

Ecotrust Canada offers a cautionary tale about ITQ fisheries. We use BC as our case study. The lessons learned are of global significance.

Historically, competition has characterized BC fisheries. Fishermen competed against each other for a share of the catch. Under poorly managed competitive fisheries, fishermen were forced into a vicious cycle of acquiring bigger boats and better fishing technology to outperform each other. ITQs are supposed to end this so-called "race to fish" by allocating defined shares of the total allowable catch (TAC) to individual fishermen.

ITQs go by many names, some of them misleading: catch shares, limited access privileges, dedicated access privileges, individual vessel quotas, individual fishing quotas. However, as their name suggests, individual transferable quotas are a fisheries management system with three common characteristics: they include quotas or defined shares of the catch, are allocated to individual fishermen or their vessels, and are transferable to some degree, allowing fishermen to buy, sell, lease and trade them.

ITQs have been implemented in BC fisheries with growing frequency in the 1990s. Today, there are eleven ITQ fisheries representing 74 percent of the catch, by weight, of all BC fisheries. Pilot ITQs have also been introduced in select salmon fisheries. By contrast, only about one percent of global fisheries are managed under ITQs (Costello, 2003).

ITQs have met some goals in terms of conservation and the financial performance of fishermen. First, in many fisheries, ITQs make fishermen responsible for keeping within an individual catch limit thereby ensuring that the entire fleet stays within a strict TAC. That has been good for conservation. And second, quotas have provided fishermen with greater flexibility to schedule their fishing trips to meet market demand. Market gluts have been reduced and landed values, in some cases, have increased.

Yet many other claims about the benefits of ITQs do not hold up under scrutiny. Some of these claims have become incredibly pervasive and are largely unquestioned. Shortcomings have also been downplayed or completely ignored, especially regarding the fairness of ITQs to crews, rural coastal communities and First Nations. What follows are lessons learned from the practical experiences of designing, implementing and managing ITQs in BC.

Lesson 1

ITQs promote quota leasing.

It is often stated that ITQs provide fishermen with "a secure asset, which confers stewardship incentives" (Costello, 2003). By owning a financial stake in a fishing quota, fishermen have an incentive to maintain the value of this "secure asset" through responsible fishing practices. That's the theory.

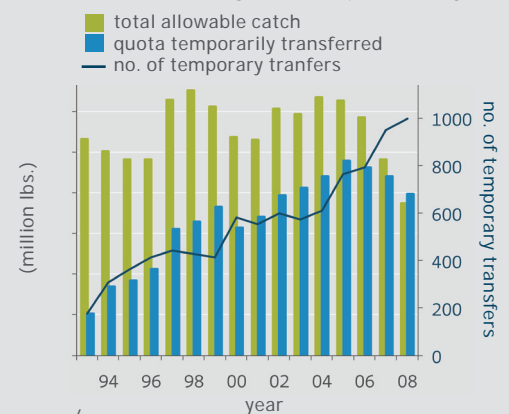
In reality, ITQs have not promoted ownership by active fishermen in BC. Rather, ITQs have promoted absentee ownership and quota leasing. Once vessel owners are gifted their initial quota, many subsequently retire or cease to be active fishermen. Instead of fishing, these "armchair fishermen" earn income from the proceeds of quota lease fees. By way of example, in the pilot ITQ fishery for northern Chinook salmon, almost half the quota was leased from 2005 to 2007. Unlike several other jurisdictions, such as Alaska and Atlantic Canada, there are no owner-operator rules in BC restricting or even regulating the ownership or leasing of fishing quota by non-active fishermen or outside investors.

Quota leasing is a growing trend. Take, for example, the halibut fishery. In 1993, 19 percent of the halibut quota was temporarily transferred from one vessel to another during the year. (Fishermen lease quota by temporarily transferring the ownership of

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Rent-a-halibut

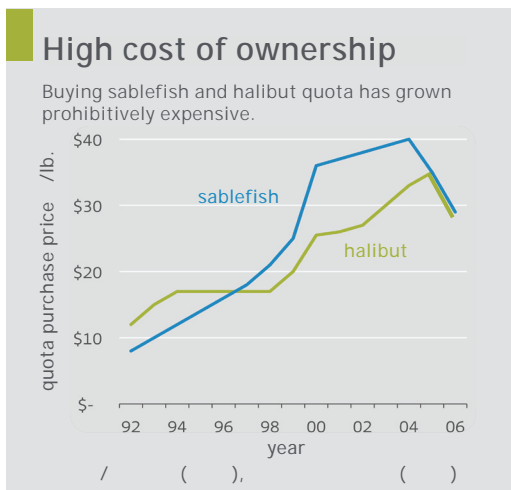
The amount of halibut quota temporarily transferred from one vessel to another each year has soared, evidence of high levels of quota leasing.



quota.) By 2008, the ratio skyrocketed to 106 percent of the TAC, evidence of high levels of leasing. Today, lease fees are effectively charged on almost every pound of halibut quota in BC.

