PROPERTY RIGHTS AND ACCESS MANAGEMENT IN THE SMALL BOAT FISHERY:

A CASE STUDY FROM SOUTHWEST NOVA SCOTIA

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Introduction[1]

> In fisheries management...there is need for feedback. Our best feedback is the voice of the fishermen... We can't hope to manage our fish resources without the help of the fishermen. On fish stocks, they have much knowledge; in any conservation policy that's to be effective, they are the caretakers; and finally, for us in the Fisheries Service as for all of you with the power to influence policies, the people whose lives we affect are and will be our judges. (Roméo LeBlanc, address to the Atlantic Provinces Economic Council, October 22, 1974)

> The biggest problem to the fishermen comes when the Federal Department of Fisheries goes off half-cocked and makes rash decisions that affect the fishermen. (Reg Hazelton, President, Digby Scallop and Trawler Fishermen's Association, as quoted in *The Chronicle-Herald*, May 15, 1979)

Mr. Hazelton's remarks capture much of the substance of independent fishermen's attitudes toward the federal government's involvement in the Atlantic coast commercial fishery. It is almost an understatement to suggest that small boat, independent fishermen often perceive the federal government and the Department of Fisheries and Oceans (DFO) as adversaries and oppressors, i.e., unfamiliar but powerful outsiders forcing them to conform to sets of rules which make it more difficult to earn a living from fishing. Remarks such as Mr. LeBlanc's are frequently considered to be nothing more than empty platitudes, never actually implemented in practice.

These attitudes are nurtured by two primary factors. On the one hand, policies and regulations appear to the fishermen as directives issued from on high, devoid of input from consultation and discussion.[2] They are told by local DFO employees, most often fisheries officers, what they are going to be required to do and what the consequences will be if regulations are not followed. Needless to say, this process, be it real or imagined, contributes to and accentuates the fishermen's sense of estrangement from DFO and fisheries policy.

On the other hand, from the point of view of the fishermen, many of DFO's imperatives fail to take into account sub-regional and community variations in traditional fishing practices or local socio-economic conditions. Consequently, to the small boat fishermen, many fisheries policies and regulations appear to threaten their way of fishing and insult their understanding of specific fisheries. The content of fisheries policies, as well as the methods of implementation, imply that decision makers in DFO regard small boat fishermen as short-sighted, if not basically self-centred and ignorant.

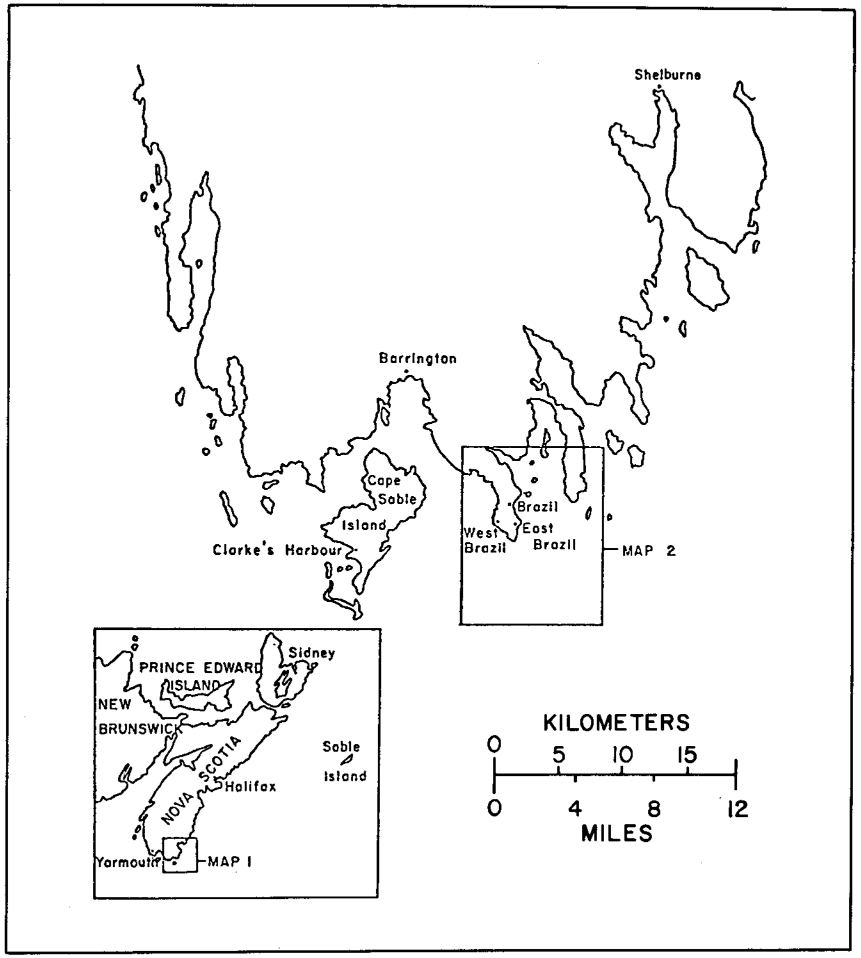
This paper addresses why apparent incongruities exist. It describes how small boat fishermen from Port Lameron Harbour[3] in southwestern Nova Scotia have responded to the implementation of several federal fisheries regulations and policies. This will entail contrasting the way small boat fishermen have organized "their" fishery, and the way DFO would have the fishery organized. Following a profile of key organizational aspects of the Port Lameron Harbour small boat fishery, some of the underlying assumptions of DFO policy will be examined to demonstrate how much of the conflict and estrangement may be attributed to DFO's disregard for the organizational and experiential characteristics of the fishery.

The Setting

Port Lameron Harbour, located on the southwestern coast of Nova Scotia, is situated approximately 250 kilometers southwest of Halifax and 100 kilometers northeast of Yarmouth (see Map 1). All of the economic activity and most of the human settlement is concentrated on the peninsula that serves as the southwestern shore of the harbour. The three federal government-built and maintained wharves function to collapse the six named areas of human settlement into three distinct centres of economic and social life, i.e., Upper Port Lameron, Port Lameron and Pagesville-the Brazils (see Map 2).

All of the fishing activity in the three ports can be categorized as small boat inshore or small boat offshore.[4] With the exception of the offshore small boat fishery, most of the fishermen moor their boats and fish out of the port located within their respective communities. In fact, much of the sense of community and community solidarity is derived from (and reinforced by) the social and economic links established among men fishing out of the same port. In 1977, the inshore fishery contained 74 men (including 13 part-timers) and 42 boats while 25 men in ten boats were engaged in offshore fishing.

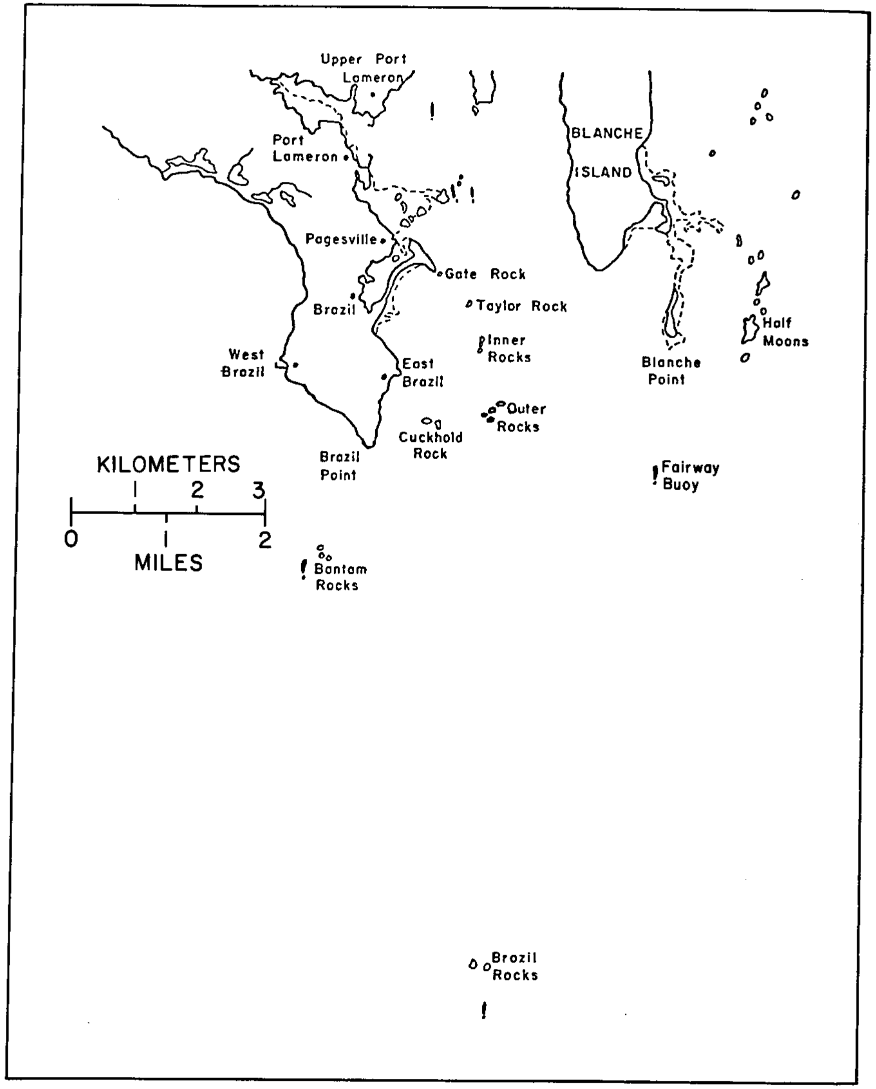
The offshore small boat fishery is much more capital intensive than the inshore fishery. Although all but two of the boats were of the Cape



