quota

The ways in which quota is allocated and traded and the rules over its ownership directly influence how the quota market and the fishery will operate. The management authority must determine initial allocation (to whom, how much), the nature of the right (exclusivity, quality of life, duration), ownership limits (minimum or maximum quantities, nationality of owners) and limits over transfers (divisibility, restrictions on sale, leasing options). In New Zealand, the nature of the property right, and how it is managed, has changed since the introduction of the QMS. This chapter follows these developments from an initial distribution of deepwater fish quota to established participants, through to a system that manages virtually all commercial species and where new quota are auctioned to the highest bidder.

This chapter discusses the allocation methods that were used in the implementation of the QMS and some of the problems that were encountered including the need to alter the definition of quota and a lengthy appeals process. The exclusion of Maori interests halted the entry of new species into the QMS which provided time for officials to revise the allocation mechanism used to bring additional species into the QMS, reducing the importance of previous catch history and subsequently passed as part of the 1996 Fisheries Act. Thus new allocation process outlined in the 1996 Act and subsequent amendments is discussed. Finally the chapter outlines regulations regarding quota ownership and trading including minimum and maximum holding requirements before concluding with brief remarks on how the structure of the industry has changed in response to the design of the quota owning and exchange system.

3.1 Allocation under the 1983 Fisheries Act

Identifying an acceptable quota allocation mechanism is fundamental to ensuring the success of an ITQ based system. So when the New Zealand Government wished to introduce the QMS they undertook a substantial consultation process before finalising the allocation process in legislation.¹ This process assisted in maintaining industry support for the system and included producing documents outlining the proposed system and holding a number of meetings around the country (Connor 2001a). It was decided that commitment of the fishers to and dependence on the industry would be the key determinants for allocation of quota (S28E of the amended 1983 Fisheries Act). While the same criteria was used for determining the quota allocation to fishers, the process that was used differed between deepwater and inshore species.

When the QMS was first introduced, 26 species were brought into the system, most of which had multiple QMAs (Boyd and Dewees 1992).²

¹ However, this consultation process lacked effective consultation with Maori despite systematically including all other stakeholders (Connor 2001a).

² The species that were introduced into the system initially are – barracouta, blue cod, bluenose, alfonsino, elephant fish, flatfish, grey mullet, red gurnard, hake, hoki, hapuku (bass or grouper), John Dory, ling, blue moki, oreo, orange roughy, red cod, school shark, gemfish, snapper, rig, stargazer (monkfish), silver warehou, tarakihi, trevally and blue warehou (Newell 2004).

3.1.1 Deepwater Quota

In 1983, a precursor to the QMS (Deepwater Allocation system) was introduced to control seven deepwater fish stocks (Sharp 1997). At this time, the deepwater fisheries stocks were relatively healthy and this system was implemented to prevent over fishing or overcapitalisation from occurring as it had in the inshore stocks (Clark and Major 1988). To be eligible for the individual quota (IQ), companies needed to prove that they had the ability to access the fishery but also that they had the processing investments necessary to process catch. Since some of the companies were unable to reach the relevant limits themselves, company aggregations were created to enable smaller companies to reach the threshold levels. Thus, based on these criteria, IQ was allocated to the large fishing companies (or fishing company aggregations) that were currently competing for the deepwater fish stocks (Deweese 1989). Holding IQ entitled companies to choose to harvest their entitlement in whatever way that they wished including the use of foreign chartered vessels (Sharp 1997). Although the Government was unable to authorise the trading of this quota, de facto trading and leasing of the shares was reported (Sissenwine and Mace 1992).

The quota allocated under this scheme was granted for ten years (Connor 2001a). However, in 1985 these allocations were confirmed by the Government and granted in perpetuity (Clark and Major 1988), thus bringing the deepwater species into the QMS.³

3.1.2 Inshore Quota

The allocation of quota for the inshore species was undertaken in a number of steps at the start of the QMS (Connor 2001b). Allocation of quota to inshore fisheries was more complex than in the offshore fisheries due to the greater need to reduce catch levels and higher number of individuals involved.

3.1.2.1 Ability to be allocated quota

Under the amended 1983 Act, quota was to be allocated to vessel holders based on their commitment to, and dependence on, the industry. Based on these requirements two key groups were ineligible for quota: part-time fishers and people who were involved in the fishing industry, but who did not own boats. Both of these groups failed to obtain any compensation for their loss and, in the case of part time fishers, often lost a major or their only source of income.

To be assigned quota in the initial allocation, individuals had to be deemed a commercial fisher. According to the Fisheries Act 1983, to be a commercial fisher an individual or company needed:

- earnings of NZ\$10,000 or more from fishing and to earn more than 80% of their income from fishing; or

³ The QMS was originally to be introduced in October 1985 for the 1985/1986 fishing season (Ministry of Agriculture and Fisheries 1984). Thus, initial quota allocation was carried out in 1985. However, due to the long appeal process for inshore species, the introduction of the QMS was delayed by 12 months, beginning in October 1986. See the next section for more details.

