

**QUOTA LICENSING IN  
CANADA'S FISHING INDUSTRY**

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## QUOTA LICENSING IN CANADA'S FISHING INDUSTRY

### INTRODUCTION

In recent years, quota licences, or the allocation of shares of the Total Allowable Catch (the overall quota) to individual fishermen,(1) boats or enterprises, have attracted increasing attention, experimentation and implementation from fisheries managers worldwide.(2) The transition to quota licences not only represents a major departure from traditional management, it also raises the issue of public or common property ownership versus privatization of the resource. Few subjects in fisheries provoke as much emotional intensity.

The justification commonly given by policy makers and academics for the use of quota licences is known as "the fishermen's problem" or the "tragedy of the commons," as documented in virtually every research and task force report on traditional (capture) commercial fishing. In brief, in harvesting a common quota, fish become private property only once they are caught and removed from the water; each fisherman is therefore compelled to compete for a maximum share of the resource before it is caught by others. A free-for-all "race" for fish stocks ensues, in an effort to maximize immediate personal economic gain. This, in turn, leads to excessive capacity as fishermen invest in bigger and more expensive boats, better gear and more sophisticated equipment in anticipation of future catches. Since every fisherman reacts in the same way, however, no one is farther ahead. The situation not only creates an unstable business climate, but also threatens the preservation of stocks; because the resource belongs to all, there is little incentive to conserve it for the future (i.e., "everybody's property is nobody's responsibility"). The result is stock depletion and too much harvesting capacity, or too many boats and fishermen (with less than adequate earnings) in relation to the available resource. At this point of "bioeconomic equilibrium," any further increase in harvesting effort brings about economic losses and forces workers to leave the fishery.(3)

Other negative consequences of the commons are said to be peaked landings. The race to the fish intensifies the natural seasonality of a fishery, adds to pressures on the market, and results in greater volumes than can be handled properly by fishing vessels and processing plants, thus reducing product quality. Overcapacity and low profitability also come about when fish processing plants built to handle peak capacity remain idle for much of the year.

This pattern of resource exploitation suggests that collective human behaviour has detrimental consequences for both fishermen and the resource; it is said to be analogous to the problem of over-grazing by cattle on the common pastures of Europe in medieval times.

... In those days there was no incentive for an individual farmer to reduce the number of cattle he put out to graze on a community pasture, even though the total number of cattle grazing in the pasture would eventually become so large that none of them would have enough grass to survive. Everyone ended up worse off. The solution to this problem was to give individual property rights to specific parts of the pasture-land. The farmer could then plan the size of his herd according to its grazing pattern and the capacity of his pasture without fear that this plans would be undermined by others.(4)

It follows that, in order to become commercially viable, common property fisheries must be transformed either through some form of externally imposed (i.e., public) regulation to restrain harvesting effort

(often resisted because fishing is seen by many as a right) or through private ownership.(5) These two extremes -- absolute government control of common property and absolute privatization -- exemplify for some the classic positions in the philosophical debate on the best way to organize societies and economies.(6) Most fisheries management professionals propose solutions that fall somewhere in between, such as recommending limiting the common property fishery by conferring various types of access rights.(7) At least since the mid-1970s, Canada's fisheries management policy has reflected the "tragedy of the commons" perspective. For example, the federal government declared in 1976:

The central problem of the ground fisheries is rooted in a conflict between individual interests and a collective interest... In an open-access, free for all fishery, competing fishermen try to catch all of the fish available to them regardless of the consequences, unless they are checked; the usual consequence is a collapse of the fishery: that is resource extinction in the commercial sense, repeating in a fishery context "the tragedy of the commons."(8)

## METHODS OF REGULATING COMMERCIAL FISHING IN CANADA

### A. Background

In Canada, federal jurisdiction over "seacoast and inland" fisheries is established under the British North America Act, 1867 as incorporated in the Constitution Act, 1982. The mandate of the Minister and the Department of Fisheries and Oceans is set out in the Government Organization Act, 1979. The Fisheries Act is the basic statute administered by the Department, and governs matters such as fish allocation and licensing. Statutory provisions are applied in day-to-day fisheries management through regulations that are periodically updated. The federal mandate for licensing is restricted to tidal waters; in non-tidal waters, the fishery is the subject of property rights and licensing is therefore the responsibility of provincial legislatures.(9)

Licensing and allocation in the Canadian fishery are relatively recent. Prior to the mid-1970s, only a few fisheries had limited-entry licensing; limited entry was gradually introduced and fishery resources were increasingly allocated to specific fleet sectors. In 1985, the Report to the Task Force on Program Review noted that:

... Canada's fishing industry has gone from practically no regulation to one of the most regulated fisheries in the world. The Department of Fisheries and Oceans' perceived mandate during this time has therefore expanded from simply conserving the resource in the wild, to an emphasis on managing the overall socio-economic aspects of the fishery.(10)

In brief, the objective of the federal Department of Fisheries and Oceans is:

to undertake policies and programs in support of Canada's economic, ecological and scientific interests in the oceans and inland waters, and to provide for the conservation, development and sustained economic utilization of Canada's fisheries resources in marine and inland waters for those who derive their livelihood or benefit from these resources; and to coordinate the policies and programs of the Government of Canada.(11)

Fish allocation and licensing are now part of an elaborate decision-making and consultative process. As a 1991 federal government discussion paper put it,

... The Atlantic Groundfish Management Plan governs 40 fish stocks and involves 140 allocations among various fleet sectors. That's only one plan, albeit the most important and complex of the 10

annual fishing plans for the Atlantic, which together involve more than 400 allocations. And all of this has to be done every year.

In 1990, 590 licence appeals came forward to the Minister from the Pacific Region Licensing Appeal Board, as did the various annual fishing plans for the Pacific. The law requires that all these decisions be made by the Minister.