MAP 1. The Southwestern Coast of Nova Scotia

Sable Island design (two outboards were used by part-timers), there are significant differences between the inshore and the offshore models. The offshore boat is substantially longer, wider and more expensive than the inshore boat. The former range between 12-18 meters in length, and 3-5 meters in width. The cost, in 1977, was in excess of $50,000. The latter are generally under 11 meters in length, three meters in width and cost less than $30,000. The offshore boats also contain fish holds and sophisticated electronic equipment such as loran, UHF radio, and fish finders, while the inshore craft may be fitted with echo sounders, radar and CB radios. In the smaller boats the catch is held in "fish kits," i.e., wooden boxes, on the deck.

Between the offshore and the inshore small boat fisheries there are also differences with respect to scale of production activity. Both of



MAP 2. Port Lameron Harbour Region

these fisheries use set fishing technologies such as longlines and anchored gill nets, but the offshore boats use a greater quantity of gear than the inshore vessels. For instance, it is not unusual for an offshore boat to leave port with more than 40 "tubs" (containers) of longline. Inshore operators generally fish between six and eight tubs and on odd occasions, as many as 12. The offshore boats also carry a larger complement of crew; in 1977, the average per vessel crew size of the offshore fleet was 2.5 men, while the Harbour's inshore boats averaged 1.8 men per vessel.

Production Cycles of the Offshore and the Inshore Fisheries

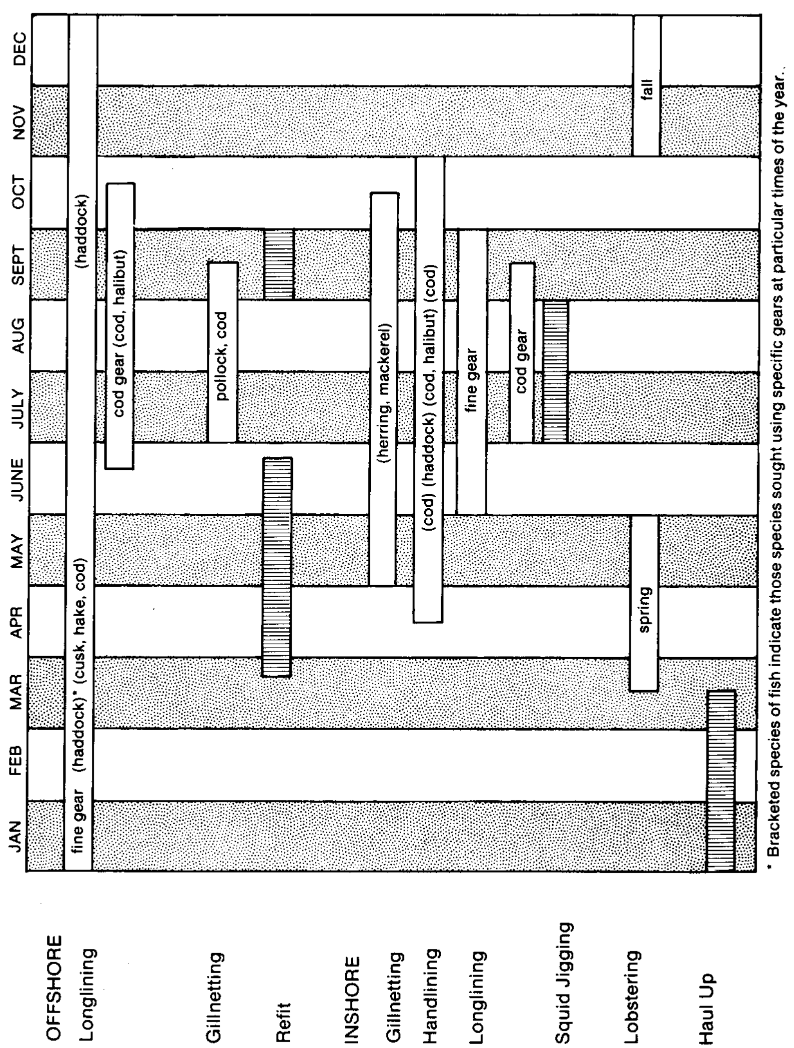
Differences between the two sectors are further reflected in the cycle of production activities characteristic of each of the fisheries (See Figure 1).

The offshore fishery is conducted throughout the year although fishing effort decreases during the winter months as a consequence of inclement weather and the closure of the offshore banks. In this sector, alterations in fish-catching strategies involve seasonal switches in the type of longline employed, and in the offshore grounds being fished. These fishermen ordinarily use "fine gear" longline, i.e., small hook, light gauge groundlines, between the last weeks of September and the first weeks of June. Normally baited with frozen mackerel and squid, this gear is fished to catch haddock, "market" cod (medium size), cusk and hake. During this time of the year, the small boat fishermen concentrate their efforts on the offshore grounds situated within ready access of Port Lameron Harbour. Until its closure in the last week of February, the inner edge of Browns Bank is the most intensively exploited ground while these men are "fine gear" fishing. Until the banks reopen in the first week of June, the offshore boats fish intermediate grounds located between the harbour and the banks. These grounds, although not nearly as productive as the banks, provide catches of haddock, cod and cusk. This period of the year is considered by the offshore fishermen to be the "slow time," i.e., low catches relative to costs and effort. Consequently, many captains prefer to conduct the necessary annual refit of their boats, equipment and fishing gear rather than fish.

Most of the offshore vessels switch from "fine gear" to "codfish gear" soon after the banks reopen in June. "Codfish gear" is a type of longline constructed of heavy gauge line and large hooks. Baited with fresh herring and fresh or frozen squid, it is especially designed to catch "steaker cod" (large size) and halibut. With the onset of the fine weather summer months many of the offshore captains concentrate their fishing efforts on the more distant offshore banks such as Georges, the back edge of Browns and the Sable Island Grounds. Carrying bait and ice, it is not unusual for boats fishing these grounds to be away from port for as long as two weeks at a time. The offshore captains move their fishing efforts to the more proximate grounds and switch back to "fine gear" longlining as mid-summer weather gives way to the variable conditions of late summer and early fall.

The cycle of offshore fishing activities reflects sensitivity to climatic conditions and is indicative of the fishermen's necessity to minimize risk. That is, fishing large quantities of longline on distant banks in small boats carries substantial risk to equipment and personal safety.

FIGURE 1. Seasonal Distribution of Fishing Activity by Type of Small Boat Fishing



Offshore captains attempt to mitigate these risks by planning and designing their fishing efforts in a way that takes full advantage of favourable climatic conditions.