- earnings from fishing to form a vital part of their income; or
- to be subsistence fishers (Bess 2005).

With the new requirements, a large number of part time fishers, many of whom were Maori living in rural areas, were removed from the industry (Bess 2001).⁴ This step was a start towards achieving the Government's goal of rationalising the fishing industry and reducing capacity. Although it would have been possible to include these individuals in the new system, to do so would have led to much higher transaction costs (Connor 2001a). The Fisheries Act 1983 removed these individuals without compensation, resulting in a significant cost saving to Government (Sinner and Fenemor 2005) but also significant losses to the people involved.

3.1.2.2 Quota allocation

Commitment to and dependence on the industry for commercial fishermen in the inshore fishstocks was determined by a vessel's catch history (Connor 2001a) with the ITQ for each fish stock allocated to vessel owners based on their vessel's catch history in the 1981/82, 1982/83 and 1983/84 fishing seasons (Bess 2005) (S28E of the amended Act). The Ministry announced its intention to base quota allocation on previous catch history in 1983. But in an attempt to reduce the incentives to inflate catches, the fishing seasons considered were not announced until May 1985 (Clark and Duncan 1986).

The process for determining an individual vessel owner's catch history had a number of steps. Firstly, regional catch history review committees were established to validate the actual catch of each vessel for each of the three fishing seasons. Secondly, any notable gaps in catch history were assessed and where there were legitimate reasons for being unable to fish, these gaps were compensated for. Finally, vessel owners were notified of the catch history of each of their vessels for the three years. It was then up to the vessel owner to determine which of the three fishing years would be used to calculate their catch history. Thus, when a vessel owner had multiple vessels, the owner selected the year that would give them the best catch history over all vessels. From the selected catch history, the vessel holders' provisional maximum individual transferable quota (PMITQ) was calculated, stating the individual's largest possible entitlement.

Vessel owners who believed that their PMITQ did not represent their usual catch history could apply to have an administrative review by one of the six regional catch history review committees (Connor 2001a). These committees were reasonably informal and lacked decision-making power, but they were able to provide recommendations to the national committee and the Director General of the Ministry of Agriculture and Fisheries who was able to alter assessments (Muse and Schelle 1988). The high rate of objections was unexpected. The introduction of the QMS was delayed by a year because the vast number of reviews requested took eight months to process (Connor 2001a).⁵ This delay meant that the fishing activity of some individuals had changed substantially between the introduction of the QMS in October 1986 and the final reviewed fishing year of 1983/1984. These individuals

⁴ In practice, this piece of legislation was misinterpreted and this led to more individuals being removed from the system than was necessary.

⁵ The QMS was expected initially to be implemented at the start of the 1985/1986 fishing season (Ministry of Agriculture and Fisheries 1984).

therefore submitted reviews to have their PMITQ reflect their commitment and dependence on the fishing industry in 1986.

Once PMITQs were identified, the Government needed to bring the levels of harvest allowed under the assigned PMITQ down to the newly proposed TAC levels (or TACCs as they are known in the later legislation).⁶ This was a major issue as the catch levels were generally around 10 percent higher than the proposed TACs but in some species, such as snapper, the difference was much higher with catch levels 36% higher than the TAC (Falloon 1993). To ensure that the vessel owners were aware that the total PMITQ holdings in many fish stocks exceeded the TAC, they were also informed of their guaranteed minimum individual transferable quota (GMITQ) at the same time as their PMITQ. GMITQ represented the amount of quota that the individual would receive if the reduction in catch required to get from the total PMITQ to the TAC was spread proportionately across all of the assessed catch histories (Connor 2001a) (S28F of the amended 1983 Act). This allowed individuals to identify the possible range of quota that they would be entitled to catch once the QMS was in place.

3.1.3 Quota Buy-back scheme

Twenty-one of the species that were introduced into the QMS at this time had PMITQ allocations that exceeded the TAC (Sissenwine and Mace 1992). The Government had two options to reduce the quota holdings: either buy back the excess quota; or reduce the total quota holdings *pro rata* under Section 28D of the amended Fisheries Act.⁷ The Government selected the buy back option. By buying the quota back, the Government was able to both reduce harvesting entitlements and provide compensation for individuals who were no longer allowed to fish (Sharp 1997). This allowed them to retain the support of the industry (Kidd 2000).

The set up of the scheme provided two incentives for individuals holding PMITQ to participate (Connor 2001a). First, it created an opportunity for individuals to have all or part of their PMITQ purchased by the Government allowing them to leave the industry while obtaining a financial benefit. Second, the PMITQ holders knew that if enough quota was not tendered back to the Government, TAC levels would be achieved through a *pro rata* reduction in assigned quota, so the quota that they received could be as low as their GMITQ.