To assist the Minister in these responsibilities, an enormous edifice of management advisory committees has been created. In the Atlantic region there are 108 such committees. Although the results of consultations through these advisory committees are to be taken into account by the Minister in making his licensing and allocation decisions, it is clearly very difficult for one individual to do justice to all this advice.(12)

It should be pointed out that there are no hard and fast or scientific rules for resource allocation among user groups. Fishing interests on the various advisory committees often disagree strongly, especially about catch shares.(13) For Atlantic groundfish, a number of concepts or factors are taken into account, such as "equity," closeness to a given resource (i.e., adjacency), the relative dependency of communities on a given fishery, and the economic efficiency and mobility of fleets.(14) On the Pacific Coast, the allocation of salmon stocks among the various user groups (i.e., commercial gillnet, seine and troll fishermen, recreational and native fishermen) is another continuing controversy. Issues of licensing and fish allocation invariably have social effects; decisions have immediate and dramatic impacts on the lives and incomes of various individuals and groups in the industry.

## B. Input Controls

A fishery may be managed by "input" controls or "output" controls,(15) or a combination of both. Input controls are regulations and licensing policies that limit fishermen's ability to catch fish. They may consist of restricting the numbers who can enter a given fishery, imposing regulations for conservation purposes (e.g., setting a Total Allowable Catch or ("TAC"),(16) closed areas and fishing seasons, trip limits, minimum fish sizes) and placing restrictions on fishing gear (e.g., mesh and hook sizes, the size of nets, the number of traps) and on the size of fishing boats. In Canada, the once "open access" fishery has been regulated to the point where a licence is now required to fish commercially for any species.(17)

A "fishing licence" is an instrument granting a person or enterprise permission to fish. Pursuant to the authority of the Minister of Fisheries and Oceans, a licence is not a permanent or absolute right; the licensee essentially acquires a limited privilege. One or more of the following conditions may be specified:

the species of fish and quantities that may be caught;

the period during which fishing may be carried out;

the vessel that may be used;

the person or persons who may operate the specified vessel;

the type and quantity of fishing gear and equipment that may be used;

the specific location at which fishing gear may be set; and

the permitted form and manner of submitting catch and other data.

Until fairly recently, attempts to surmount the problems associated with common property took the form of input controls. This approach has been criticized not only for requiring too much government regulation (and intervention), but also for doing too little to inhibit over-capitalization. With respect to vessel length restrictions, for example, many point to the experience in the Atlantic Region, where fishermen have invariably found ways to circumvent replacement rules by building faster boats with greater catching power and bigger holds, and by using new technologies (e.g., fish finders).(18) On the West Coast, a Commission on the Pacific Fisheries (the Pearse Commission) dealt at length with the question of gear restrictions in its 1982 report, and similarly noted:

Attempts to control the growth of the fleet by restricting one or more dimensions of fishing power when vessel owners have strong incentives to expand capacity generate ingenious innovations to circumvent the restrictions and thereby defeat their purpose. Additional restrictions must be added to plug the loopholes. But this becomes an exceedingly difficult and costly administrative task. The likelihood that such restrictive measures will be any more successful in the future than they have been in the past is very low.(19)

In response to over-capitalization, various schemes have been proposed to tax away surplus earnings (e.g., royalties on the catch), thereby removing the incentive for and financial ability of fishermen to expand harvesting capacity.(20) These schemes, however, have many drawbacks, including their administrative complexity and the possibility of causing financial hardship to fishermen. Other options to reduce capacity include industry-funded or government-funded licence retirement or buy-back programs. From time to time, the Department of Fisheries and Oceans has instituted "participation" rules requiring that a licence be withdrawn if not used within a specified period. Such attempts to remove the number of licences in circulation have been unpopular with fishermen, who point out that they may force the licensee to fish even though it may be uneconomic to do so, in order to maintain the privilege. A participation requirement may also add unnecessary effort to a fishery.

### C. Output Controls

Licensing has historically been used as a method of input control on fisheries. A more recent approach has been to grant some form of private ownership of the resource through quota licences. Quota licensing, or the allocation of shares of the total quota or TAC to individual fishermen, boats or enterprises, gives the right to harvest a definite quantity of fish, expressed either as a fixed amount or as a percentage of the TAC, which can be harvested any time during the year.(21) An Individual Quota (IQ) is a specific quantity of fish allocated annually to either a person or fishing vessel. An Individual Transferable Quota (ITQ) is an IQ that can be transferred -- sold or traded -- to others in the fishery. An Enterprise Allocation (EA) is an allocation to an enterprise or company.

In essence, quota licences provide fishermen or enterprises with a "quasi-property right" to a certain amount of the common property resource -- a sort of "swimming inventory." The system thus privatizes, to some extent, what was previously held in common. As one federal report has noted,

Under [the system] there is no longer the need for [the Department of Fisheries and Oceans] to over-regulate fishing inputs in an attempt to limit the catch. Individual quotas change the focus of fishing. Rather than racing to catch as much fish as possible in an expensive and risky gamble, fishermen are encouraged to be efficient, cost-effective, and market-conscious so as to maximize their profits.(22)

In theory, the quota licence system is also an attempt to integrate resource management and exploitation

so that those who harvest the resource also play a larger role in its conservation. The technique is said to be similar to that used to regulate the use of other renewable natural resources owned by the Crown, such as timber, water, and grazing rights; the government authorizes the exploitation of specific amounts of the resource with the total amount licensed being constrained to the total recoverable yields of the resource. The concept of quota licences is sometimes confused with egg and milk quotas in agriculture; however, agricultural and marketing board quotas serve the entirely different purpose of limiting production in order to maintain farm prices.