In the spring of 1975, four of the offshore captains purchased, with the aid of federal subsidies, fleets of offshore groundfish gill nets. This technology was to provide the captains with a relatively inexpensive and easily adopted alternative gear type to longline. It also held the promise of lowered operating expenses relative to landed value since they would save the dollar costs of bait and the time costs of baiting longline. Moreover, the gill nets would permit the offshore boats to exploit grounds closer to port, grounds that could not be fished economically with longline during the summer months. The enthusiasm for this alternative gear was short-lived, particularly among the offshore longliners and the inshore captains. By 1980 all of the captains "gillnettin'" had disposed of the gear and returned to summer longlining as a consequence of the intensity of intra-harbour opposition to the use of this technology.

The inshore fishery, unlike the offshore effort, is characterized by an annual hiatus in fishing. At most, fishing is executed for nine months of the year from the end of March until the first week of January. During the depths of winter the boats are hauled up on the shoreline while the fishermen conduct refits. The production cycle of the inshore fishery is similiar to that of the offshore effort insofar as most captains switch back and forth between gear types and fisheries. For the majority of the fishermen lobster fishing in the spring portion (April-May) of the legally defined season constitutes the opening focus of fishing activity.[5]

By the end of lobstering, June 1st, most of the inshore boats are handline fishing for cod. During the last weeks of June many of the men handlining switch their focus to haddock. Using frozen mackerel for bait and lighter-gauge hooks than those used for cod, they drift back and forth over special sections of the inshore ground. Other inshore fishermen lay aside handlines in favour of "fine gear" longline. In the inshore fishery this becomes the general practice during the first weeks of July. From August through October many captains switch back and forth between handlines, "fine gear" longlines and "codfish" longlines, depending upon the success that they and their compatriots are having with any particular gear type. October through to the end of November, when the fall portion of the lobster season begins, is a period of decreasing inshore fishing activity as the captains devote increasing amounts of work time to preparing for the lobster fishery. The fall lobster season, a time of feverish activity (a consequence of the significance of the income earned in this fishery), extends from the last Monday in November until the weather deteriorates, or catches per trip decline to the point that continued participation becomes uneconomical. Generally, the inshore boats are hauled out of the water by the second week of January.

A definitive characteristic of the small boat fishery is this switching back and forth among gear types and among fishing strategies.[6] The offshore fishery is much more specialized than the inshore sector, but economic survival in each fishery requires flexibility to alter strategies in response to opportunity. In part, switching is a response to DFO regulatory measures such as closure of the offshore banks and the specification of a lobster fishing season. Aside from these regulations and, in some instances, in spite of them, switching patterns demonstrate how fishermen manipulate and respond to the opportunity/risk factors characteristic of their occupation.[7] To be successful, fishermen require ready access to alternative resources and fishing grounds, as well as to alternative gears and technologies. Generalism, not specialization, is a characteristic of the small boat fishery that enables it to thrive, socially and economically.

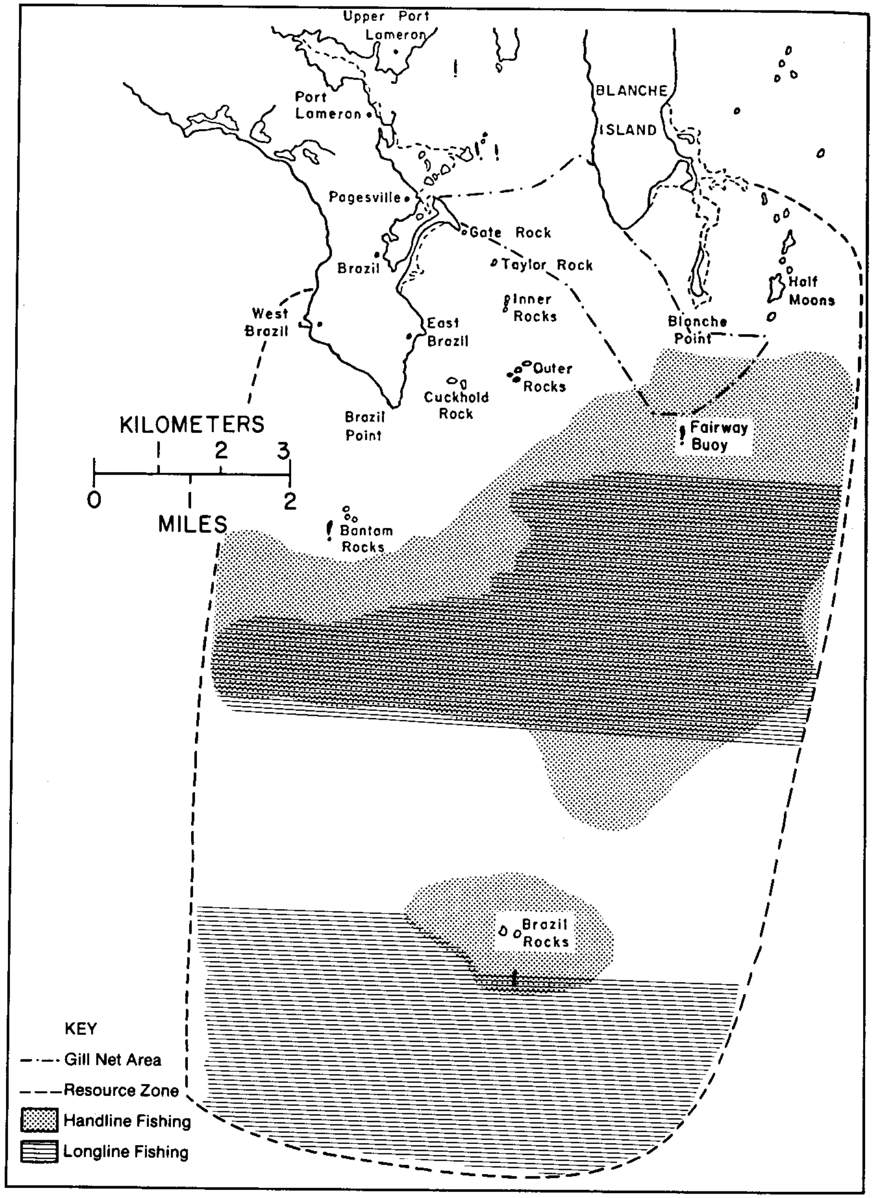
Property Rights and Access Management in the Small Boat Fishery

Availability of opportunity is a precondition to the lack of specialization and flexibility in the Port Lameron Harbour small boat fishery. From the fishermen's point of view, exploitative opportunities abound in the marine environment. Knowing the location and the character of marine resources is one of the least important factors affecting the availability of opportunity; instead, it is more immediately defined by the informal (local-level) and formal (DFO) management systems and rules which condition access to opportunity. These are the rules and management systems by which fishermen must abide in order to obtain (and sustain) access to marine resources; however, these two sets of systems and rules often have different origins, reflect different principles and are motivated by different objectives. In fact, much of the conflict between small boat fishermen and the policies and regulations of the federal government can be explained by these differences.

Both informal and formal sets of rules constitute property relations in that they specify and regulate conditions of resource access and use. In fact, failure to account for these rules, especially the informal variety, underwrites the inappropriateness associated with conceptualizing marine resources simply as common property.[8] The common property view assumes that, since marine resources are not directly and legally owned by individuals or institutions (in a manner analagous to land-based resources), access and use is open to all. But a condition of open access would not lend itself to satisfying the imperatives of people dependent upon exploiting marine resources for their livelihood. Informal and formal management rules and systems constitute property relations insofar as they specify, protect and reproduce the conditions of access, i.e., they limit and legitimate access and use of marine resources. In the fishery, the definition, protection and reproduction of property relations assumes a form quite different from those associated with terrestrial environments. In part, this difference can be attributed to the unique features of the marine environment and exploitation practices, e.g., lack of visibility and mobility of fish stocks.[9] However, uniqueness does not mean that property relations (or their implications for the regulation of access and use) fail to exist in the fishery — an implication of the common property view argued in formal economics.

