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Title: Individual Transferable Quotas in Clams and Fish: A Comparative Analysis.

Abstract

Individual transferable quotas (ITQs) are widely advocated as ways to rationalize over-capitalized and over-exploited fisheries. They are best known through experiences in New Zealand, Australia, and Iceland beginning in the 1980s. Because of case studies being done in the 1990s, a comparative analysis of newer ITQ-based management regimes in the U.S. and Canada is now possible.

Research on ITQs in the U.S. federal surf clam and ocean quahog fishery and the Canadian groundfish fishery for mobile gear under 65' in length in the Scotia-Fundy region suggests a series of lessons about the introduction, acceptance, and consequences of ITQs for fisheries management. Research is also underway on the Western Newfoundland mobile gear ITQ fishery and on the Eastern Newfoundland crab fishery, among the many that have not been converted to ITQs. This paper reports solely on the comparison between the US clam fishery and the Scotia-Fundy groundfish fishery.

INDIVIDUAL TRANSFERABLE QUOTAS IN CLAMS AND FISH: A COMPARATIVE ANALYSIS[1]

Bonnie J. McCay and Carolyn F. Creed

Introduction

Interest in "individual quota" systems of allocating fishing rights[2] is expanding very rapidly throughout North America as well as the rest of the world. It is part of more general interest in market-based solutions to environmental problems such as air pollution, water scarcity, and the depletion of renewable natural resources. IQs appeal to fishery managers seeking to prevent the twin tragedies of open access and simple limited entry fisheries: overfishing and overcapitalization. Contrasting with an open access "common property" system where fishers own nothing of the resource - except perhaps the right not to be excluded (Macpherson 1978) – until they actually capture it, in an IQ system, participants own shares in rights to capture a resource. If it is an ITQ system-individual transferable quota- they can buy, sell, lease, trade, inherit shares just about as they would any other property. This is very close to what we think of as private property. ITQ systems have their genesis in fisheries economics and can and should be appraised in terms of economic criteria; however, it is also critical to consider the socio-cultural and socio-economic concerns encoded as "equity" and the resource management concerns we will here label "stewardship."

Major Lessons

We summarize major lessons learned from this study so far. Details may be found in McCay and Creed (1987, 1992, 1994), McCay (1994), Creed et al. (1994), Apostle et al. (1994), McCay et al. (1993).

JL <u>The "T" in ITQ is critical.</u>

The surf clam and ocean quahog (SCOQ) fishery of the U.S. EEZ (extending from New England to Virginia) converted to ITQs in 1990; it was the first "rights-based" fishery management system in U.S. federal waters (that is, beyond 3 miles to the edge of extended jurisdiction, 200 miles). It was followed by ITQs for a very small, young fishery for the newly discovered species called wreckfish in the south Atlantic (Gauvin 1994). These two will remain the only US ITQ fisheries until the Alaskan halibut and sablefish fisheries ITQ systems are implemented (delayed from original 1994 date) and the Pacific Northwest sablefish ITQ plan is approved.

Canada, like Norway, Iceland, and a few other North Atlantic countries, has had individual-quota or rights-based fishing for a relatively long time, beginning in the late 1970s, soon after the implementation of extended fisheries jurisdiction in the international law of the sea (Moloney and Pearse 1979; Crowley and Palsson 1992; Mikalsen 1993). Portions of quotas were assigned to individual boats or corporations. However, those "individual quotas" or "enterprise allocations" were either tied to particular fishing vessels, making it necessary to buy a boat to buy quota, or were given out anew each year by the government.

Hence, the "T" part of ITQs is as new -and controversial- in Canada as IQs of any kind (indeed, limits to entry) are in the United States. Exclusive use is only one of the "sticks" in the bundles that lawyers say make up property rights; transferability is another, critical one. Turning to an analogy with the old English commons, without transferability the system is one of "stinting;" with transferability it becomes "enclosure." And there are degrees of transferability. In the U.S. SCOQ ITQ system, just about anyone, including banks, can buy, sell, trade in, speculate in shares of the surf clam and ocean quahog quotas. The Canadian system for the under-65' groundfish dragger fishery of Canadian waters surrounding Nova Scotia and the Bay of Fundy part of the province of New Brunswick converted to