Some quota leasing is necessary, especially in BC's integrated groundfish fishery, for conservation. In the halibut fishery, for example, leasing facilitates a cap-and-trade system for non-targeted rockfish species: those fishermen who catch only a few incidental rockfish lease their surplus rockfish quota to those who catch a lot, while keeping total rockfish catches within a strict limit.

However, by far the greatest volume of leasing is motivated by lucrative quota lease fees. In some cases, processors even lease and then sublease quota, passing on all the costs to fishermen. Working fishermen are increasingly becoming "tenants" who pay exorbitant rents



to landlords, or "sealords," who own the quota. The lucrative leasing has, in turn, driven up the price of purchasing quota, making ownership prohibitively expensive for many fishermen.

Lesson 2

ITQs give fishermen a false sense of security.

Fishing is an uncertain business. The weather, shifting allocations, fluctuating fish stocks, market forces—all of these factors lead to a sense of insecurity. It's no wonder why some fishermen want ITQs to secure their slice of the pie. ITQs can reduce a bit of uncertainty, but they by no means eliminate it, and in some cases can exacerbate it.

First, in terms of allocations, quotas provide no more legal protection to fishermen than regular fishing licences. Whether a fisherman owns a licence or quota, the government can reallocate commercial catches to settle international or First Nations' treaties, or to meet demands of the sports-fishing sector. By way of example, 12 percent of the commercial halibut catch was reallocated to the sports-fishing sector in 2003. This was done without compensation to halibut quota holders. ITQs don't strengthen the property rights of fishermen to prevent reallocations or in seeking compensation.

Second, ITQs do nothing to mitigate ecological uncertainty. Climate change,

marine survival rates, habitat damage, predation and other factors cause fish stock levels to fluctuate and thereby create the greatest uncertainty for fishermen. It must be remembered that quotas in BC are a defined percentage of the total allowable catch (TAC) and don't represent a specific poundage of fish. As a result, when fish stock levels rise and fall from year to year because of environmental conditions so do fishermen's quotas.

This is particularly true in salmon fisheries, which depend on cyclical runs. Scientists find it incredibly difficult to predict annual salmon abundance, and typically change their estimates in-season. Through test fishing and in-river fish counters, scientists often determine that actual salmon run sizes are smaller or larger than expected, and need to immediately close or open fisheries. Quotas will do nothing to mitigate this kind of ecological uncertainty.

Third, in terms of market forces, ITQs can help fishermen respond better to the market by giving them flexibility to deliver catches when demand and prices are high. However, many fishermen lease quota in pre-season agreements, locking themselves into lease rates per pound. In some fisheries, 60 to 75 percent of the landed value goes to paying quota lease fees. If fish prices drop or fuel costs rise, their profits could disappear. As a result, quota leasing can actually increase fishermen's risk and exposure to changing market forces.

The only thing absolutely certain about ITQs is that some fishermen will opt to lease their quotas, thus guaranteeing themselves revenue without any risk of having to actually go fishing.

Lesson 3

ITQs facilitate privatization.

Fishing licences and quota are “undeniably a property right.”

Privatization is probably the most controversial and convoluted issue in the ITQ debate. Some free-market proponents talk about ITQs in terms of “rights” and “property.” Other proponents, attempting to downplay the privatization controversy, go out of their way to avoid such language. Thus, some ITQ advocates talk of dedicated or limited “access privileges.”

Fishing licences and quotas are not property de jure, that is “in law.” Rather, they are property de facto, that is “in practice.”

In 1969, DFO introduced limited entry in BC fisheries, grandfathering a limited number

of licences to existing fishing vessels. By law, these licences confer annual fishing “privileges.” However, DFO allowed fishermen to buy, sell, trade and lease these privileges. As a result, the licences became valuable assets or de facto property. Quotas therefore create new forms of de facto property that can be divided, capitalized and transferred with even greater ease.