In the Port Lameron Harbour inshore fishery, property relations are partially expressed through the fishermen's claim to an identifiable portion of the coastal zone.[10] Inshore fishermen exploit a zone that stretches from the shoreline outwards for approximately 25 kilometers and is more than 20 kilometers wide at its base. In total, these fishermen utilize more than 500 square kilometers of ocean (See Map 3). However, the size of the resource zone changes through the years and, at any given time, the areal extent is the product of market conditions, size and distribution of exploitable marine resources, intensity of fishing activity, government regulations and technological capability. For instance, stability in fish prices during the last few years, coupled with increasing operating costs, prompted several fishermen to purchase longer and wider inshore boats (between 10 and 11 meters in length) to enable them to fish "further off" in less intensively exploited areas. Since horizontal expansion is constrained by the zones of neighbouring harbours, the only direction expansion can take is seawards.

The resource zone available to Port Lameron Harbour fishermen is divided into several use areas.[11] A rectangularly shaped area stretching from the Gate Rocks to the Half Moons and out to the Fairway Buoy is reserved primarily for herring and mackerel gill nets (See Map 3). Nets are not set inside this base line, i.e., further up in the harbour, because they would restrict channels into the three ports. Moreover, nets set inside would be exposed to damage or loss as a consequence of boats running over them. Fishermen do not set nets outside the Fairway Buoy because the strength of the tides and current, which could easily "part off" the net from its anchor or drag both out to sea. In other words, the inside and outside boundaries of the gill net area mark the points of diminishing returns (where the possibility of good catches is negated by risks to fishing gear). Only two of the Port Lameron Harbour fishing crews exploit herring and mackerel commercially on a regular basis (Port Lameron Harbour is known as a poor ground for these species). However, most of the inshore captains do set a couple of herring nets during the season for the purpose of catching bait. Although few fishermen derive direct income from gill

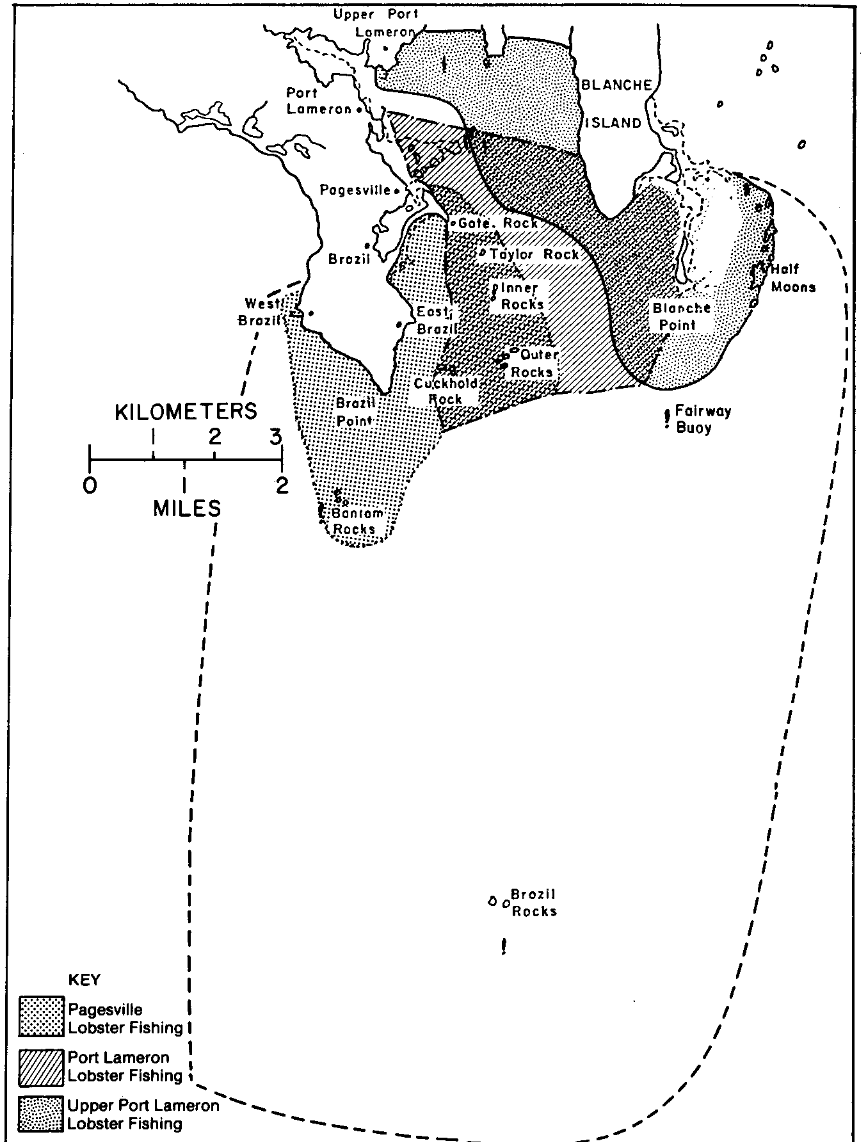


MAP 3. Port Lameron Harbour Resource Zone

net fishing, most of them consider setting nets for bait as an integral component of their fishing activity. Moreover, they view gill net fishing as a necessary alternative, particularly if herring and mackerel are abundant, while they are experiencing difficulty landing cod and/or haddock.

Three port-defined, although overlapping, lobster fishing areas constitute further divisions in the Port Lameron Harbour resource zone (See Map 4). Lobster fishermen working out of the Pagesville wharf fish the ground situated between the "outer rocks" and the "westside" of the peninsula. Those from Port Lameron fish an area that extends to the "outer rocks" and across to the northeast side of the harbour. Upper Port Lameron lobster fishermen exploit a section of the zone that stretches down the middle of the harbour to the Half Moons and all along its northeastern shore. Port specificity of the lobster ground tends to reflect time and the practical costs associated with exploiting particular sections more than any port-related "territorial" claims,[12] and it is not unusual to find lobster traps belonging to men from each of the ports set in close proximity. Upper Port Lameron fishermen use the inner reaches of the harbour because proximity to the ground keeps costs low relative to returns, but men from the other two ports would incur higher costs if they exploited what are considered to be relatively poor grounds. The principle of pragmatic use is also reflected by Pagesville fishermen who have exclusive use of the grounds on the west side of the peninsula.

The distribution of hook and line fishing within the Port Lameron Harbour resource zone reflects factors such as the type of technology being used, species sought, and intensity of fishing effort. There are areas or micro-environments within the zone that are preferentially exploited by handlines or longlines, depending upon the time of year and the species being sought (See Map 3). Often handlining and longlining occur in the same sections of the zone. For instance, handliners and longliners both fish for haddock in the "haddock hole" and for codfish around the Brazil Rock, but these two activities also occur in different sections of the zone. Drift handlining for haddock occurs in an area that is rarely fished with longline because of the "spottiness" of the ground. Moreover, many codfishing handliners anchor their boats on "spots," which are micro-environments known to be favourable habitats for cod (examples of these would be Mandy's Bank and Seth's Bank). These spots are much too small and localized for cost effective exploitation by longline technology; hence, they are exclusively fished by handliners. Longliners also have exclusive access to specific areas in the zone, for example, the outer reaches. This area, characterized by an even distribution of "good bottom," is especially conducive to exploitation by longline since fish tend to be dispersed throughout it.



MAP 4. Port Lameron Harbour Resource Zone

Use patterns reflect practical and informal resource management strategies developed by a community of fishermen through years of experience. Their knowledge of the relations between species, as well as the composition/complexity of the resource zone, is expressed in terms of the exploitative strategies that they pursue, and in the partition of the zone into use areas. Use patterns also express practical, strategic decisions insofar as the fishermen balance cost/risk factors against the probability of returns (as measured through cumulative fishing experience).

Port Lameron Harbour inshore fishermen consider the resource zone to constitute "their" fishing ground. They claim it as theirs on the basis of occupation and use, a form of property relation resting on principles not unlike those associated with squatters' rights and aboriginal entitlement.[13] The majority of contemporary fishermen are kin-related to generations of producers that have exploited marine resources in the Port Lameron Harbour resource zone from the last decades of the eighteenth century. The historical depth of their relationship with the zone is regarded by fishermen as confirmation of their claim. As one elderly fishermen remarked:

> I've fished here all my life. So did my father and his father. Men in my family have been fishin' here for a long time. If anyone's got a right to fish here it's me and I'm no different than most of the fellas fishin' here.