"IQ"s in 1990, and has only just begun to have ITQs that can be permanently traded. It is for 3 species and is divided among different regions as well as being part of a more complex management structure. However, only bona fide fishers --as opposed to fish plant owners[3] - can own the quotas and there is a 2% cap on how much any one individual can own. the Western Newfoundland ITQ fishery we have begun to study is more restrictive, with even sharper limits on transferability and accumulation. Finally, in the eastern Newfoundland snow crab fishery, which is not now managed with individual quotas, industry discussions of the probability of moving in that direction include specific provisions that there not be transferability beyond allowing people to lease out their IQs because of emergencies making it impossible for them to fish them themselves.[4]

2. History. Structure, and Context Matter

As noted in some detail elsewhere (references above), we compared the two ITQ systems, in US and Canada, and found striking differences in their backgrounds, the precipitating events, the socio-cultural and political contexts, the size and structure of the fishing industries involved, and so forth. These factors had powerful effects on the timing of decisions about making the change to ITQs and on the design of the systems that resulted. For instance, the Nova Scotia fishery is based in communities and regions that are heavily dependent on fishing and fish-processing, whereas the SCOQ fishery is based primarily in ports like Atlantic City and Cape May, New Jersey, that are economically diversified and where fishing is relatively minor. Accordingly the effects of ITQs on the structure of boat ownership, on employment, and on where fish are landed are important issues in Nova Scotia but have been minor ones in the Mid-Atlantic region of the U.S. Is it surprising then that, as already noted, the SCOQ system has no caps on ownership and was from the outset fully transferable, whereas the Nova Scotia system retains a 2% cap, requires that holders of ITQ be bona fide fishermen, and only became transferable in 1993?

3. There is No Such Thing as a Free Lunch.

Both systems had very rapid decline in the number of boats: from about 128 to 57 in the surf clam and ocean quahog fishery between 1990 and 1992; from over 400 to about 170 active draggers in the Nova Scotia fishery between 1990 and 1993. Improved economic efficiency per boat and per firm, better control of operating costs, and in some cases more power vis-a-vis markets were evident in both systems. However, the benefits of ITQs come at the cost of the many personal, social, and economic ramifications of:

fewer boats in the fishery: fewer hired captains, fewer crew-members, fewer jobs for welders and suppliers;

different conditions of work, including expanded working hours and changing relations of production in the fishery

-restructured share systems; new, more speculative relationships between holders of shares and participants in the fishery, akin to "sharecropping" in agriculture; and a dramatically changed set of expectations about the future.

4. Them that Has Gits.

One of the reasons for reluctance to move to ITQs is fear of the restructuring that might follow, particularly increased concentration of ownership and market power.

The Canadian system had far less concentration of power in the industry than the US fishery did at the outset: the groundfish fishery of Nova Scotia and neighboring provinces is made up of numerous small processors and independently owned vessels, plus a few large companies and fleets; the surf clan and ocean quahog fishery of the US has been dominated by a few large processors and fleets for a long time.

ITQs helped intensify the patterns of concentration that existed in each fishery, so that the "big guys" got bigger and the "small guys" either got bigger or sold out, or, in the SCOQ case, leased out their holdings. This is intended by those who design ITQ systems, who see the smaller operations as marginal and inefficient. It is clear that many of the smaller operations are not as competitive in getting markets as the larger ones, but it is not clear that they are necessarily inefficient at catching fish or clams. Moreover the potential for monopolistic ownership of ITQs in the US fishery is very real, although the situation is still one of jockeying for position among several large players.

5. Expect the Unexpected and Learn from Mistakes of Others

In New Zealand's ITQ system two unexpected and very costly problems arose: Maori claims to fishing quota, requiring a costly settlement involving some industry buyback of quota; and revisions of scientific knowledge about orange roughy leading to need to drastically lower TAC. The costs of buyback were prohibitive, so the government changed the system from absolute quantities of fish to proportions of the TAC, but meanwhile was forced by the law courts to compensate holders of ITQ (Mace 1993; Boyd and DeWees 1993).

The architects of both the US and the Canadian systems learned from New Zealand's costly error in having used absolute poundage of fish rather than proportions of a TAC as the basis of ITQs. Both are proportional systems.