## THE IMPLEMENTATION OF QUOTA LICENCES IN CANADA

For the Canadian offshore groundfish fleet on the Atlantic Coast (i.e., for vessels greater than 100 feet in length), an EA program was first introduced in 1982. Since then, various types of quota licences have gradually gained a foothold in the herring seine fishery, the offshore lobster, scallop clam and northern shrimp fisheries, and in some segments of the inshore (small boat) groundfish fishery (the mobile sector). On the Pacific Coast, quota licences have been introduced for spawn-on-kelp, herring food and bait, geoduck, sablefish, halibut and abalone. In Canada, the subject of quota licences prompts expression of a range of views. A Senate Committee recently recommended that their short-term social, economic and biological effects be more thoroughly studied by the federal Department of Fisheries and Oceans, and that the Department review and assess the effectiveness of its regulations aimed at restricting the ownership of individuals to certain limits.(23)

The most often cited reasons in favour of quota licensing are: increased operational flexibility and more effective coordination of supply with market demand; provision for more effective long-term planning in terms of capital investments and market development programs; increased opportunities for fishermen to become involved in marketing the catch themselves; increased landed values and greater cost efficiencies; the elimination of the "race to the fish"; the reduced need for government regulation of vessels, gear and fishing time (a quota licence regime is generally regarded as self-regulating); and greater safety, given that, once the competitive nature of fishing is removed, fishermen are no longer compelled to fish in unsuitable weather conditions.

Transferable quotas are also said to be effective in discouraging over-capitalization in the harvesting sector, at no cost to government from licence retirements or buy-backs. This is accomplished by the accumulation or stacking of quotas as, over time, marginal fishermen choose to sell their quotas to others.

The evidence suggests that a major drawback to quota licences is the incentive they provide for misreporting (under-reporting catches) and highgrading (rejecting lower valued fish for higher valued fish.) This in turn puts a heavier enforcement and monitoring burden on fisheries managers to ensure compliance with each individual quota.(24) The monitoring of such allocations is therefore costlier than a traditional (competitive) fishery.(25) A 1992 review of management measures for the Scotia-Fundy groundfish fishery, for example, concluded that with declining stocks, "the incentive to dump by-catch [es] and highgrade under an IQ system may be occurring at an even higher rate than in the former competitive fishery." Another problem cited is "the transshipping of fish between [quota-licensed] and competitive vessels."(26)

Some have argued that the fishery resource is the "property" of all Canadians, and should not therefore be converted to a form of private property. More specifically, it is objected that tying a monetary value to a licence through its sale value, results in a "windfall gain" from a fishing "privilege" given by the Crown.(27) For others, quota licences also raise an important jurisdictional question: whether it is legal for the Government of Canada to regulate a fishery once access to it has been transferred from common

property to individual entitlement, and whether such entitlement would fall under provincial law relating to property and civil rights.(28)

Another frequent criticism is that transferable quotas may possibly lead to the concentration of licences and put the resource ownership in the hands of a few individuals or companies. The concern is that such concentration might not only harm small-scale or independent operators in insolated communities dependent on fishing,(29) but also make it difficult or impossible for younger or new fishermen to enter the industry.(30) It is also argued that the accumulation or stacking of licences does not reduce overcapacity in the harvesting sector but, in effect, increases over-capitalization because such licences tend to increase in value.(31)

Other disadvantages are said to include the impracticability of implementation in certain fisheries and for boats below a given size. For example, quantitative rights would be more suitable for fisheries that do not call for frequent changes to the allowable catch during the fishing season. Some fear that quota licences may have the unintended result of increasing fishing pressure on traditional fisheries -- those not managed by individual quotas.

The method by which initial allocations are set is usually controversial.(32) Quotas based on historical catch performance allow no room for growth, and, unlike the traditional fishery, do not reward good fishermen with good catches. Some charge that quota systems give licence-holders preferential access to the resource. It is reported that on the West Coast the new individual quota regime is widely seen "as being imposed on the industry, even though it is billed as a response to the demands of the majority of fishermen."(33) In the Atlantic fishery, the federal Department of Fisheries and Oceans has been criticized for seizing on quota licences as the panacea for the many problems facing the fishery.(34) Others, however, assert that quota licensing is "state of the art" and that such systems have worked successfully in Canada and in other parts of the world, such as Iceland, Australia, and, especially, New Zealand.

## NEW ZEALAND'S EXPERIENCE WITH INDIVIDUAL QUOTAS

During the 1980s, the majority of New Zealand's fisheries came under Individual Transferable Quota (ITQ) management. This brought about fundamental changes in the fishing industry and the country's fisheries management agency. A study by the Department of Fisheries and Oceans in 1990 found that, overall, there had been "strong support for ITQs within New Zealand and a belief that the benefits of ITQ management outweigh the problems."(35) The report noted that this view was shared by both government and industry, and that "New Zealand's experience provide[d] a number of valuable lessons for other countries [like Canada] interested in ITQ management."(36) The following year, however, a Commission of Inquiry (The Cruickshank Commission) initiated by organizations in Canada's Pacific fishery found that New Zealand participants in the ITQ system gave "mixed opinions" on quota licensing.(37) The most often cited problems were highgrading and by-catch dumping, which many blamed for stock depletion.(38) In 1989, a study on the ITQ system in the New Zealand inshore fishery (conducted six months after the scheme went into effect) concluded that "while there were benefits in terms of decreased competition amongst fishermen, and greater certainty in planning, there were problems with discarding low-priced components of catches (highgrading), enforcement of quota restrictions, and the ability of young people to enter the fishing industry."(39)

Opponents of the system in New Zealand also point to the degree of rationalization (i.e., industry concentration) that has taken place in the fishery since the mid-1980s.(40) It should be noted that when ITQs were introduced the government recognized that quota-holders would be given preferential access to a "public" resource from which they would gain an economic benefit and thus considered it

appropriate for them to pay a resource "rental" (an annual payment) to the original "owners" of the resource.(41)

## CONCLUSION

With many of the world's commercial fisheries in decline, quota licences will likely continue to attract the interest of fishing nations for many years to come as a means to deal with overcapacity in the harvesting sector.(42) In Canada until fairly recently attempts to surmount the problems of the commons in the fishery took the form of input controls -- regulations and government policies aimed at limiting fishermen's ability to catch fish. A more recent approach has been to institute output controls in the form of quota licences which give fishermen or fishing operations some form of private ownership of the resource.

The appendix that follows briefly summarizes five reports on Canada's commercial marine fisheries which deal with the notion of common property and quota licences.