In October 2008, the Supreme Court of Canada, in *Saulnier v. Royal Bank*, unanimously confirmed the de facto property rights inherent in fishing licences and quota. The Justices write: “A... licence confers to the holder a right to engage in an exclusive fishery under the conditions imposed by the licence, and a proprietary right in the fish harvested and the earnings from their sale. The subject matter of the licence, coupled with a proprietary interest in the fish caught pursuant to its terms, bears a reasonable analogy to a common law profit à prendre which is undeniably a property right.”

Lesson 4

ITQs increase capitalization in fisheries.

“Too many fishermen chasing too few fish.” This mantra drove fisheries reform in the 1990s. ITQs were implemented, in part, to downsize fishing fleets and thereby reduce over-capitalization. The number of vessels in several ITQ fisheries in BC has greatly declined. The trawl fleet went from about 120 to about 75 active vessels. ITQs also downsized the sablefish fleet by about 25 percent.

In fisheries, capitalization has traditionally referred to investment in vessels and equipment or tangible assets. ITQs, however, have had a huge impact on another type of capitalization. Investment in quota and licences, described as “intangible assets” by accountants, has soared. By 2007, intangible assets were estimated to be worth \$1.8 billion, more than five times the value of all the vessels and equipment in BC fisheries. When licence and quota market values are taken into

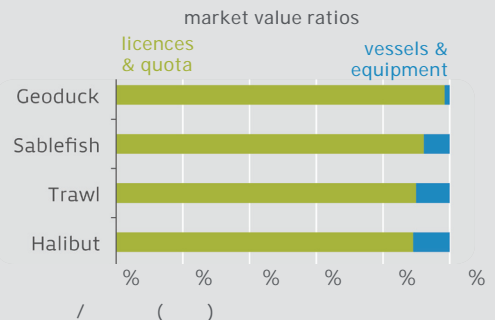


ratio of quota and licence value to vessel and equipment value in ITQ fisheries

1.8 billion value of licences and quota in BC fisheries

Growing out of proportion

ITQs are the most capital intensive fisheries in BC. The value of licences and quota, compared to vessels and equipment, is considerably higher in the geoduck, sablefish, trawl and halibut fisheries, which are managed under ITQs.



consideration, total capitalization—in both tangible and intangible assets—has actually increased in BC’s fishing industry.

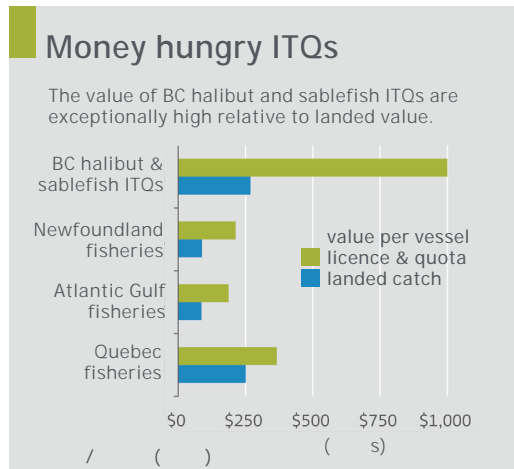
No matter how you measure it, ITQs are more capital intensive than fisheries managed under alternative systems. In BC, the market value of licences and quota compared to vessels and equipment is disproportionately higher in ITQ fisheries. This is also true when you compare the value of quota to the landed value of a fishery’s catch. In Atlantic Canada, the ratio of licence and quota value to landed value is 2 to 1. The ratio for BC halibut and sablefish ITQ fisheries is 4 to 1, or double.

Quota values are completely out of proportion to catch value.

A number of factors have led to the unusual appreciation of quota values and lease rates.

These include the transaction costs of quota brokers, market distortions from the initial gifting of quota, supply scarcity, imperfect information among buyers and sellers, speculative quota leasing, concentration of quota ownership, and expectations of government buy-backs. Arguably the biggest factor is the ability to gain lucrative lease fees from quota without incurring any of the financial costs or physical risks of actual fishing. The deregulated, laissez-faire market that permits almost limitless leasing has helped to create soaring quota prices.

The high market capitalization of quota is a growing problem. That's particularly true for



next generation fishermen who find licence and quota costs—now in the millions of dollars per vessel—prohibitively expensive to purchase.

Lesson 5

Quota leasing hurts the financial performance of working fishermen.