All vessel owners were invited to participate in the quota buy-back scheme and submit bids of compensation that they would be willing to accept in return for giving up a specified amount of quota (Connor 2001a). In theory, once the tender round had been completed, the Government would determine the price that would allow it to meet its reduction targets. This price would then be paid to all individuals whose

⁶ The difference between the total PMITQ allocated and the TAC is likely to have been greater than the actual difference between the total catch levels in the 1985/86 fishing season and the TACs since fishers chose their highest catch history year and individual allocations were increased through the objection process, leading to a higher total PMITQ allocation than actual fish caught in a given fishing season (Sissenwine and Mace 1992). Thus, the Government needed to compensate the industry for more tonnes of fish than it actually received in fishing reductions.

⁷ Since the quota were rights to harvest a specified tonne of fish rather than a proportion of the TACC, the Government had to purchase the quota back rather than administratively reducing the TACC.

tender price did not exceed this value and the Government would acquire the relevant tendered quota. Thus, equality would be maintained between individuals who sold quota back to the Government. However, given the bid prices that were offered, it was impossible for the Government to meet their objectives. Buying back just 60% of the required reductions at the bid prices offered would have cost \$NZ100 million (Muse and Schelle 1988). To avoid this, the Government decided upon a clearing price so that they could attain about 25% of the required quota and then set up another tender round. The second tender round was the quota holders' last chance to sell quota before the Government cut the PMITQ proportionally without compensation (Connor 2001a). In this round the Government set the price around 20% lower than the prices paid in the first round. Despite this lower price, there was a strong response from the vessel owners and this substantially reduced the quota holdings. In total, the buy-back process cost the Government \$42.4 million but reduced quota holding by 15,700 tonnes (Sissenwine and Mace 1992).

Despite the incentives to participate, the reductions in PMITQ holdings from the second tender round were not large enough to prevent further action being required (Clark and Major 1988). As threatened earlier, the remaining cuts in PMITQ were then applied on a *pro rata* basis in the 21 fish stocks whose total PMITQ entitlements were still above the TAC by utilising Section 28N. This was only carried out on the proportion of holdings above the GMITQ to ensure that no one was left with less than their original guaranteed minimum (Connor 2001a). While these latter cuts were carried out without compensation, the individuals who lost quota during this final round had first rights to future quota increases at no cost under Section 28T of the amended Act (Ministry of Fisheries 2002).

The total reduction from historical catch levels, based on catch histories, to the TACs in the 1986/1987 fishing year was 6% (Sissenwine and Mace 1992). But these reductions were not spread evenly across the species. For the 21 species that were involved in the buy-back scheme followed by *pro-rata* cuts, harvest entitlements were reduced by 24%. More than 85% of the payments required for this process were spent on only four species with nearly 50% spent on the snapper fisheries alone (Sissenwine and Mace 1992).⁸ This enabled catch reductions of 54% in these four species.

An additional appeal process was set up to assist in maintaining the fairness of the system. Quota owners had 28 days from the notification of their PMITQ (or lack of PMITQ) to lodge an appeal (Section 28H of the amended Fisheries Act). These appeals were heard by the Quota Appeal Authority, which was formed in the same amendment (S28A) and established in early 1987 (Connor 2001a). The Quota Appeal Authority consisted of three members and its sole function was to hear the appeals and make decisions regarding their outcome.⁹ For the majority of species this appeal process took 3 to 4 years to complete, but some of the appeals were still being held in the mid-1990s (Connor 2001a). In total, over 2000 appeals were heard, around a thousand of which resulted in additional quota being allocated and 100 leading to reductions in quota allocations (Falloon 1993). This process led to quota holdings exceeding the initial TACs by, on average, 10%. But there was a large amount of

⁸ The four species that required the majority of the payments were snapper, rig, school shark and hapuku bass.

⁹ The Quota Appeal Authority was made up of a solicitor or barrister (Chairperson), someone appointed after consultation with the Fishing Industry Board and someone independent of the Ministry.

variation across species. For example, the quota holdings for snapper increased by 36% (Falloon 1993).

Despite the long time frame involved in dealing with these claims, it was vital to be able to ensure that the initial quota allocations were carried out in a way that was considered fair because of the large economic benefits that holding quota entails.

The allocation process assigned quota exclusively to vessel owners. Therefore, individuals that were involved in generating the catch history such as skippers and crew were left out, as were fishing communities that supported the fishing fleets.