## APPENDIX: SUMMARY OF SELECTED REPORTS

### THE COMMISSION ON PACIFIC FISHERIES POLICY [PEARSE REPORT], 1982

Over the years, numerous commissions or task forces have reported on Canada's fishing industry. Perhaps the most comprehensive of these studies on the West Coast fishery was conducted by Peter H. Pearse, who headed the Commission on Pacific Fisheries Policy in 1982.(1) The Commission's Report (the "Pearse Report") stated that a fundamental problem facing the Pacific fishery was overcapacity; the chief criticism was the lack of an overall policy or plan to guide fisheries management in the region. On this, the Auditor General noted in 1986:

Other studies and reports have reiterated some of the same problems as those identified by Pearse... These reports identified the need to address four persistent and aggravating problems in the Pacific fishery:

the problem of the excess capacity of the fleet;

the problem of overfishing and the need to rebuild stocks;

the inefficiency of the overall regulatory and management framework; and

the cyclical economic problems of the fisheries fleet, such as over-investments, uncertain incomes and high debts.(2)

The ideological arguments surrounding the concept of "common property" were described by Pearse in the following terms:

...Some fishermen insist that the government should fix the total catch and nothing else, leaving "free market forces" to sort out the efficient from the inefficient fishermen. According to this view, to attempt more than this would be to interfere with the free enterprise system as it applies to fishing.

This position contains a fundamental misunderstanding. The free enterprise system depends on someone

having control over all of the factors of production, including natural resources, and ensuring that they are used in the most profitable way. Common property resources have no place in the market system of economic organization; indeed, common property is repugnant to the principles of a market economy, and those that invoke the virtues of free enterprise should be the least satisfied with the free-for-all of open fisheries. ...Nor, for that matter, does common property fit within classical socialism, which implies centralized ownership and control by the state with no competitive exploitation by independent fishermen. No more can be said for common property on political grounds than on economic or conservation grounds.(3)

A central proposal involved a new licensing system of transferable fixed-term licences and a system of competitive bidding for fishing privileges. The Commission recommended that quota licences be adopted or improved in all of the developed commercial fisheries other than salmon and roe-herring,(4) and concluded that:

...As a means for regulating the catch and promoting fleet rationalization, licensing individual fishermen's quotas holds more promise than any [other approach] ... Wherever it has been introduced, although there have been various adjustment problems, it has substantially eased problems of resource management and reversed trends toward over-capitalization.(5)

According to Pearse, the outstanding advantage of Individual Quotas is that they eliminate the basic cause of overcapacity in the fishing industry by removing the incentive for individual fishermen to protect and increase their share of the catch. Rather, IQs encourage fishermen to adapt their vessels and fishing methods to take their licensed catch at the lowest cost. Other advantages were listed as follows:

they provide a direct means of controlling the total catch and ensuring that it will be within the sustained yield targets set for the stocks;

they free the regulatory authorities from many of the problems associated with regulating fishing activity. Some controls on fishing would obviously still be required for the biological reasons noted earlier, but, with the total catch controlled by licences, most of the restrictions on vessels, gear and fishing time that are now used to prevent overfishing would become unnecessary;

they add to the security of fishermen and eliminate much of the risk they otherwise face about their catch;

they can accommodate changes in economic conditions without disruptive effects; notably, if fish prices rise or for other reasons the fishery becomes more profitable, earnings will increase, but there will not be an automatic tendency to expand fishing capacity;

they lend themselves to a variety of methods for raising revenues in the form of licence fees and landing charges; and

they are, in principle at least, administratively simple. And because IQs deal directly with the problem of regulating the catch, once licences are issued the regulatory authorities can concentrate on resource management rather than on regulating the fleet's fishing activities.(6)

The Pearse Report listed the disadvantages or drawbacks associated with IQs as follows:

to ensure compliance with the [individual] quota, reliable information on landings is required;

if a fishery is based on several stocks that require individual management, separate quotas may have to be issued for each; and

it is difficult to adjust quotas in fisheries that depend on stocks that fluctuate widely and unpredictably.  
(7)

## THE KIRBY TASK FORCE ON ATLANTIC FISHERIES, 1982

The declaration of the 200-mile fishing zone for Canada's coastal waters in 1977 was accompanied by a wave of optimism and highly leveraged capital investment in both fishing vessels and processing plants. By 1981, however, the Atlantic groundfish industry faced serious financial trouble due to: declining markets in the United States, increased competition from fish exporting countries such as Iceland and Norway, new species, price competition from other protein sources, and increased energy costs and high interest rates. In November 1981, an Atlantic Fisheries Policy Review (an interdepartmental planning review) was set in motion, but it could not arrive at a consensus on the funding of an assistance package. In January 1982, the federal government appointed Dr. Michael Kirby to head a Task Force on Atlantic Fisheries. Its mandate was to develop measures for the long-term health of the industry and to deal with the specific needs of the offshore companies involved. The Report of the Task Force on Atlantic Fisheries (the "Kirby Task Force") was released the following year.

Although the Kirby Report's 57 recommendations defy simple summarization, the underlying thrust can be found in the policy objectives prioritized for the East Coast fishery:

The Atlantic fishing industry should be economically viable on an ongoing basis, where to be viable implies an ability to survive downturns with only a normal business failure rate and without government assistance.

Employment in the Atlantic fishing industry should be maximized subject to the constraint that those employed receive a reasonable income as a result of fishery-related activities, including fishery-related income transfer payments.