In short, the principle of continuous occupation and use, coupled with the proximity of the resource zone to their ports and their economic dependence on the marine resources found therein, embody the claim of Port Lameron fishermen to the zone as collective (but not individual) property. That is, the resource zone is viewed as property common to all of the men fishing out of the three ports in Port Lameron Harbour, and property claims from each of the neighbouring ports are considered to be equally valid (the line of demarcation is drawn between those fishing out of Port Lameron Harbour and those fishing out of neighbouring harbours). This does not mean that fishermen from neighbouring harbours are excluded from exploiting some of the resources, especially groundfish, in the Port Lameron Harbour zone. However, it does signify that Port Lameron Harbour fishermen retain, as a consequence of their property claim, rights of first access (including the right to refuse access), as well as some control over the nature of exploitative activity.

The individual fisherman's right to exploit the resource zone is based on a form of usufruct or use-right. Usufruct is an aspect of property relations commonly found in pre-capitalist, pre-industrial societies. In this system of property relations:

> The household...is usually *not* the exclusive owner of its resources: farmlands, pastures, hunting or fishing territories. But across the ownership of greater groups or higher authorities, even by means of such

> ownership, the household retains the primary relation to productive resources. Where these resources are undivided, the domestic group has unimpeded access; where the land is allotted, it has claim to an appropriate share. The family enjoys the *usufruct*—the use-right... The producers determine on a day-to-day basis *how* the land shall be used. And to them falls the priority of appropriation and disposition of the product ...All of this is undeniable and irreducible: the right of the family as a member of the proprietary group or community to directly and independently exploit [sic] for its own support a due share of the social resources...[14] (emphasis in original).

Claims of ownership and control of property is centred in the community, and individual use-rights are derived from membership in the community. Although basically foreign to the system of owner/non-owner property relations dominant in capitalist-industrial societies, collectively based property claims and associated individual use-rights represent a distinctive form of property relation.

Retaining rights of first access is the essential operative feature of the fishermen's property claim, and this is asserted as a consequence of historical use patterns, proximity and economic dependence. Participation and membership in one of the three port-centred groups of fishermen is the minimal condition necessary to claim and exercise this right; it is *not* sufficient to make a claim on the basis of birthplace or kin-links to the communities unless one also has participated in the fishery.

Given that fishermen from neighbouring harbours do, in fact, exploit the Port Lameron Harbour resource zone, possession of rights of first access may seem to bestow little or no advantage to the holders, however, this is far from being true. To begin with, only holders of rights have access to the lobster resource. Access to the lobster ground is the most clearly expressed property right obtained by fishing from one of the three ports. Only men fishing out of the harbour are permitted to exploit "their" lobster ground, and no exceptions are permitted since fishermen consider the lobster ground to be a scarce resource. As one lobsterman remarked:

> Our ground is spotty. There's not much of it. It can only take so much gear. There just isn't room for outsiders. Besides, we fish here all year. We ought to have the best chance at the lobsters. You know a good lobster season often makes the difference for the whole year.

The dollar returns from lobster fishing can constitute as much as 40 percent or more of the fishermen's entire gross income. The economic significance of lobster catches, combined with the fishermen's understanding of the productivity of their ground, underwrite the forcefulness of their property claim. Consequently, possession of access rights represents a very clear and distinct advantage of port affiliation.

Security of tenure is another benefit that accrues to the holder of rights of first access. Each fisherman knows that he has legitimate

access claims as a consequence of his affiliation with the port and harbour-centred group of men who occupy a like position. Similarity of position, i.e., dependence upon access for socio-economic well-being, is crucial since it creates a condition whereby every fisherman acknowledges and upholds the access rights of every other man fishing out of the harbour. This harbour-defined solidarity and cooperation becomes especially important during periods of interharbour conflict and personal crisis. For instance, groundfish stock depletion in the early 1970s led to increased competition within the Port Lameron Harbour resource zone between the harbour's fishermen and those from a neighbouring harbour. This led, in turn, to conflicts between these groups of fishermen with respect to reaffirming property claims, i.e., rights of first access. However, most often this conflict took the form of individual action (or reaction) rather than collective effort. For example, a Port Lameron Harbour fisherman, after setting his longline gear, watched a fisherman from a neighboring harbour set his gear close to and, on occasion, across his line. Subsequently, the Port Lameron Harbour fisherman contacted the "transgressor" on the citizen band radio to complain about this behaviour. Other Port Lameron Harbour fishermen who were "listenin' in" on the exchange demonstrated support for their compatriot by adding approving remarks once the original conversation had ended. The weight of this support, coupled with the implied threat of action, i.e., "cuttin' off" the offender's gear, compelled the erring fisherman to offer his apologies. Although often expressed through the action of one man, the property claim to the resource zone can be reaffirmed for all through collective support of an individual action. Knowledge and certainty of this support constitutes a form of tenure security since each fisherman knows that his right of first access will be supported and safeguarded by his compatriots.[15]

Access to crucial information is another advantage that accrues to the holders of rights of first access. Every fisherman requires direct links to information concerning the distribution and characteristics of the resource in order to develop and pursue appropriate fishing strategies. The Port Lameron Harbour fishermen have established channels of communication that function to provide the information that each fisherman needs for the formulation of exploitative strategies.[16] Daily communication of this information occurs in a variety of settings. For instance, fishermen regularly participate in, or listen to, conversations on the citizen band radio throughout the fishing day. These conversations contain substantial amounts of information concerning the relative success that each man is experiencing. Combined with direct observations of vessel locations when on the ground, and of catches when back in port, this information provides each fisherman with the tools necessary to develop exploitative strategies. Men not fishing out of Port Lameron Harbour do not have access to these crucial components in the information exchange system. Aside from the fact that they cannot be at the wharf to verify what they have heard about catches by direct observation, these fishermen rarely have the knowledge of the ground necessary to identify the locations of fishermen participating in citizen band radio conversations. Moreover, they usually cannot visually identify the location of specific Port Lameron Harbour boats fishing particular areas within the zone. Needless to say, every Port Lameron Harbour fisherman, as a consequence of his affiliation with the harbour, is equipped with the knowledge necessary to translate this information into appropriate fishing strategies.

Access to the lobster resource, security of tenure, and access to information, are the benefits accruing to the holders of property rights in the Port Lameron Harbour resource zone. They provide all of the men fishing out of the harbour with an equal opportunity to exploit the resources. The success each fisherman experiences, given the opportunities presented by the benefits of property rights, is an expression of situational and social-personal factors that shape and condition individual ability. The property claim concerns ownership of rights of first access. The resources themselves are viewed by the fishermen as mobile and unowned. As one longliner remarked: "The fish are free. They're not yours until you've got them in the boat." A clear distinction is drawn between factors governing access to the resource zone and direct ownership of the resource base. Situational factors such as the distribution of resource on the ground affect a fisherman's daily ability to fish successfully. However, all fisherman are subject to these situational factors, and through time this limitation should be more or less equally experienced.[17]

Differential success is explained by complex social and personal factors, for instance, occupational enculturation (i.e., the process by which individuals learn to become fishermen) or differences in financial management practices (access to credit can affect a fisherman's ability to obtain the technologies required for effective exploitation). These and other socio-personal factors condition the fishing effort of individual fishermen; while some men attempt to maximize their earnings and expand their productive capacity, other men are content to strive to earn an income sufficient to realize their socio-economic needs.[18]

The property claim of the Port Lameron Harbour inshore small boat fishermen functions as an effective instrument of access management. To begin with, rights of first access are only available to men fishing out of the harbour. This principle defines the harbour-centred community of interests and clearly separates it from those of fishermen from neighbouring harbours. As a consequence of their ownership relation, Port Lameron Harbour fishermen feel that they have a right to control the character of the exploitative activity conducted within the resource zone; one fisherman noted: "You've got to take care of the

ground as best you can. It can only take so much gear and we've all got to make a living." Fishermen from Port Lameron Harbour as well as those from neighbouring harbours are expected to fish the zone in specific, acceptable ways, and they are expected to respect the use patterns established over years of past experience. Moreover, they are expected to conduct their activities in ways which do not inhibit the access rights of other fishermen to marine resources.