3.1.4 Injunctions through Treaty Claims

In 1987, 3 new species were introduced into the QMS (paua, jack mackerel and squid). In the same year, Maori obtained a series of injunctions which prevented the introduction of further species into the system until Treaty issues could be resolved (Bess 2000).¹⁰

Despite the injunction, two species were introduced during this time as their introduction had the approval of Maori and they were already partially introduced into the system prior to the injunction. As part of the Maori Fisheries Act 1989, packhorse lobster and spiny rock lobster were introduced into the QMS (Ss 49-73 of Maori Fisheries Act 1989).¹¹ The proposal to introduce rock lobster into the QMS was established much earlier and was passed as part of the Maori Fisheries Act 1989 as it was the only relevant piece of fisheries legislation being passed at the time. By then, problems with the ITQ allocation method used to introduce the initial species into the QMS had been identified. Thus, when rock lobster was introduced, the criteria and appeal process used during the quota allocation process was tightened up. This meant that the introduction of these species into the system became relatively easy and the appeals process associated with this fishery was completed before some of the initial QMS species, despite being introduced three years later.

3.1.5 Moratorium on Fishing Permits and Tendering Quota

Despite the settlement of Treaty claims, the introduction of species into the QMS did not recommence in 1992. Problems with the system had become apparent especially regarding the lengthy appeal process and the difficulty of assessing commitment and dependence (Bess 2005). Another problem that needed attention was the behaviour change that was observed in fishers. They recognised that catch history was the key determinant of the quota allocation process and, thus, increased their catch levels in non-QMS species. To prevent over-exploitation of the non-QMS species, a moratorium was put in place preventing the issuing of new fishing permits (Fisheries Amendment Act (No. 3) 1992). This moratorium was initially intended as an interim measure, but remained in place until the passing of the Fisheries Amendment Act (No. 3) 2004 (See the Section 3.3.2 for more details).

¹⁰ See Chapter 4 for more information on Maori Treaty issues surrounding the QMS.

¹¹ While initially the rock lobster quota were granted for 25 years, the permits were later extended in perpetuity based on submissions from the industry and advice from Professor L G Anderson (an economist and academic specialist in the economics of fisheries management) (Waitangi Tribunal 1992a).

The Ministry proposed reviewing the quota allocation process, suggesting that a tendering process would avoid the problems associated with allocation based on catch history. The proposed two-tiered system received Cabinet approval in September 1992 (Ministry of Fisheries 2002). Under this system, existing fishers would have preferential rights, at least in some species, while remaining quota would be tendered openly. This would revoke the rights of the non-QMS species permit holders to have their catch history turned into quota upon introduction to the QMS (Bess 2005). However, in the twelve months following this decision, no legislative amendment was passed and industry opposition was growing. By early 1994, officials within the Ministry of Agriculture and Fisheries were again reviewing the options for allocation and Cabinet subsequently agreed to return to allocation based on catch histories (Ministry of Fisheries 2002). Despite the agreement, the system was not sustainable, and, therefore, the allocation method still required amendment.

3.2 Translating Quota into Fish

3.2.1 Quota as a fixed tonnage

When the QMS was first introduced in 1986, quota was defined as a right to harvest a fixed tonnage of a particular species in a QMA each year (Sanchirico *et al.* 2006). Thus, the Government needed to buy and sell quota to decrease or increase the level of the TACC (Kerr *et al.* 2003). At this time, the Government anticipated that, at least on average, future TACs would increase on the belief that better management would lead to larger stocks (Townsend *et al.* 2006). However, when the Government was faced with the potential collapse of the orange roughy fishery and consequently needed to vastly reduce the TAC, this system was deemed to be too expensive and a new system was devised (Connor 2001a).

3.2.2 Quota as a Percentage of TACC

Under the Fisheries Amendment Act 1990, quota entitled their owners to a proportion of the TACC instead of the right to catch a fixed tonnage of fish (S15). Quota holdings were standardised to one hundred million shares per fish stock and allocated to quota holders based on quota holdings at the time of transition.

With quota defined as a proportion of the TACC, the Minister was now able to alter the TACC for a given fish stock without selling or purchasing quota from the commercial sector. This change not only removed the Government's financial liability, but also shifted the burden of risk associated with the uncertainty surrounding future catch limits from the Government to the fishing industry (Kerr *et al.* 2003). Although this may have effects on investment into the fishing industry, it also provides incentives for the industry to invest in research into science and management information that will help to reduce the uncertainty surrounding stock size and dynamics (Connor 2001a).

3.2.3 The Introduction of ACE

In 2001, the system underwent further change with the introduction of annual catch entitlements (ACE) which are assigned to quota holders based on the share of total quota they hold (expressed in shares) and the TACC. Once the TACC for a given year is known, the kilogram equivalent of each quota share is calculated and transferred to the quota owner on the first day of the fishing year as ACE. This determines the tonnage of fish that the quota owner is able to catch within the next fishing year.