Fish within the 200-mile Canadian zone would be harvested and processed by Canadians in firms owned by Canadians wherever this is consistent with Objectives 1 and 2 and with Canada's international treaty obligations.(8)

On the topic of licensing (i.e., on how to deal with common property), the Task Force believed there was a legitimate basis for differentiating between "part-time" and "full-time" fishermen in fisheries policy and programs, including possible new financial assistance programs. It believed the problems arising from the common property nature of the fishery could be resolved only by giving each fisherman some form of property right to a certain amount of fish. A quasi-judicial body external to the Department of Fisheries and Oceans was also recommended to oversee the licensing process, to act as arbiter and referee within guidelines established by the Department, and to decide who would be given licences for new or expanded fisheries.(9)

On the issue of reducing the over-capitalized Atlantic herring seine fleet, the Task Force deemed that a publicly funded licence buy-back program could not be justified. A system of transferable boat quotas (where individual boat quotas would be assigned, bought and sold so that the more productive operators could buy out the quotas of marginal operations) was recommended as the only solution.(10)

The Task Force suggested that three principles form the basis of any quasi-property rights or quota

licence system: the licence must pertain to an individual rather than a vessel; it must specify a limit on the catch (or, if not feasible, a limit on the catching potential of a fishing vessel and gear); and that the entitlement be divisible and transferable (capable of being sold or traded), subject to certain conditions and quasi-judicial supervision. The report listed the following advantages of the concept as follows; it

gives fishermen or companies a clear understanding of the amount of fish they will be allowed to catch, permitting them to make long-term, cost-minimizing investment decisions, and thus reduce over-capacity by eliminating the pressure to over-capitalize;

permits a fisherman who wishes to expand his operation to buy out all or part of the licence of another. The licence transfer and vessel replacement issue would be taken care of automatically, and excess capacity would gradually be squeezed out of the fishery;

allows much greater freedom in the use of technology because government would not have to regulate access to common property. Fishermen would be motivated to employ the most economically efficient method, rather than the method of greatest physical productivity;

permits those with a stake in the industry to pass it on to an heir or to receive a benefit from the sale value of their licence upon retirement;

encourages more orderly harvesting by removing the incentive to race for maximum share of a common quota;

establishes, in effect, a one-licence concept. Fishermen could acquire quota in various species and fisheries - as long as some other licence holder was willing to sell, trade or rent - and thus could develop a more dependable mix of species in those areas where this is important; and

eliminates the need for the participation clauses that are now a feature of many fisheries. If there were a market for quotas, no one would be motivated to "sit on a licence" given that he could rent or sell all or part of the quota associated with it.(11)

The benefits of the quota licences were summarized as follows:

minimum cost harvesting, leading to better incomes and a more internationally competitive fishing industry;

more orderly harvesting; because there would no longer be an incentive to race, there would be fewer gluts and better coordination between the catch and plant capabilities and market demand. Fishermen would, of course, still fish at the periods of greatest catch rate, so the seasonal peaks would be little affected in some fisheries - for example, the cod trap fishery in Newfoundland;

far less regulation of technology - fishermen would be left essentially free to choose the best means to catch their personal quota; and

the automatic regulation of access to the fishery by purchase or trade in quota licences, subject to whatever limits government might decide, after consultation, to impose. At present, access is limited, for example, by rules that forbid the issue of new licences and thus prevent new persons from entering the fishery.(12)

The following are the drawbacks of Individual Quotas as identified by the Task Force; they

- are unproven in practice so that there may be unanticipated negative consequences (pilot testing and extensive consultations would minimize this risk);
- are perhaps impractical in certain fisheries and for boats below a given size;
- pose the very difficult problem of the initial allocation of the quota licences;
- tie a monetary value explicitly to a licence through its sale value (while this constitutes some barrier to entry, the existing system of limited entry licensing can bar access to the fishery entirely and arbitrarily);
- tend, over time, to reduce the number of fishermen as these choose to sell their quota licences (while this may remove persons from the fishery in areas where there are few employment alternatives, the choice is nevertheless voluntary and, in most fisheries, should have the effect of improving the incomes of those who remain).(13)

Other concerns regarding quota licences were said to be more accurately described as "misunderstandings" rather than as shortcomings of the concept.

#### THE SCOTIA-FUNDY GROUND FISH [HACHÉ] TASK FORCE, 1989

The Scotia-Fundy Groundfish Task Force (also known as the Haché Task Force) was commissioned by the Minister of Fisheries and Oceans in July 1989. Its report, which was published in December 1989, makes 31 recommendations for changes to the management of the Atlantic groundfish fishery in the Scotia-Fundy Region.(14) There were said to be two fundamental problems in the region: declining stocks and increasing fishing capacity. It noted that vessel replacement rules had not been effective in limiting overall fishing capability, and reasoned that, while those rules had been recently revised, fishermen in a competitive fishery would always direct their investment into the unrestricted areas (e.g., bigger engines and better gear) to achieve more fishing power.(15) The Task Force concluded that a system of continuing adjustment must be put in place to prevent further over-capitalization. Vessels under 65 feet in length with mobile gear licences were deemed to represent the most critical overcapacity problem in the inshore fleet.(16) Among the options put forward for this category of vessel were the following: individual vessel quotas with pooling or partnership provisions; individual transferable quotas; and an ongoing arrangement for self-funded retirement of licences.(17)

In brief, the Task Force favoured the establishment of Individual Quotas and made the following observation:

While individual quotas (IQs) or individual transferable quotas (ITQs) would be new to the inshore groundfish fleet in Scotia-Fundy, they are far from an untested idea. The offshore Enterprise Allocation (EA) scheme, working successfully in the Atlantic fishery since 1982, is an example of such an approach which provides a licence to harvest a specified amount of fish per year. Similar arrangements also exist in the inshore mobile gear groundfish fleet on the west coast of Newfoundland, the Lake Erie fishery, the Scotia-Fundy offshore scallop fishery and in the Scotia-Fundy herring seine fishery. Arrangements in these fisheries have been proven to address the fundamental problem of over investment in the race for fish. Similar IQ and ITQ systems, established in response to the same fundamental problem, are working successfully in other parts of the world, notably in Iceland, Australia and New Zealand. [The Department of Fisheries and Oceans] is currently initiating further studies on the applicability of such individual quota regimes to other Canadian fisheries.(18)

## THE NORTHERN COD REVIEW [HARRIS] PANEL, 1990

In February 1989, the federal government established a seven-member Northern Cod Review Panel to examine the possible factors affecting the stock, the calculations leading to scientific advice provided by the Canadian Atlantic Fisheries Scientific Advisory Committee (CAFSAC) for 1989, and the data and methods used in assessing and forecasting catches since 1977, to ensure that reliable scientific advice would be available to manage the fishery in 1990 and beyond. An interim report was released in May 1989. In releasing the final Report of the Review Panel (the "Harris Panel") in March 1990, the Minister of Fisheries and Oceans accepted its basic principles as well as most of its 29 recommendations.(19)