By allowing fishermen to better meet market demand, ITQs can reduce gluts and improve fish prices. Landed values often rise. While this is true in some fisheries, it is not true in others.

The change to ITQs for BC dogfish fishermen in

2006 provided no market advantages and fish prices actually declined due to other factors.

Claims that ITQs increase overall landed value mask the deteriorating financial performance of working fishermen (crews and captains) compared to quota owners. These vessel owners initially gifted quota enjoy windfall profits through lucrative leasing.

Meanwhile, this new cost of doing business is borne by working fishermen. Crew shares usually decline as revenues are drained to pay quota leases. Analysis shows that the single largest cost in BC's longline groundfish fishery is the leasing of quota. Lease fees can often consume as much as 60 to 75 percent of the landed value of the catch, leaving the remainder to be divvied up by the crew.

High lease costs have had a ruinous effect on the competitiveness of the BC



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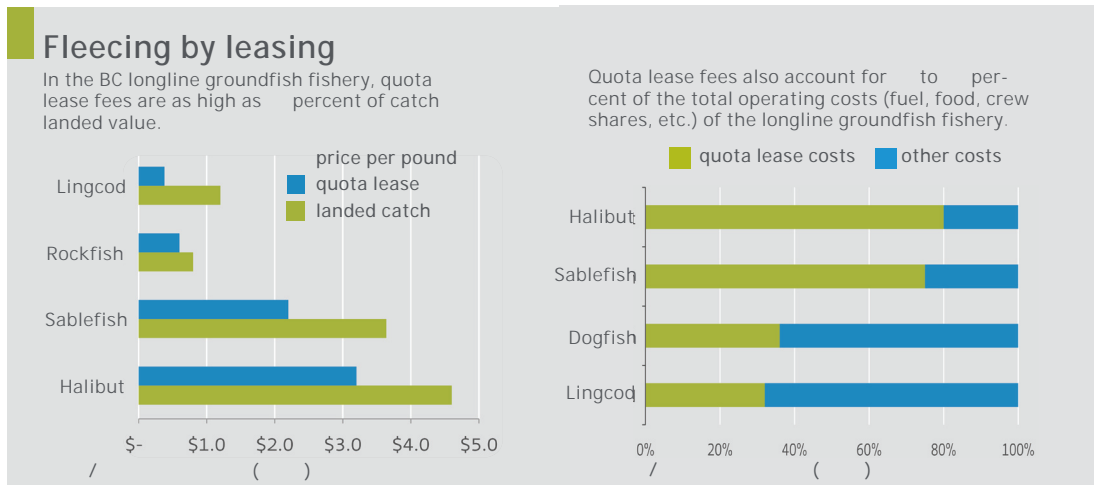
of landed value goes to pay quota lease fees in the BC halibut fishery

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decline in crew shares occurs when all quota on a BC groundfish trawler is leased

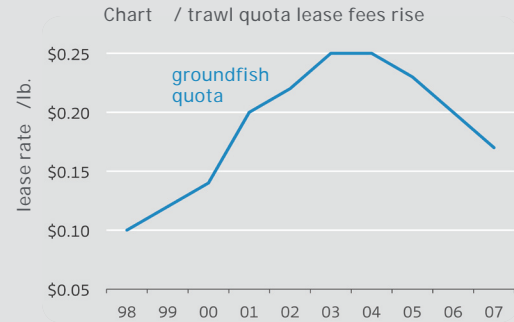
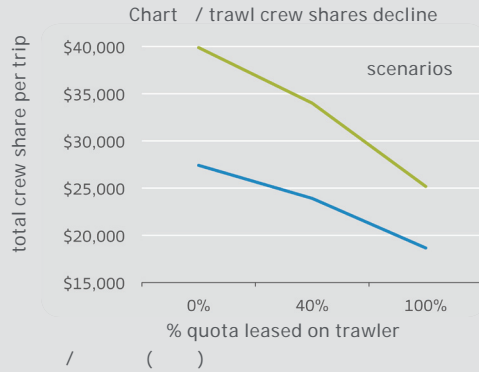
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of the total costs in the halibut fishery is from quota lease fees



Capital punishment

Capital wins, crews lose. Trawl crews are being pinched in two ways: First, as the percentage of quota leased aboard trawlers increases, crew shares decline to pay lease fees (Chart). Second, the lease fees themselves have risen since quotas were introduced in (Chart).



halibut fishery. In 2009, halibut landed values fluctuated from a high of \$5.20 per pound to as low as \$3.70. Yet lease fees remained at over \$3 per pound, making BC halibut fishermen uncompetitive compared to Alaskan fishermen who only pay a fraction of lease fees. Estimates show that about 10 percent of halibut quota is leased in Alaska, where there are owner-operator rules and restrictions on leasing, compared to 100 percent in BC.