In one sense, the introduction of ACE was not a radical departure from the existing system. However, it allowed for clear separation between the right to harvest a specific amount in a particular year and the ownership of the resource in the future. This had distinct benefits. Prior to 2001, quota owners were leasing their quota for a fixed term which essentially meant that they were leasing the long-term right to fish for a short period.¹² By allowing the separation of the current harvesting ability and the long-term ownership of the resource quota, owners were now able to sell their current harvesting entitlement, while retaining their long-term ownership of the fishery.

Although ACE was introduced in the legislation in the 1996 Fisheries Act, technical limitations prevented its implementation for five years. In 2001, FishServe was created (Fisheries (Transfer of Functions, Duties, and Powers to the New Zealand Seafood Council Limited) Order 2001). FishServe now administers and delivers a number of statutory services surrounding the QMS including recording catch effort returns, ACE management, quota management and vessel registration (Seafood New Zealand 2005). This has meant that the maintenance of quota and ACE ownership registers are no longer the Ministry's role. FishServe was set up initially for six years but subsequently had its contract extended reflecting the benefit that outsourcing this work has had for the industry and the Ministry (Seafood New Zealand 2005).

3.3 Allocation under the 1996 Fisheries Act

In 1994, Cabinet agreed in principle to the legislation that included the allocation of new quota based on previous catch history after Maori obligations were met. This was finally passed as part of the 1996 Fisheries Act. For any new species subsequently introduced into the QMS, 20% of the quota would be allocated to Maori under the Treaty of Waitangi Settlement while the remaining quota was to be allocated to fishing permit holders in proportion to their catch history (Clement and Associates 2003). Any remaining quota ('headroom' quota) would usually be available through open public tender.¹³ The 1996 Fisheries Act was more definitive in determining the allocation process, but catch history was still used to determine the provisional ITQ and ultimately the final ITQ allocation. However, the new Act did make some changes to this process, such as to the definition of catch history. Under the 1996 Act, individuals are now notified of their provisional ITQ rather than their provisional maximum ITQ as previously. So individuals are made aware of the amount of quota

¹² For additional information on trading mechanisms within the QMS see Section 3.4.

¹³ In this tender process, the Crown uses discriminatory auctions. This means that successful bidders pay the price that they actually bid. The industry requested that uniform price auctions were used instead so that all successful bidders pay the same price, but the Crown rejected this request.

that they are likely to receive and no longer receive notification of the range of quota they may be allocated.

Initially the way that quota allocations were carried out under the 1996 Act depended on the characteristics of the fishery (S32). If, prior to introduction into the QMS, catch was controlled by Individual Catch Entitlement (ICE), then provisional catch history (PCH) was allocated equivalent to a fisher's ICE.¹⁴ However, ICE only ever existed for a very small number of fisheries and the vast majority of PCH was allocated based on catch history from the default fishing years beginning on the 1st of October 1990 and 1991. Occasionally PCH was also calculated based on the first 12 months after a person was issued a fishing permit pursuant to Section 2(2) of the Fisheries Amendment Act 1994. For tuna species, the qualifying years that were used to determine PCH were identified by the Minister prior to the species' introduction to the QMS. Once a vessel holder had PCH assigned, assuming that they held a current fishing permit, this was used to allocate quota to the individual.

Under this Act, if there was any quota that was not allocated to fishers or Maori, the remainder was allocated to the Government (S49). The Government would then usually make this quota available through a tendering process.

The 1996 Fisheries Act also removed the consideration of commitment and dependence (Bess 2005). This Act instead focused on sustainability and utilisation (S8) and, thus, firmly lodged the focus of fisheries management on economic and biological (sustainability) concerns, and away from the social considerations that are represented by ensuring the inclusion of fishers with past and present association. However, to provide recognition of individuals with past association, the Fisheries Act 1983 Amendment Act 1999 created a provision to allow the descendants of deceased fishing permit holders to inherit the fishing permit and ultimately the PCH. Prior to this amendment, fishing permits were non-transferable which meant that descendants of fishing permit holders did not receive quota despite the PCH of their relative. To be eligible for the permit transfer, the deceased individual must have held a current fishing permit when they died and died after the 1st of October 1996. This exception expires on 30 September 2007 (Jones 2004).

3.3.1 Fisheries Amendment Act 2004 (No. 2)

The passing of the Fisheries Amendment Act 2004 (No. 2) again changed the way that quota was allocated. This amendment stopped the use of ICE as a tool for controlling catch of non-ITQ species, thus removing ICE as a mechanism upon which to base PCH allocation. The other mechanisms used remained in place.

¹⁴ ICE is an annual amount of a fish stock that the permit holder is able to catch in a non-ITQ fishery that has a commercial catch limit (Bess 2005). In most respects it is similar to ACE in that it determines the amount of fish the permit holder is eligible to catch but it is not transferable and it is only able to be fished by those permit holders that it has been allocated to (Clement and Associates 2003). While ICE has been effective in minimising overcapitalisation and reduce the 'race for catch' which often occurs under competitive catch limits, it is inferior to ITQ since it is not divisible or transferable (Bess 2005).