However, the US surf clam and ocean quahog system was challenged in a way analogous to the Maori claims in New Zealand. This is the issue of the smaller-scale inshore fishery for ocean quahogs in the Gulf of Maine, where they are caught as "mahoganies" for raw-clam and half-shell markets. The small, recently developed fishery for "mahoganies" was regulated but no records were kept on individual catches; consequently, there was no basis for allocating ocean quahog ITQ. Technically, participants would have to purchase ocean quahog ITQ from those in the offshore ocean quahog fishery. The general stance of the rest of the surf clam and ocean quahog industry (centered in the Mid-Atlantic) and the Mid-Atlantic Fishery Management Council is that making this fishery separate from the overall plan would weaken that plan unacceptably. Certainty and security about the plan have emerged as extremely important values, as one would expect from people holding exclusive property rights, and thus members of the Mid-Atlantic industry even offered to give up some of their own ocean quahog ITQ holdings for re-allocation to the Maine "mahogany" clammers, as long as the system itself remains intact. The issue is still open and contentious.

In the Scotia-Fundy region competing sectoral claims, -e.g. from fixed gear fishers- intensified by decline in groundfish have posed similar challenges to the ITQ system, as has the imposition of emergency closures mid-year.

6. Private Ownership does not Necessarily Mean Stewardship.

The most hopeful sign is that people involved in ITQ fisheries appear to become more concerned about law enforcement and blatantly anti-conservationist behaviors. For example, last year when some fishers began bringing in cod and haddock roe to sell, there were near riots at the docks in communities in Nova Scotia (B. Giroux, pers. comm., to C. Finlayson). In addition, the Canadian ITQ fleet has begun to adopt more conservationist policies, including mesh structure and size and closures of critical spawning areas, far in advance of other fisheries. Some of this effort may be traced to the need to be defensive about the use of dragger technology in the context of a widespread critique of draggers as a cause of the sharp declines in many groundfish stocks, but some of it appears to reflect genuine recognition of the value of being better stewards of one's property. On the other hand,

a) ITQs establish or intensify incentives for various forms of "cheating," including mis-reporting ("data fouling" - Copes 1986) and at-sea culling to get rid of lesser value fish sizes or species, "highgrading";

b: ITQs of themselves, at least as presently and recently designed, do very little to protect the resource (Mace 1993); the government retains responsibility for resource management and is dependent on a science that must deal with very difficult bio-oceanographic phenomena, much less the general problem of scientific uncertainty and specific cases of threats to the legitimacy of scientific authority. The facts are, there is not yet a new year-class of surf clams or ocean quahogs after 1978-1979; recruitment is an erratic, apparently rare, and unpredictable event. And the fate of the groundfish of the Scotia-Fundy region is as yet anybody's guess.

7. Privatization and Co-Manaaement Can Go Together

...the last point to be made is one that bears directly oh a current issue in the US Magnuson Reauthorization: conflicts-of-interest in the councils.

In the US, Canada, and other countries, there is a strong movement to get away from industry involvement in fisheries management, using the "foxes in the henhouse" or conflict-of-interest analysis of what goes wrong (McCay forthcoming). ITQs can be seen as a step in that direction, because the anonymous "market" takes over some of the management functions. However, there are also good arguments to have more, and better, fishing industry involvement in management, or co-management, and there is also some reason to believe that ITQs and co-management can go well together (cf. Scott 1993).

The Canadian ITQ case is particularly interesting. Although the fishing industry had virtually no input into the key question of whether to accept individual quotas for the fishery, it was given the opportunity to make key decisions on how to design the system and run it. Soon after the Minister of Fisheries decided to go to IQs for the dragger fishery, the federal agency created the "IQ Group," representing groups in the fishery, together with agency personnel, to make decisions about such critical matters as the basis for the initial allocation, caps on ownership, the transferability of quotas, and so forth. Most remarkable is that this IQ Group was able to come to agreement about a system of industry financing for one of the most critical elements of an ITQ system: monitoring of catches at a 100% level of coverage by an independent corporation, realizing the agency's "user pays" principle. Moreover, the IQ Group has been effective in working toward conservation measures such as the use of larger "square mesh" otter trawl nets and spawning closures.