Although the Panel believed that the Enterprise Allocations approach, if carried to its ultimate conclusion (i.e., an allocation for every individual fisherman), would result in what was termed an "administrative and management nightmare," it asserted that, "if practised in a limited way," the approach would permit a more orderly harvest, that is to say, one better suited to market conditions. Other benefits were said to include the indirect regulation of "the amount of investment in boats, gear, and processing equipment," so that such investment would be "a direct function of the available resource."(20) Harris warned, however, that quota licences "would encourage underreporting of catches, highgrading and other such practices, and would, in consequence, demand greatly increased surveillance and regulatory enforcement."(21)

## THE COMMISSION OF INQUIRY INTO LICENSING AND RELATED POLICIES OF THE DEPARTMENT OF FISHERIES AND OCEANS [CRUICKSHANK REPORT], 1991

This most recent Commission was initiated by fishing industry organizations on the West Coast because of their "discomfort" with a Department of Fisheries and Oceans internal regional discussion paper entitled Vision 2000. At formal hearings held in over 20 communities, industry participants were asked to present alternatives to the proposals in Vision 2000 for dealing with the existing licensing policies.(22) The subsequent recommendations in a document entitled The Fisherman's Report (the "Cruickshank Report") are said to reflect the views of fishermen.(23) The report was sponsored by eight industry organizations on a basis of what is termed "complete independence."

The basic premise of the report is that the common property resource is "healthy" and that it has "excellent potential for growth in employment, commercial value and social benefit." The proposals put forward are made in the context of a single policy: to protect and enhance the fishery. A major point of disagreement with Vision 2000 was the latter's assertion that Individual Quota and Enterprise Allocation licensing were two "no cost/low cost" solutions showing promise in dealing with overcapacity.(24) The Fisherman's Report offers a very different vision of the Pacific fishery and calls for an end to leasing licences and corporate ownership of licences. The former are criticized as a breach of legal principle; the latter because it would concentrate the industry in a few urban centres. The report advocates licensing policies that would force the industry, over a 10-year period, to move toward an "owner/operator profile," recommends a complete overhaul of licence fees, and generally opposes Individual Quotas. The creation of a new consultative body representing fishermen, owners, licensees and processors is suggested to overcome the lack of consultation that gave rise to the report in the first place.

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(1) In this paper, "fishermen" refers to both female and male fishers.

(2) John Lanfersieck and Dale Squires, "Planning Models for Individual Transferable Quota Programs," *Canadian Journal of Fisheries and Aquatic Sciences*, Vol. 49, No. 11, November 1992, p. 2313.

(3) The origins of this paradigm can be traced to a general analysis by Garrett Hardin ("The Tragedy of the Commons," *Science*, Vol. 162, 1968, p. 1243-1248) and to an economic analysis by Scott Gordon ("The Economic Theory of a Common Property Resource: the Fishery," *Journal of Political Economy*, Vol. 62, 1954, p. 124-142). See also Ralph Matthews and John Phyne, "Regulating the Newfoundland Inshore Fishery: Traditional Values Versus State Control in the Regulation of a Common Property Resource," *Journal of Canadian Studies*, Vol. 23, Nos. 1 and 2, Spring/Summer 1988, p. 159-160.

(4) Task Force on Atlantic Fisheries, *Navigating Troubled Waters: A New Policy for the Atlantic Fisheries*, December 1982, p. 212. See also "Introduction: 'The Tragedy of the Commons' or the Common Tragedies of Capital?" in *People, Resources, and Power*, Gary Burrell and Ian McKay, editors, published for the Gorsebrook Research Institute of Atlantic Canada Studies by Acadiensis Press, Fredericton N.B., 1987, p. i.

(5) See H. Demsetz, "Toward a Theory of Property Rights," *American Economic Review*, Vol. 62, 1967, p. 347-359; E.H. Furubotn and S. Pejovich, "Property Rights and Economic Theory: Survey of Recent Literature," *Journal of Economic Literature*, Vol. 10, 1972, p. 1137-1162.

(6) It is often said that the issue is rooted in a conflict between individual interests and collective interest, and that the origins of the conceptual framework can be found in the 17th century theory of Thomas Hobbes that, without legal and restrictive mechanisms established by the state, the clash of individual interests would produce the collective irrationality of a "war of everyone against anyone else." To resolve this situation, Hobbes argued that individuals in this "state of nature" exercised their liberty to create a social contract which established a centralized state power which set the legal foundation for the relations of human beings with each other. According to some observers, the consequences of the commons in the fishery have been just as evident at an international level as at a national level; the present posture of the European Community (i.e., Spain and Portugal), for example, towards straddling groundfish stocks on the "Nose" and "Tail" of Canada's Grand Banks (i.e., on the high seas) are "clearly analogous." See Northern Cod Review Panel, *Independent Review of the State of the Northern Cod Stock: Final Report*, February 1990, p. 42.

(7) James R. McGoodwin, *Crisis In the World's Fisheries: People, Problems and Policies*, Stanford University Press, Stanford, California, 1990, p. 91.

(8) Department of Fisheries and the Environment, *Policy for Canada's Commercial Fisheries, Supply and Services*, 1976, p. 39.

(9) Standing Senate Committee on Fisheries, *The Marketing of Fish for Canada: Report on the East Coast Fisheries*, December 1989, p. 8-9. See also Department of Fisheries and Oceans, *Estimates, Part III, Expenditure Plan, 1992-93*, p. 120; Department of Fisheries and Oceans, "Licensing," *Background*, September 1988, p. 1.

(10) Study Team, "Natural Resource Program: From Crisis to Opportunity," *A Report to the Task Force on Program Review, Supply and Services Canada*, September 1985, p. 47.

(11) Department of Fisheries and Oceans, *Annual Report 1989-1990, Supply and Services Canada*, 1991, p. 10.