The Port Lameron Harbour fishermen do not hesitate to threaten and, if necessary, to impose sanctions on transgressors, be they from the harbour or from a neighbouring harbour. For example, a number of fishermen from an adjoining harbour set fleets of groundfish gill nets in a longlining area of the zone located in the vicinity of the Brazil Rocks (see Map 3). The Port Lameron Harbour fishermen believe that this particular technology seriously affects their access to fish because it "fences off" valuable portions of the ground, thereby preventing the resource from moving into the zone. Furthermore, the use of gill nets prevents longliners from setting their gear in the same area. Consequently, a number of the Port Lameron Harbour fishermen notified the gill net fishermen of their concerns and requested that they fish elsewhere. When the gillnetters persisted, several of the Port Lameron Harbour longliners hauled the nets, cut them up and destroyed their buoys, thus terminating gill net fishing within the zone; the fishermen responsible for the damage justified their actions on the basis that they had to take such actions to protect their ground and their livelihoods.

The need to apply extreme sanctions seldom arises, but an understanding that they will be applied, if necessary, is usually sufficient in controlling exploitative activities. This understanding is implicit in the rules that the fishermen learn to follow as they acquire the technical and practical knowledge associated with their occupation. Fishermen learn from early training that they are never to haul another fisherman's traps, nets and line unless explicitly requested or given permission. It is commonly understood that failure to follow this rule will result in the wholesale destruction of the transgressor's gear. Moreover, this understanding is reinforced through local folklore which contains examples of what happened when a fisherman broke the rules.

Limitations of Small Boat Property Relations in a Management Strategy

The previous discussion highlights the characteristics and functions of the Port Lameron Harbour inshore small boat claim to and rights in a well-defined coastal resource zone. Emphasis has been placed on the manner in which this system of property relations performs access management functions, but several noteworthy limitations on the management effectiveness of these relations must be mentioned. The management system pertains only to fishing effort within the Port Lameron Harbour resource zone and does not extend beyond, yet the Port Lameron Harbour small boat fishery is affected by economic and technological developments, as well as exploitative practices that occur beyond its sphere of action and control.

Availability of resources within the zone is directly affected by the character of commercial fishing effort outside the zone. Much of the resource base is mobile, entering and leaving the zone at certain times of the year; therefore, any fishing activity that alters either the quantity and/or distribution of exploitable species available to the inshore zone directly affects the availability of resources to Port Lameron Harbour fishermen. For example, the depletion of groundfish and the collapse of herring stocks are but two recent cases demonstrating the vulnerability of Port Lameron Harbour fishermen to exploitation practices occurring outside the zone.

Fishermen readily acknowledge this vulnerability, and typically it is expressed as an example of their powerlessness when confronted by large, highly capitalized, offshore industrial fishing effort. As one fisherman observed,

> Have you ever heard of the small fishermen ruinin' the fish? We couldn't fish hard enough or long enough to do what they can do to fish in a very short time. But, what can we do about it? They're big and we're small. When BC Packers brought those seiners over here from the west coast they cleaned out the herring. We didn't get much bait in here for a number of years. There's nothin' that we can do but complain. Christ, it doesn't even do much good to complain when the big companies have got the government in their back pocket. They've got so much money in those companies they can't help but let 'em do what they want.

The small boat fishermen are convinced that their fishing efforts are incapable of deleteriously affecting fish stocks. They blame stock depletion on government-supported offshore industrial fishing. Given the perceived relation between offshore industrial fishing and government action, they feel powerless to affect, in any meaningful way, the character of either the offshore effort or its impact upon their livelihoods.

Lack of control over operating costs and fish prices represents another limitation to the effectiveness of local-level access management practices. The Port Lameron Harbour fishermen, given the characteristics of their fishing effort and their resource zone, have few options when confronted by high and rising operating costs relative to the prices they receive for their product.[19] The main avenue of response is to increase fishing effort. This usually takes the form of utilizing greater quantities of fishing gear within the zone, although some fishermen respond by shifting their effort to grounds further removed from shore. These "adaptive" strategies tend to erode the effectiveness of established management practices since they stimulate competition within the harbour, as well as between fishermen from neighbouring harbours. Stimulated by external economic factors, competition expresses itself through alterations in fishermen's work routines and fishing effort, i.e., fishermen leave port earlier with greater quantities of gear hoping that they will be able to set on "good bottom"; since most fishermen are responding in a like manner, the ground quickly becomes saturated with gear. In such circumstances, conflict, inter- and intraharbour stress, and the erosion of harbour solidarity occurs, and the once-functional management system (based upon control of access through property rights) is no longer capable of regulating the work effort of all of those with rights of access.

This limitation in the access management system of the Port Lameron Harbour small boat fishery only becomes apparent through the operation of external economic forces over which the fishermen have little or no control. The technical characteristics of their fishing effort place limitations upon their ability to respond to inflating operating costs. There is only so much ground available to them given the size of their boats and the attributes of their gear. The sense of powerlessness that fishermen feel is not unique to the small boat system of production. Any system of production dependent upon an uncontrolled market and subject to operating costs that are externally determined will be vulnerable to the impact of the aforementioned economic conditions. However, the small boat fishery, due to technical scale and production organization, is more restricted in the ways that it can respond to external conditions than are, for instance, the large, industrial fishing operations. The small boat feature of the inshore fishery limits its mobility and, therefore, restricts its exploitative activities to the coastal zones adjacent to home ports.

The limitations on the effectiveness of the small boat system of access management are best seen as a consequence of the powerlessness of small scale commercial producers to control the economic conditions and exploitative activities that originate in socio-economic environments external to their fields of action. It is in response to these conditions that small boat fishermen turn to the federal government and anticipate action; however, the federal government's view of the commercial fishery and its organizational features contrasts in several important ways with the view of small boat fishermen. This is best expressed in the assumptions underlying many of DFO's policy initiatives.

The "Common Property" in Fisheries Policy

At its most general level, the contrasts and conflicts between the views of the federal government and small boat fishermen originate in a jurisdictional dispute. As we have seen, inshore small boat fishermen claim a portion of the coastal zone as "their" property in which, as a consequence, they believe they have a right to fish. The federal government does not recognize this claim; instead, it claims jurisdiction over all of the fishing ground and resources found within the 200-mile zone, a claim that is entrenched in the Constitution Act of 1867. In this view, fishery resources are considered to be "...the common property of the nation."[20] As such,

> The federal government...carries the jurisdictional responsibility for conserving fisheries resources...and for allocating the distribution of these resources among competing users. Since the establishment of private-property rights in fishery resources is impracticable in the great majority of cases, the state's responsibility for resource conservation and allocation cannot be delegated.[21]

Starting from this point, the federal government attempts to fulfill its responsibility through the development and implementation of policies and regulations intended to meet "... a long-standing need to rationalize the management and use of our fishery resources."[22] Restricting entry to the commercial fishery, as well as to specific fisheries through licensing programs, is but one mechanism used by the government to meet these objectives; other regulatory devices such as quotas and defined seasons have been implemented for conservation and protection reasons. As earlier noted, the view of fisheries resources as common property expresses a particular orientation in economic theory, and unrestricted entry is viewed as the major problem in the development of the fishing industry.

> If there were free and easy access to the resource, implying that "everybody's property is nobody's property," the potential wealth of the fishery would be dissipated through crowding, overuse, and a general failure to husband the resource..."[23]

Dissipation of wealth is argued to be a natural consequence of open access because: "The benefits of exploitation accrue entirely to the person who first appropriates the resource..."[24] This explains the reasoning that fishermen are motivated to overexploit and generally misuse fisheries resources since "...the long-term costs of exploitation, in terms of reduced stocks and losses of productivity are spread among all exploiters."[25] Uncontrolled access to participation in the fishery unleashes:

> ...a hoard of new entrants who perceive that they can "buy cheap and sell dear." Each wants a share of contact with fortune, and each perceives that he can capture some of the potential wealth. But just as surely as people will grasp for fortune, it will disappear and escape them. The reason is clear: no one perceives it to be in his own interest to husband the resource (the fish stock). The collectivity will bear on the resource until its bounty is destroyed through reduced catches and higher costs.[26]

This, in brief, is the economic rationale upon which the federal government bases its policy and regulatory initiatives. Accordingly,

open access depletes the resources and dissipates economic wealth because competing producers are motivated to maximize their exploitation of common property; the federal government, having constitutional jurisdiction, therefore, is obligated to intervene in the process to ensure that the resources are utilized for the good of society.