The US surf clam and ocean quahog industry has also been heavily involved in management decision-making. Prior to the Magnuson Act members of this industry tried to find ways to regulate the fishery, and once the infrastructure was created through the Act, they did not hesitate to use the new

regional management council as a vehicle for limited entry management, working closely with NMFS officials and the council. According to some NMFS analysts, the surf clam and ocean quahog management system was a model of near self-governance (Turgeon 1985). There was even an exploration of the possibility of giving the entire resource over to the industry to manage, a prospect discouraged by federal lawyers (W. Gordon, personal communication). The decision to move to individual quotas (initially vessel quotas) and the harder decision about the bases for allocating individual quotas were made by the Mid^Atlantic Fishery Management Council, but only after over 10 years of industry involvement largely through the council's industry advisory committees.

Both of these cases show the importance of working toward better systems of industry involvement in management, as opposed to the current trend -in both countries- to try to get the industry out of the decision-making process entirely.

Concluding Remarks:

Poorly defined property rights contribute to "tragedies of the commons," but it is not yet clear what the conditions are for well defined property rights of the kind created in ITQ systems to contribute to self-restraint for the common good. The ITQ systems are designed to mimic if not represent capitalist social relations, and capitalism is not the natural home of self-sacrificing, future-oriented behavior. In interviews with fishers engaged in ITQ fishery we have been told that their own views about their relationships to the fish stocks have changed, now that they see themselves as owners of rights that extend some distance into the future. And although cheating and law-breaking continue, we are also told that people seem more likely than before to report on other fishers. But the other critical ingredient for cooperative restraint in the use of common pool resources, community -involving trust, expectations of long-term interactions and mutual interests, etc. (Singleton and Taylor 1992)–, is not necessarily strengthened by market dynamics. Ironically, as ITQ systems generate and intensify class-type social relationships within coastal fishery-dependent communities (Creed et al. 1994), the co-management experience may be one of the few sources of "community" for ITQ-holders, one of the few places where people contest and share definitions and norms and construct new possibilities for the future. Unfortunately, only the owners of quota or their paid representatives are there.

Summary: Among the lessons learned from the comparative study, and broader comparisons with similar systems in Norway, Iceland, New Zealand, and elsewhere, are the critical importance of (a) decisions about transferability of quotas and (b) the political and historical context and industry structure, to the acceptance and consequences of ITQs. In addition, the research shows mixed results for questions about relationships between exclusive property rights and stewardship, on the one hand, and between individual quota systems and co-management on the other. In our continuing work we consider these and other findings in the light of evaluative criteria such as economic efficiency, social equity, stewardship, and institutional and ecological resilience.

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End-Notes:

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2. I use the term "rights" in a general, non-legal sense, to pertain to socially-recognized claims people have upon resources; with respect to fisheries management, in legislative and legal documents in both the U.S. and Canada the term "right" is often replaced by "privilege" to indicate the governments' continued claim of the authority to determine the management system as well as to lower the chances that changes in the management system could lead to 'takings" claims.

3. The Scotia-Fundy region has a "Fleet Separation Policy" against processor ownership of licensed fishing vessels; however, there is no rule against bona fide fishers investing in processing plants. Accordingly, during the 1980s a number of vertically-integrated operations appeared this way.

4. In Norway there are both group and individual vessel quotas for a wide variety of fisheries (IQs, IVQs, EAs), but proposals for ITQs have been withdrawn in response to vociferous grass roots political protest, most recently in 1991 (Mikalsen 1993). Transferability is a major concern in both Norway and

Canada because of the possibility that quota shares will become not only economically concentrated, the monopoly fear, but also geographically concentrated, robbing small coastal communities and remoter regions of their essential economic base - the fishing fleets and the fish processing plants. In Norway, this became a rapidly escalating political issue, compounded by fears of similar effects from joining the EEC, leading the Labor Party to shelve ITQs (Apostle et al. 1994). In Atlantic Canada, the ITQ issue seemed remarkably insulated from politics. One possible reason is that in Canada it came during at the outset of a period of resource crisis, whereas in Norway it came after such a period (Mikalsen 1993). Another is that it better "fit" the dominant philosophy about a market-based political economy in Canada, where the dominant party was the Progressive Conservatives, just as ITQs in the U.S. rose in favor within the administration in the peak of the Bush years in the wake of Reagan-Thatcherism. How the advent of the Canadian Liberal Party following the fall 1993 elections will affect fisheries policy is an important question. Will they be expanded or restricted in the context of concerns about coastal communities and the rural economy, particularly when groundfish stocks are at an all time low? It must be noted, however, that even "leftish" political parties in all three countries continue to espouse the benefits of free markets and market-based environmental regulation.