One study of scenarios in the trawl fishery showed that when 100 percent of quota is leased on a vessel, crew shares can decline by almost fifty percent. Complaints from crews

suggest lease fees are being increasingly charged on quota whether or not it is owned or leased by the trawler, thereby reducing crew shares. is unfair settlement practice has yet to be seriously investigated.

In a 2006 memo to communities, the Groundfish Development Authority, which enforces a code of conduct to protect trawler crews, reported: "Crew members' take-home pay continues to diminish; sometimes they come back from a trip with deliveries of 80,000 lbs of high-value groundfish only to find that they are actually 'in the hole' after all expenses are deducted."

Lesson 6

ITQs don't enhance sound science and monitoring.

A number of reports claim that ITQs enhance monitoring and science. One U.S. study found three-quarters of ITQ fisheries had monitoring compared to only a quarter of other fisheries. While ITQ fisheries usually require stricter monitoring because of high-grading problems, there is nothing about the nature of ITQ fisheries that inherently improves monitoring or scientific data collection.

Indeed, many fisheries in BC had

strict monitoring in place well before the introduction of ITQs. In BC's dogfish, lingcod and rockfish fisheries, for example, dockside catch verification was in place a decade before

Monitoring ITQs

In BC, strict dockside and at-sea monitoring were often introduced at the same time as ITQs, giving the misleading impression that quotas are responsible for better monitoring.

ITQ	% monitoring	
	dockside	at sea
Sablefish		
Halibut		
Groundfish trawl		
Longline dogfish		
Longline rockfish		
Longline lingcod		

the introduction of ITQs. And the halibut and sablefish fishery were managed with ITQs for some fifteen years before both fisheries were required to have onboard monitoring. As well, dockside and at-sea monitoring were introduced in the trawl fishery the year before ITQs were implemented.

A final example is BC's abalone fishery. In 1979, ITQs were introduced in this fishery, but poor monitoring led to poaching and over-fishing by licensed harvesters. The fishery collapsed and has remained closed since 1990. In this case, ITQs obviously did not guarantee proper monitoring and strict enforcement.

Lesson 7

ITQs have safety problems of their own.

It is often claimed that fishermen are forced to go out in bad weather in competitive fisheries to ensure that other fishermen don't get more fish in their absence. This is risky behaviour leads to unsafe working conditions. ITQs stop this "race." While competitive fisheries can have unsafe conditions, ITQ fisheries have safety problems of their own.

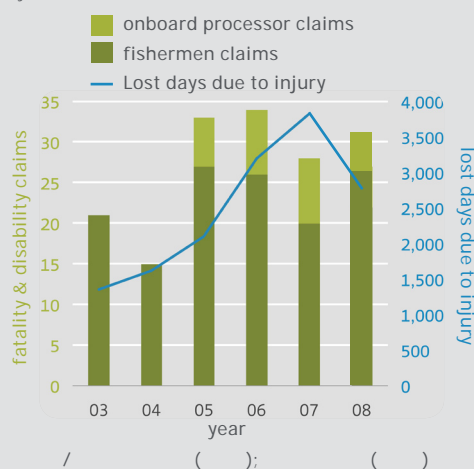
ITQs offer fishermen market incentives to engage in risky behaviour. Fish prices are often higher in winter months when less fresh fish is on the market due to bad weather. Fishermen may plan their annual fishery to take advantage of the increased prices, thereby exposing crews to the dangers of foul weather.

This is particularly true if fishing vessels must lease a lot of quota which tightens their financial margins. Vessels may also stay at sea in bad weather to keep down the costs of fuel and dockside monitoring.

More seriously, the high cost of buying and leasing ITQs bleeds income away from working fishermen, causing boats to go out with inexperienced or insufficient crewmen, which can lead to accidents. At a 2007 Fish Safe BC workshop, "quota fisheries issues" and "too few crew on vessels" were identified as two weaknesses, among many, that need to be addressed to improve fishing safety.