3.3.2 Fisheries Amendment Act 2004 (No. 3)

The Fisheries Amendment Act (No. 3) 2004 reduced the dependence of the system on PCH when allocating quota. Non-QMS species generally now fall into two groups and these determine the quota allocation method used when a species enters the QMS. If the species is listed on either Schedule 4C or 4D of the Fisheries Act 1996, PCH will be used to determine the quota allocation, but only if the species is introduced into the QMS prior to 1 October 2009 (Section 29A). If a species is introduced after 1 October 2009, PCH will not be considered and the quota is automatically allocated to the Crown and Te Ohu Kai Moana (TOKM).¹⁵ Species that are not listed on either of these schedules will not have PCH considered for quota allocation. Instead of considering PCH, when these species are introduced into the QMS, the Crown and TOKM will receive 80 000 000 and 20 000 000 quota shares respectively. Crown-held quota will usually then be made available to the fishing industry and other interested parties through the Government quota tendering process. Tuna inside New Zealand fisheries' waters and highly migratory species outside New Zealand fisheries' waters are exempt from the requirements above and despite not being listed on the schedules will continue to have their quota allocated based on PCH.

3.4 Quota Trading

The efficiency benefits associated with trade within ITQ based systems are well identified in the literature (e.g. Batstone and Sharp 1999). However, in practice allowing quota trading to occur is complicated and in the 1996 Fisheries Act itself there are nearly fifty sections dedicated to quota trading and its surrounding issues (Ss 124-173).

Under the QMS, individuals holding quota are free to sell it as they wish (Clark 1993).¹⁶ No pre-trade approval is required nor is there any limit on the number of times that the quota can be sold (Newell 2004). The quota is divisible so that quota owners can trade parts of their quota.¹⁷ All trades that occur must be registered before the buyer is able to use the quota (Kerr *et al.* 2003). To facilitate effective trades both centralised quota trading exchanges and brokers have been used.

3.4.1 The Quota Trading Exchange

To allow for relatively easy transfer of quota between buyers and sellers of quota, a centralised quota trading system was set up in January 1987 (Clark and Major 1988). This exchange was developed and implemented by the New Zealand Fishing Industry Board with the support of other organisations and was run by the New Zealand Fish

¹⁵ TOKM is the corporate trustee which manages Maori fishing assets. See Section 4.7.1 for more details.

¹⁶ However, there are some restrictions on the amount of quota that is able to be held. For more information on holding restrictions see Section 3.5.

¹⁷ The 1986 Fisheries Amendment Act introduced minimum trade levels for buying or leasing quota of 100kg for administrative ease (Section 28S(7)). However, this restriction has subsequently been repealed. This change becomes important in developing fisheries which have low or non-existent TACCs.

Quota Exchange Ltd.¹⁸ The trading exchange itself was accompanied by fish brokers and trading information to give as much knowledge to potential buyers and sellers as possible (Sanchirico et al. 2006). Trading occurred for two hours every day (Clark and Duncan 1986) and quota holders had access to the central computer system through a national video-text system. However, this system was unable to meet the needs of the fishing industry in the format that it was set up in (Clark and Major 1988) and the low volume traded meant that the system was shut down later that year.

3.4.2 Lack of Central Trading Exchange

In the years following the closure of the Quota Trading Exchange, the industry continued trading quota. This was mostly carried out through bilateral trading and quota brokers facilitating the trade (Kerr *et al.* 2003). While no official statistics available, it is believed that brokers handle most transactions between small and medium size quota holders while larger companies have specialist quota managers on staff to engage in bilateral trading with other large companies (Newell *et al.* 2005b).

3.5 Leasing Quota and Transferring ACE

Although many quota holders wish to either sell or fish their quota, others would prefer to maintain their fishing rights while allowing another person to fish their quota allocation in the current fishing period. Thus, a number of quota holders lease their quota (or sell their ACE subsequent to 2001 which is effectively the same thing) to others. By doing so, they are able to gain an income from their quota even if they are unable or unwilling to catch their entitlement (Clark and Major 1988).

Leasing quota was legally complicated as individuals were leasing the long-term right to fish for a short period of time (Townsend *et al.* 2006). So in fact, individuals who held the lease were leasing the ownership right to the resource. This situation was simplified in 2001 when ACE was introduced (See Section 3.2.3 for more details on ACE). With the implementation of ACE, individuals became able to purchase the right to harvest fish for a particular fishing season without a change in the ownership of the property right.

The increased use of the Internet has provided a convenient medium for a centralised trading exchange. Therefore, over the past five years, various online systems have been established to facilitate trade.