There are several fundamental problems with this view. To begin with, conceiving of marine resources as common property requires that existing socio-economic and political divisions be more or less ignored when, in fact, it is precisely these divisions that dictate resource exploitation patterns. For instance, market demand for fishery products conditions production activity insofar as it specifies the species to be exploited, as well as the economic viability of participation in any particular fishery. Harvesting activity cannot be isolated from the broader socio-economic systems within which it occurs, particularly given the operation of commercial market mechanisms and profit-taking operations.

This is especially important in regard to the theorized dissipation of wealth as a consequence of open access. Harvesting is but the initial step in the production of marketable fish products. In fact, the best part of the value of most marine products is generated through processing, not harvesting, activity.[27] The socio-economic relationship between harvesting and processing activities has been shown to consolidate the wealth produced by a commercial fishery. For example, Ommer has demonstrated how the credit-debt "Truck System" gave Atlantic Canadian fish merchants:

> ...means of controlling access of both labour and capital to the resource. Such control amounted to the establishment of "property rights" over the resource which prevented dissipation of the economic rent [wealth] of the fishery...[28]

The vertical integration characteristic of the contemporary industrial fish products corporation and the socio-economic relations between small boat fishermen and harbour specific, small fish buyers/processors perform a similar function of concentrating wealth.[29] In short, it is ludicrous to isolate harvesting activity as emblematic of the "tragedy of the commons" when this activity is directed and conditioned by capitalist economic forces. Given these features of the commercial fishery, it becomes more appropriate to view the "tragedy of the commons" as a consequence of competition between profit-seeking firms each seeking to control distribution of wealth, rather than the "natural" outcome of too many fishermen, i.e., small boat fishermen, pursuing too few fish.

The second problem with the "common property" view concerns the lack of attention paid to the factors that limit access to participation in exploitative activity. Participation will be determined, in part, by the socio-economic factors that govern access to the technical means of production. Hence, participation in the harvesting aspect of the commercial fishery minimally requires access to a position in the division of labour, e.g., crewman, and maximally requires enormous amounts of capital, e.g., the capital necessary to build or purchase a factory-trawler. Given the socio-economic features conditioning access and delimiting participation, property relations can be identified as an integral factor governing participation in the fishery. In the small boat fishery, relations express themselves in the form of control over the means of exploitation, i.e., tools, knowledge and labour, rather than in control over the object of exploitation, i.e., marine resources.

Control via tools, knowledge and labour are an integral feature of the access management practices of the Port Lameron Harbour small boat fishermen. Holders of rights of first access to the resource zone acquire their position and the technical means through an apprenticeship period.[30] As apprentices, fishermen accumulate the knowledge, skills, and income necessary for the effective operation of a fishing boat. Men without these technical means would certainly have great difficulty earning their living from fishing, thus accessibility to the technical means serves to limit participation. It can also be argued that federal and provincial subsidies for boat construction and gear acquisition have served to erode some of the former limiting effects of social factors such as skill acquisition thereby making it easier to acquire technology and to by-pass experience. As one fisherman remarked: "Before we had sounders and radar it took quite a while to learn the ground."

The final difficulty with the "tragedy of the commons" view is that it assumes that producers compete with one another in rapid exploitation of the resource. The existence of competition is premised, in turn, on the existence of scarcity. As Clarke argues, "...if a resource is not scarce neither ownership nor efficient utilization is relevant."[31] Ownership is considered irrelevant in the face of non-scarcity because once a resource (good) is available to all it loses its value.[32] This view assumes that no one will be motivated to produce or to acquire an abundant "good" but once there is a condition of scarcity, competition ensues as each unit of production tries to maximize its share of the value created by scarcity.

Aside from containing highly questionable and unsubstantiated assumptions regarding the nature of human behavior, this view is, at best, naive and simplistic in its consideration of the range of socio-economic variation in resource exploitative activities.[33] Scarcity and its role as a stimulus to competition are relative phenomenon; they are relative both to the conditions that create scarcity, and the array of human response to scarcity. In fact, scarcity is only meaningful in terms of common property if it motivates producers to exploit resources competitively.[34] Producers can respond to scarcity in a variety of ways, some of which fail to correspond with the behavior assumed by the "tragedy of the commons" view. Property rights, defined, upheld and reproduced by a group of fishermen such as those operating out of Port Lameron Harbour, represent a response to scarcity that limits access, and thereby reduces competition among those that hold rights of first access. The collective nature of the property claim is shared across the harbour and each fisherman understands that his personal claim to rights of first access is derived from, and dependent upon, his compatriots; in other words, the range of permissible response to scarcity is constrained by the number of fishing practices considered to be acceptable by a harbour-defined reference group. Although property claims periodically contribute to interharbour competition and conflict, they also provide small boat fishermen with a degree of immediate control over the exploitative activities pursued in the resource zone upon which they all depend for their livelihoods. Needless to say, this type of property arrangement invalidates many of the assumptions associated with common property, and demonstrates how response to scarcity is contained by a variety of socio-economic factors.

Federal fisheries policy seldom accommodates variation in local-level socio-economic conditions. Rationalizing marine resource exploitation has often taken the form of blanketing rules and regulations, for example, the extensive licence and catch quota systems introduced by DFO in the early and mid-seventies. Whereas only a few fisheries, e.g., lobster, were heavily regulated before this period, practically every aspect of participation and entry in the commercial fisheries has become subject to licence and/or quota requirements. Roméo LeBlanc, Federal Minister of Fisheries, stated in a speech to the Yarmouth Rotary Club during the first week of December 1977 that this strategy was necessary: "...because open access to the fisheries has probably been the single biggest cause of the industry's chronic troubles."[35] Although this was true of the industrial, offshore sector, this rationale for increased regulation of all commercial fishing fails to account for differences between small boat and industrial fishing effort, nor does it take into account informal, local-level management practices. Consequently, the regulatory strategies of the federal government more often than not have conflicted with local-level, informal practices, thereby contributing to the small boat fishermen's sense of estrangement from federal policy.

Conflicting Licences: Examples of the Small Boat Fishermen's Response to Federal Regulations

When Mr. Reg Hazelton, president of the Dibgy Scallop and Trawler Fishermen's Association, stated that: "...the department (DFO) doesn't understand that the scallop fishermen will protect their own industry, and it doesn't consult the fishermen enough...or believe what the fishermen tell them," he was expressing a belief concerning DFO policy that is commonly held by the Port Lameron Harbour small boat fishermen.[36] To these fishermen, the federal government's licensing and quota policies have made earning a living at fishing more difficult and insecure.

As earlier noted, the small boat system of production requires flexibility; that is, fishermen must have access to various species and several technologies in order to exploit seasonally occurring resource opportunities. To them, federal policies requiring that they hold a licence just to fish, i.e., the commercial fisherman's licence, as well as specific licences permitting them to use particular technologies, e.g., a longline licence and a dragger licence, pose threats to their ability to move from one technology to another as need arises. As one fisherman noted, "If they can give licences, they can also take 'em away. We've got to go after what's goin' to make our livin.'" Be it real or imagined, this perception of the implications of licensing policy contributes to the fishermen's sense of insecurity by recognizing that decision-making power affecting access to marine resources is situated beyond their control. This situation is aggravating to many who believe that DFO is unfamiliar with and insensitive to their practices and needs. As an elderly fisherman remarked:

> What do they know about what we do? Fisheries Officers are only around here now and then. How do they know what's best for us? We've fished here for a long time and we know what's best for our ground. We know what it can take.