Trawl injuries rising

Despite claims that ITQs are safer, groundfish trawling, which became an ITQ fishery in 2005, is becoming more dangerous. The number of lost days due to injury has increased 76% in six years. Fatalities are on the rise as well.



In BC, the Groundfish Development Authority has received reports that trawl "vessel owners, in order to keep costs down, are sending their vessels to sea with three-man crews instead of four. This is a major safety concern that crew members believe is a contributing factor in the loss of several vessels in the past few years." A trawl industry study confirmed this practice: "Traditional four-man boats are sometimes manned with three, primarily as a means of improving per-person incomes. Neither vessel owners nor crewmen believe that this trend is in the best interests of safe operations." (Nelson, 2006) Falling fish prices and rising fuel costs are partly to blame for tighter margins, but quota leasing and unfair settlement practices have made a bad situation even worse for working fishermen.

Efforts are being made by programs such as Fish Safe BC to raise safety awareness and the number of injury claims has stabilized in the past several years for the fishing industry as a whole. Yet statistics suggest that the trawl fishery is becoming less safe. In fact, ITQs may be a contributing factor to this troubling trend.

From 2003 to 2008, seven trawl fishermen have been killed, double the annual fatality rate compared to the 18-year average. Lost days due to injury on trawl vessels skyrocketed by 76 percent from 2003 to 2008, too, and the number of fatality and disability claims in the same period jumped 48 percent. The introduction of several factory trawlers in 2005 and injuries sustained by onboard processing workers partly explains the increase.

Still, despite claims that ITQs have made trawling safer, fatalities are at a historic high for this fleet. Anecdotal and statistical evidence suggest that the economics of ITQs have created safety problems of their own.



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Lesson 8

Sound science and co-management underpin fisheries sustainability.

Proponents often exaggerate the importance of ITQs in sustainable fisheries. Setting a scientifically defensible TAC and establishing an inclusive and transparent co-management process are by far the most important aspects of fisheries conservation. No fishery, ITQ or otherwise, will be sustainable in the long run without these two key measures.

First, ITQs cannot prevent over-fishing if TACs are based on faulty science, poor data or industry lobbying, or if a precautionary approach is not taken in harvesting.

A recent study (Costello, 2008), surveying 11,135 fisheries from 1950 to 2003 published in the journal *Science*, states that the implementation of variations on ITQs "halts, and even reverses, the global trend toward widespread collapse." The authors, however, over-stretch their findings by implying there is a causal link between ITQs and sustainable fisheries.

In fact, all the 121 ITQ fisheries in their study had "scientifically determined total catch" limits, suggesting that it could be sound science and strict TACs—and not necessarily ITQs themselves—that ensure the sustainability of fisheries.

Good governance is another critical ingredient to ensuring sustainable fisheries. For proper decisions to be made, all those with an interest in fisheries need to be engaged.

Dozens of critical conservation and socio-economic decisions are made every year by various co-management advisory processes set up to help the Department of Fisheries and Oceans (DFO) manage marine resources. ITQs alone can't answer questions about seasonal closures to protect spawning fish, designing refugia areas for depleted species, restricting harmful fishing gear, weak-stock management and many other conservation issues.

ITQ proponents often claim that quotas are easier to manage since the marketplace is supposed to take care of everything. Yet few people support a completely deregulated, laissez-faire market. Quota markets need to be regulated and properly designed to prevent monopolies, excessive corporate concentration and other market-distorting behaviour. A properly designed quota market can also safeguard "social goods," such as fair crew payments, Aboriginal participation in fisheries and the interests of rural communities.

In fact, DFO advisory committees constantly deal with issues regarding ITQs including ownership concentration, transferability rules, vessel quota caps, sector allocations, quota lease rates, etc. In the BC trawl ITQ fishery, a Groundfish Development Authority was also established to safeguard the interests of crews and rural communities. Furthermore, commercial exchanges need to be established to facilitate quota trading, which adds complexity and costs to business operations.

In short, ITQs don't guarantee sound science and good governance. They represent only one alternative, among many input and output controls, to responsibly manage marine resources.

The central lesson of this brief investigation into ITQs is that there are no simple solutions or quick fixes to fisheries conservation. If properly designed, ITQ systems can play an effective role in a multi-faceted approach to responsibly managing fisheries. However, poorly designed ITQs can create as many problems as they solve. Policy makers need to clearly weigh both the costs and benefits of ITQs, and design and regulate quota markets to meet social, environmental and economic objectives.