3.5.1 ACETrader

In 2003, TOKM set up the first online ACE trading system. Although the system was set up by the organisation formed to deal with Maori fisheries claims, the trading system was available to all current and potential participants in the fishing industry. However, this site was not successful and was shut down.

¹⁸ The Ministry of Agriculture and Fisheries, the Federation of Commercial Fishermen and the Fishing Industry Association were all involved in setting up the quota trading exchange, while New Zealand Fish Quota Exchange Ltd was set up to manage the exchange.

3.5.2 FishStock

In 2004, an online auction site (FishStock – www.fishstock.co.nz) for trading ACE was set up by FishServe (Sanchirico et al. 2006). FishStock allows quota holders to relatively easily auction their ACE for a particular fishing season.

FishStock has a number of different options available for users to enable it to meet the needs of people in the industry (FishServe 2006a). The auctions can take one of two formats. Individuals can advertise ACE that they are wishing to sell on the site and people can compete to purchase it. The reverse can also occur with people listing ACE that they wish to buy and other people can compete to sell it, just like a tender process. These auctions can consider either ACE from a single species and QMA or multiple species and/or QMAs. A number of options are available to the person listing the auction, including setting the auction's closing date, start price and buyout price.¹⁹ The person listing the auction also has the opportunity of listing a reserve price. If no reserve price is listed, then the ACE must be sold to the highest bidder (or bought from the lowest bidder in the case of a reverse auction).

As with the earlier trading exchange, individuals must be registered with FishStock to be able to participate in an auction. However, viewing an auction does not require registration. While registration is free, FishStock charges a listing fee and commission for all auctions. Currently, it costs \$16.65 to list an auction on the site whether or not it is successful and FishStock takes a commission of 2% (plus GST) of the winning bid (FishServe 2006b).

3.5.3 FishTech Ltd.

In addition to the above trading systems, a private company, FishTech Ltd., was set up in 2003 to facilitate trade of ACE between individuals. This was designed to reduce the amount that is paid in deemed values for fish stocks where differential deemed values are used (See Chapter 7 for more information on deemed values).

All individuals that choose to participate in the system temporarily transfer their ACE holdings to FishTech just prior to the completion of the fishing season. ACE holdings are then reallocated amongst members at essentially zero cost. This is organised in such a way that the total amount of deemed values to be paid is minimised. The benefit gained from doing so is then shared amongst all of the individuals involved. This system avoids the higher penalties that must be paid in fish stocks that are managed under the differential deemed values system. While some of the members may face deemed values that they otherwise would not be paying, this system is organised so that no individual will be worse off by participating in the scheme since everyone involved receives a share of the profits from the trades.

¹⁹ The buyout price is the price that the person who listed the auction is willing to accept to complete trade before any bids are placed. Once a single bid has been placed the buyout option is no longer available.

3.6 Constraints on Holding

Under the QMS, quota holders are able to sell their quota to whomever they wish. While this provides the opportunity for an efficient market structure, it can also lead to undesirable outcomes, such as reduced New Zealand-based ownership or anti-competitive behaviour. To reduce the likelihood of these unwanted effects arising, a number of restrictions on quota holding and exchange have been put in place.

3.6.1 Foreign Ownership

To maintain domestic ownership of New Zealand fisheries, certain rules were imposed that, on the whole, ensure that only New Zealanders or New Zealand-owned companies are able to own quota. Attempts to prevent foreign ownership of quota resulted from requests made by the industry during the initial consultation process (Crothers 1988).

Under the 1986 Amendment Act, quota could not be allocated to licensed foreign fishing craft, individuals from overseas or to companies controlled outside of New Zealand (Ss 28X-28Z). In addition to this, no one, other than Government, was able to sell or lease quota to foreign parties. Individuals were only deemed eligible for quota if they were ordinarily a resident of New Zealand. For a company to be allocated quota, it had to be at least 75.1% New Zealand-owned (Clark 1993).²⁰ However, this regulation was difficult to enforce because of the complex ownership structures of many companies (Connor 2001b).

With the introduction of the 1996 Fisheries Act, the restrictions on foreign ownership were altered. Exemptions are now possible and this gives some foreign companies the right to own both quota and ACE (Connor 2001b). However, in order to obtain quota and ACE, overseas companies must get the approval of the Ministers of Fisheries and Finance and the Overseas Investment Commission. They will only get this approval if it can be demonstrated that New Zealand will benefit from the exchange (Ss 56- 57).²¹ But if New Zealand ceases to benefit from any exemption granted, Section 58 of the Act stipulates that ownership of, or interest in, quota and ACE can be taken away from foreign companies without any compensation being offered.