(12) Department of Fisheries and Oceans, Fisheries Management: A Proposal for Reforming Licensing and Allocation Systems, Supply and Services Canada, 1991, p. 3-4.

(13) Department of Fisheries and Oceans "Licensing," Backgrounder, 1988, p. 2.

(14) Department of Fisheries and Oceans, 1992 Atlantic Groundfish Management Plan, December 1991, p. 3. The allocation of stocks among fleet sectors usually reflects the historic distribution of catches. See Department of Fisheries and Oceans, Commercial Fisheries Licensing Policy for Eastern Canada, January 1989.

(15) Department of Fisheries and Oceans, Pacific Coast Commercial Fishing Licensing Policy: Discussion Paper, September 1990, p. 64.

(16) Most commercial stocks of fish are exploited on the basis of a TAC: the maximum allowable volume or "global quota" of a given stock which may be harvested during a fishing season. Once the TAC is established, it is subdivided among the various user groups. One notable exception is salmon, for which an optimum "escapement" target is established (i.e., the unharvested portion of a fish population that is allowed to "escape" and spawn).

(17) See C.R. Levelton, Toward an Atlantic Coast Commercial Fisheries Licensing System, A report prepared for the Department of Fisheries and Oceans, Government of Canada, Ottawa, April 1979, p. 35. Entry limitation was first introduced in Canada's lobster fishery in 1967. Limited entry soon followed in the B.C. salmon fishery in 1968 and in the Atlantic purse seine fishery.

(18) Task Force on Atlantic Fisheries (1982), p. 223; Scotia-Fundy Groundfish Task Force, Report, Supply and Services Canada, December 1989, p. 51; Standing Senate Committee on Fisheries, The Marketing of Fish in Canada..., December 1989, p. 53.

(19) Quoted in the report of the Task Force on Atlantic Fisheries (1982), p. 218.

(20) See Task Force on Atlantic Fisheries (1982), p. 218; Scotia-Fundy Groundfish Task Force (1989), p. 52; Scotia-Fundy Groundfish Industry Advisory Committee, A Report Commissioned by the Minister of Fisheries and Oceans in April 1987, November 1988, p. 5.

(21) A Commission of Inquiry Into Licensing and Related Policies of the Department of Fisheries and Oceans, The Fisherman's Report, November 1991, p. 17, 27. A less discussed substrategy for conferring property rights is to grant fishing communities "territorial use rights in fisheries" or TURFS. Under this system, which is said to be receiving increasing attention, there tends to be a greater degree of local administration. TURFS are considered to be especially appropriate for managing sedentary and semi-sedentary species, and for migratory species whose movements are predictable. They are also considered suitable where the harvesting technology is relatively passive or immobile. See J.R. McGoodwin (1990), p. 178-180. For a discussion on community development quotas (CDQs) in Alaska, see Joel Gay, "What's This New [Community Development Quota or] CDQ?," Pacific Fishing, February 1993, p. 45.

(22) Pacific Coast Commercial Fishing Licensing Policy... (1990), p. 64.

(23) Standing Senate Committee on Fisheries, Report on the Atlantic Commercial Inshore Fishery, June 1993, p. iv.

(24) This can be accomplished by placing observers aboard fishing vessels, comparing the size

composition of a vessel's catches with the overall landings of the fleet, or by regulating fishing gear (e.g., mesh size). so that harvesting is more selective. See Standing Senate Committee on Fisheries, Report on the Atlantic Commercial Inshore Fishery, June 1993, p. 30-36.

(25) See Department of Fisheries and Oceans, The Estimates, Part III, Expenditure Plan, 1993-94, Supply and Services Canada, 1993, p. 130.

(26) Canadian Atlantic Fisheries Scientific Advisory Committee, Research Document 92/103, p. 14.

(27) On this, a federal Task Force on the East Coast fishery observed, in 1982, that "When a licence is issued, it confers, in effect, a perpetual benefit, because annual renewal of the licence is usually automatic. In theory, the licence reverts to the Crown when a fisherman leaves the fishery, but in practice the government agrees, in fisheries where licence transfer is permitted, to issue the licence to the fisherman who is buying the assets of another fisherman. This usually means that the fisher is buying the licence as well." Task Force on Atlantic Fisheries (1982), p. 214.

(28) One recent report considered individual quotas "to be in breach of the common property resource principle" and recommended "that further individual quotas not be introduced and that existing quota experiments be extended only on a year-to-year basis, pending a thorough review..."; see A Commission of Inquiry Into Licensing and Related Policies... (1991), p. 35-36, 111.

(29) "At Issue: Should Fishermen Be Allocated Individual Quotas to Help Control Overfishing?" Congressional Quarterly Researcher, Vol. 2, No. 32, 28 August 1992, p. 753-754.

(30) The existing system of limited entry, however, already restricts access to the fishery. Task Force on Atlantic Fisheries (1982), p. 221, 227-228.

(31) See A Commission of Inquiry Into Licensing and Related Policies... (1991), p. 29.

(32) See Tim Doherty, "New Zealand's Experience With ITQs," Pacific Fishing, August 1990, p. 29; Stephanie Brown, "Scarth Defends Transferable Quota System," The Saint Croix Courier, 27 July 1993; "One Man's Quota, Another Man's Poison," The Halifax Chronicle-Herald, 8 May 1992; Task Force on Atlantic Fisheries (1982), p. 221-223, 229; Commission on Pacific Fisheries Policy, Turning the Tide: a New Policy for Canada's Pacific Fisheries, Supply and Services Canada, September 1982, p. 84; Scotia-Fundy Groundfish Task Force (1989), p. 53-57; A Commission of Inquiry Into Licensing and Related Policies... (1991), p. 28.

(33) A Commission of Inquiry Into Licensing and Related Policies... (1991), p. 28-29, 33.

(34) Standing Senate Committee on Fisheries, Report on the Atlantic Commercial Inshore Fishery, June 1993, p. 33.

(35) Department of Fisheries and Oceans, Assessment of New Zealand's Individual Transferable Quota Fisheries Management, Economic and Commercial Analysis Report No. 75, August 1990, p. iv. See also Mike Radon, "CA Abalone ITQ," (Letter to the Editor) Pacific Fishing, June 1993, p. 8.

(36) Assessment of New Zealand's Individual Transferable Quota Fisheries Management (1990), p. iv, 1, 18.

(37) Commission of Inquiry Into Licensing and Related Policies... (1991), p. 34.

(38) Ibid., Assessment of New Zealand's Individual Transferable Quota Fisheries Management (1990), p. 34; Daniel W. MacInnes, "Quotas Jeopardize Small-Boat Fishery," The Guardian, 24 July 1990. See also Proceedings of the Standing Senate Committee on Fisheries, Issue No. 5, 15 December 1992, p. 20; Issue No. 8, 23 March 1993, p. 21; Issue No. 11, 11 May 1993, p. 8, 16, 20.

(39) Owen Myers, "The Tragedy of the Trawlers: an Analysis of the December 1989 Report of the Scotia-Fundy Groundfish Task Force," Dalhousie Law School, March 1990, p. 33-34. The author refers to a study by Christopher M. Dewees ("Assessment of the Implementation of Individual Transferable Quotas in New Zealand's Inshore Fishery," North American Journal of Fisheries Management, Vol. 9, No. 2, Spring 1989, p. 131-139).

(40) See A Commission of Inquiry Into Licensing and Related Policies... (1991), p. 35; T. Doherty (1990), p. 29; "At Issue...", Congressional Quarterly Researcher, 28 August 1992, p. 754.

(41) Department of Fisheries and Oceans, Assessment of New Zealand's Individual Transferable Quota Fisheries Management, 1990, p. 6, 10, 12, 17.

(42) For recent developments in the north Pacific fishery, see Peter Passell, "Privatization of U.S. Fisheries to Net Billions," The Times Colonist, 5 May 1991; Scott Simpson, "Proposed Quota System for Fishery Called Formula for Ruin," The Vancouver Sun, 14 May 1991; Laine Welch, "AK Onshore and Offshore Interests Look to ITQs," Pacific Fishing, October 1992, p. 29-31; John Bragg, "Up with IQs, Down with Factory Trawlers," Pacific Fishing, January 1993, p. 21, 71; Laine Welch, "Alaska Groundfish Grind," Pacific Fishing, February 1993, p. 43-46.

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(1) The Pearse Commission, appointed by the Governor General in Council on 12 January 1981, was charged with the task of finding ways to improve the conditions of Canada's Pacific fisheries. A preliminary report, Conflict and Opportunity: Toward a New Policy for Canada's Pacific Fisheries, was published in November 1981. A final report, Turning the Tide: a New Policy for Canada's Pacific Fisheries, was published in September 1982.

(2) Report of the Auditor General of Canada, Fiscal Year Ended 31 March 1986, Supply and Services Canada, 1986, paragraphs 10.20, 10.21.

(3) Commission on Pacific Fisheries Policy (1982), p. 77-78.

(4) See Ibid., p. 119-143. Salmon and roe-herring were exceptions because of the anticipated difficulties in adjusting quotas for these stocks, which must be managed separately because they fluctuate widely.

(5) Ibid., p. 84.

(6) Ibid.

(7) Ibid.

(8) Task Force on Atlantic Fisheries (1982), p. vii.

(9) Ibid., p. 222-230.

(10) Ibid., p. 331-337.

(11) Ibid., p. 220.

(12) Ibid., p. 226.

(13) Ibid., p. 221.

(14) Scotia-Fundy Groundfish Task Force, Report, Supply and Services Canada, December 1989, p. 67. An Industry Groundfish Capacity Advisory Committee was established in June 1987, on the instructions of the Fisheries Minister, as a condition to lifting a moratorium on unused groundfish licences in the Scotia-Fundy Region. The Committee estimated in its report of 10 November 1988 that fishing capacity had the potential to exert four times the effort required to harvest the available quota.

(15) Ibid., p. 51.

(16) Ibid., p. 53.

(17) Ibid., p. 55. Individual Quotas were subsequently implemented.

(18) Ibid., p. 5.

(19) L. Harris et al., Independent Review of the State of the Northern Cod Stock: Final Report, February 1990. Three recommendations could "not be directly accommodated"; these were a further reduction in the 1990 TAC, a new fisheries management board or commission, and unilateral action by Canada to acquire management rights for straddling stocks beyond the 200-mile limit.

(20) Ibid., p. 103.

(21) Ibid., p. 104.

(22) Vision 2000 was to have been further developed for regional consultation. It describes what the Pacific fishery will be at the beginning of the 21st century; it is a future which the author(s) consider to be "totally consistent with the regulatory reforms recommended by the 1984 Nielsen Task Force, the 1982 Commission on Pacific Fisheries Policy and the 1981 Economic Council of Canada Report." (p. 4) The "property rights concept for all fisheries "is identified as the long-range strategy needed "to support an economically viable, self-sustaining west coast fishery." In achieving this objective, one of the short range actions listed is the implementation of boat quotas in non-salmon fisheries (p. 28). Department of Fisheries and Oceans (DFO), Program Planning and Economics Branch, Pacific Region Strategic Outlook. Vision 2000: A Vision of Pacific Fisheries at the Beginning of the 21st Century, Discussion Draft, June 1989.

(23) A Commission of Inquiry into Licensing and Related Policies of the Department of Fisheries and Oceans, The Fisherman's Report, Fleming Printing Ltd., Victoria, B.C., November 1991, p. 7. The internal draft had been leaked. According to Don Cruickshank, the Commission's sole commissioner,

"few fishermen believe that Vision 2000 was intended merely for discussion... Rather, it is seen as a statement of policy" and one which is "at various stages of implementation" (p. 6). Fishermen reportedly found the [DFO] document vague, incomplete, developed without industry consultation and primarily concerned with finding cost-cutting policies for DFO as opposed to enhancing the industry. See T.J. Doherty, "Industry's Man Tackles B.C. Licence Issues," *Pacific Fishing*, March 1992, p. 26.

(24) *Ibid.*, p. 8-9.