3.6.2 Maximum and Minimum Holdings

Maximum holding limits were introduced to inhibit monopolistic behaviour and to ensure that “there [was] a diversity of ownership and an opportunity to enter the fishery” (Hansard debate on the Fisheries Bill, 31 July 1996). Under the 1986 Amendment Act, no one could hold more than 20% of the quota (either leased or owned) for any QMA and fish stock. However, there were two exceptions to this. First, if a species was listed in Schedule 1A of the Act, no one could own more than 35% of the entire quota available for that species, regardless of QMA boundaries. The

²⁰To be defined as “ordinarily a resident of New Zealand”, individuals had to have spent at least 2.5 years out of the last 3 years in New Zealand (Boyd and Dewees 1992).

²¹ Initially, exemptions did not require the approval of the Overseas Investment Commission. However, following a review of the 1996 Fisheries Act by Hartevelt (1998), the approval of this commission was required (Fisheries Act 1996 Amendment Act 1999).

species listed in this schedule tended to be deep-water and mid-depth species (Connor 2001b). Second, once rock lobster was introduced into the QMS, a maximum ownership of 10% within each QMA was established (Connor 2001b).

These limits were altered in the 1996 Fisheries Act, under Section 59, to allow for a default aggregation up to 35%. From then on, individuals could hold up to 45% of the quota for species listed in the Fifth Schedule (equivalent to Schedule 1A in the amended 1983 Act). This amendment reflected the high level of investment required to participate in these fisheries.

There are three additional species-specific exceptions to the general maximum holding limits: individuals cannot hold more than 20% of paua quota in a single QMA; they cannot have more than 20% of the total bluenose quota; or more than 10% of spiny rock lobster quota in a single QMA. However, the Minister is able to consent to holdings in excess of these limits (S60). As with the foreign owned quota, the Minister can also revoke this approval or include provisions. Currently, there is no aggregation limit for holding ACE (FishServe 2006c).

Minimum holding limits for leasing and owning quota were also set in 1986. No person was able to hold quota equivalent to less than 5 tonnes of a finfish species, 3 tonnes of rock lobster or 1 tonne of any shellfish species within any QMA (S28S of the Amended 1983 Fisheries Act). The Maori Fisheries Act 1989 amended this section by introducing a 3 tonne minimum holding limit for rock lobster within each QMA.

The 1996 Fisheries Act placed limits on the minimum level of ACE held. Minimum ACE holding levels are available to be used for all species, but there is no requirement for them to be used. Thus, minimum holding levels have only been put in place for a few species, all of which are listed in the Eighth Schedule. For example, fishers from scallop, oyster and spiny rock lobster fisheries must hold a minimum of 3 tonnes of ACE and fishers from paua fisheries must hold at least 1 tonne of ACE. The Fisheries Amendment Act 2000 introduced minimum holding requirements for South Island freshwater eels requiring individuals to hold at least 4 tonnes of ACE within any of the QMAs to be able to participate in this fishery.

3.7 Ownership and Trading Patterns

In the period immediately following the introduction of the QMS, there was a rapid change in the quota ownership structure (Falloon 1993). During this time, the industry consolidated (Bess 2000) and 23% of people who were assigned PMITQ had sold it all by the end of the first year (Sinner and Fenemor 2005). Between October 1986 and April 1988, there were 15,580 quota sales involving 453,000 tonnes and 3,417 leases of quota involving 253,000 tonnes (Sissenwine and Mace 1992). The sum of these transactions is greater than the total amount of quota allocated, so some quota must have been either sold or leased multiple times during the first couple of years. This initial consolidation presumably led to a more efficient industry with the removal of less competent operators (Sissenwine and Mace 1992).

Many quota owners did sell their quota, either through the buy back scheme or after the introduction of the QMS, so that they could leave the industry. Other quota holders, however, sold their quota to larger companies, but leased it back, thus enabling them to continue fishing (Falloon 1993). At this time, some of these large companies bought large quantities of quota in order to secure their position in the industry (Sinner and Fenemor 2005).

Before the introduction of the QMS, it was suggested that there would be an increase in the concentration of the industry and that small companies would not be able to compete and be forced out. Connor (2000 and 2001b) found that most fish stocks showed an increasing concentration in quota ownership, but these were not accompanied by large changes in distribution.²² These changes have occurred gradually, following the rapid changes of the first couple of years.

While it was initially thought that small fishing companies would be likely to leave the industry, this has not been the case. Newell and Sanchirico (2003) investigated the changing structure of the fishing industry and their findings suggest that it is the medium sized operations, rather than the smaller companies, that are leaving.

Despite an increase in the concentration of quota markets, a large number of quota and ACE holders remain in the system. Between the implementation of the system and 1998, the total number of participants in the system averaged more than 1,500 and individual fish stocks had a median of 45 quota owners (Kerr *et al.* 2003).

²² Connor's findings of increases in concentration have been supported by other work (e.g. Newell and Sanchirico 2003; Stewart and Callagher 2003).