One of the small boat fishermen's responses to the expanded licensing program was to obtain as many licences as possible so that "we could go if we needed to." It is not, therefore, unusual for a young Port Lameron Harbour captain to hold a licence enabling him to employ small boat drag net technologies even though he has never used such fishing gear. Many fishermen feel that flexibility is maintained as long as they have possession of every permissible licence. Of course, this practice, in effect, circumvented DFO's purpose of limiting entry since it increased the number of men holding licences. For their part, fisheries officals responded to this practice by placing qualification requirements on licences. For instance, the commercial fisherman's licence, when first issued, was available to all persons stating that they participated in the fishery. Since both active and inactive fishermen applied, hundreds more of these licences were issued than had been anticipated by DFO. Substantial numbers of men not involved in the fishery at the time obtained licences to ensure future access since in many rural communities, commercial fishing constitutes only one, albeit necessary, aspect of a multioccupational approach to making a living.[37] DFO responded by imposing more stringent requirements, such as demonstrated participation, on licence applications. By the late 1970s

DFO threatened to freeze the number of licences available because attempts to reduce the number of fishermen with legal access were proving unsuccessful, and because applicants continued to find ways of circumventing the licensing guidelines.

On occasion, DFO licensing practices have been met with passive opposition. For example, the federal government introduced a herring net licence during the mid 1970s, and all fishermen setting gill nets were expected to acquire this licence. However, many of the Port Lameron Harbour fishermen, especially those that set nets for the sole purpose of obtaining bait, passively resisted this policy by refusing to purchase the licence. As one of the men explained:

> Why should I pick up a licence to set a couple of nets for bait? I don't fish herrin' to sell. It's not the money. Only costs a couple dollars. They don't have no right to tell me whether I can set my nets. I've been doin' it as long as I've been fishin' and I'll continue to do it as long as I stay at fishin.'

In fact, many of these men were operating under the assumption that the net licence was mainly intended for fishermen who commercially exploited herring and mackerel: hence, the bait net men did not perceive that it was necessary for them to obtain one. Their passive resistance quickly changed to active opposition when the federal government, apparently without giving prior notice to the fishermen, froze the number of licences available and threatened sanctions against unlicenced net fishing. Several fishermen reacted angrily when told that they could not obtain a licence unless they currently held one and that fisheries officers would confiscate unlicenced set nets. One man exclaimed that: "If they touch my nets they'll get a surprise!" Quickly individual complaint was replaced by group action. The Port Lameron Harbour fishermen demanded a meeting with fisheries representatives over this issue. During the meeting heated remarks were exchanged. While fisheries officers outlined rules and penalties, they also indicated that they were powerless to change the situation. For their part, fishermen attempted to explain their needs and complaints, stressing that they did not fish herring for commercial purposes and, therefore, believed that licences were unnecessary. Moreover, they questioned the secrecy, lack of consultation and apparent arbitrariness of DFO's action. The meeting adjourned with several fishermen threatening retaliation in the event that fisheries officers attempted to haul the men's nets.

Such meetings were held in many communities throughout Shelburne County and, as a result of the wave of protest, the federal government reopened access to licences long enough for the unlicenced fishermen to obtain their permits. Now, practically every small boat fisherman is licensed to fish herring commercially as a consequence of governments's initial failure to differentiate among the variable, local-level conditions. Moreover, the experience reinforced the fishermen's belief that the government is attempting to regulate them out of the fishery by threatening their flexibility through forced specialization. Feeling powerless to affect policy in its formative stages, most Port Lameron Harbour small boat fishermen have responded to DFO regulatory initiatives by pursuing a strategy of obtaining as many licences as possible. As one man remarked, "Once we've got the licences we can go in the way we want and they can't do too much about it. It's the only way that you can be sure." Needless to say, this approach circumvents the purpose of regulatory policies in that it legally entitles a greater number of producers to employ various fishing technologies. Instead of stablizing or reducing specific types of exploitative activities, DFO's practices have, in fact, directly expanded (at least in southwestern Nova Scotia) the potential number of small boat producers. These policies, and more particularly the mechanisms of their formulation and implementation, have contributed to the small boat fishermen's perception of DFO as an adversary. To many fishermen, the federal government's approach to its managerial function is perceived as being insensitive to the needs and practices of the small boat fishery.

Conclusions

The primary purpose of this paper was to describe and discuss the features of property relations and access management practices found in one small boat fishing harbour on the southwestern coast of Nova Scotia. It was argued that local-level, informal and collectively based property claims provided fishermen with an effective means of managing access to and the use of a harbour-defined coastal resource zone. The limitations of the small boat system of access management are primarily associated with its vunerability to external socio-economic and political factors such as market conditions, government policy and exploitative pressure on mobile fish stocks.

Small boat property rights and managment practices are not generally recognized in the formulation and implementation of federal government policy. The socio-economic and behavioural assumptions inherent to the common property view that underwrites DFO licensing and quota policies have been shown to be questionable with respect to the organizational characteristics of the inshore small boat fishery. The perceived lack of DFO sensitivity to the needs and practices of small boat fisheries such as the one located in Port Lameron Harbour has contributed to the fishermen's sense of estrangement from government; such feelings find expression in both overt and covert conflict between the federal government and small boat fishermen.

In the process of policy formation and implementation, achievement of management goals requires a recognition of the very significant differences in the organizational features characteristic of any particular fishery. For instance, constructing policies that are reflective of regional and sub-regional variations with respect to the practices and the needs of small boat fishermen would unquestionably further the objectives of DFO managerial strategies. Moreover, policy should recognize the economic and social distinctions between the imperatives of large, industrial-capitalist exploitative activity and those of the owner/operator fishery. Generally, small boat fishermen should not be viewed as capitalists striving to maximize their profit share in a common property environment. Rather, they are petty commodity producers striving to earn a living, i.e., generate income sufficient to cover the costs of operation and replacement as well as meet domestic consumption needs.[38] This distinction reflects itself in the access management practices of the small boat fishery. Reports of the conservation-mindedness in the small boat fishing fraternity also echo the differences between the two systems of production.[39]

The federal government is correct in implementing regulatory measures premised upon the common property/tragedy of the commons view where exploitative activities threaten to destroy the resource base, be they capitalist-industrial or small boat. But assumptions that similiar conditions pertain in all sectors of the fishery is erroneous. Furthermore, this modus operandi is a primary factor contributing to and reproducing the small boat fishermen's sense of estrangement from government policy. Although inadequately understood, the small boat systems of property rights do appear to have potential as effective local-level management instruments. As such, they should be respected by and legitimated through DFO policy design and implementation. For this to occur, policy makers must engage in sincere and open-minded consultations with small boat producers, perhaps with a view to enabling, where possible and feasible, small boat fishermen to manage their own fishing. Surely, the knowledge and the practices of these fishermen, cultivated by years of experience, are vital to the formation of effective fisheries policies and to the development of a commercial fishery that, indeed, reflects the best interests of society.

Notes

1. The information presented in this paper was obtained during two periods of field research, May to September 1974 and September 1975 to July 1977.
2. Without question, some of the difficulty in this regard is related to the problems that small boat fishermen have had in forming one representative organization mandated to express their interests in the formation of fisheries policy. For a discussion of this issue see R. Williams, "Inshore Fishermen, Unionization, and the Struggle Against Underdevelopment," in *Underdevelopment and Social Movements in Atlantic Canada*, R. Brym and R.J. Sacouman, eds. (Toronto:

New Hogtown Press, 1979), pp. 167-75 and a special issue of *The Sou'wester: The Voice of Atlantic Canada's Fishing and Marine Industry*. Vol. 10, No. 10, April 15, 1978.

3. As is common practice in social anthropology when reporting the results of field research, pseudonyms are used for all place names to protect the confidence of informants.
4. There is a degree of confusion and controversy concerning the categorization of fishing effort. For instance, the Department of Fisheries and Oceans frequently use two systems simultaneously, i.e., an inshore/offshore distinction based on gross tonnage of vessels, (e.g., less than/greater than 25.5 gross tons) and an inshore, nearshore, midshore and offshore distinction reflecting a finer division on the basis of vessel length (inshore - L35 ft., nearshore - 35-64.9, midshore - 65-99.9, offshore - 100 ft.). See Department of Fisheries and Oceans, Economic Policy Branch, *Canadian Fisheries, Annual Statistical Review* (Ottawa: Queen's Printer, 1979), p. 60 and p. 64. For our purposes, inshore constitutes all of those fishing activities totalling less than 24 hours of time that occur within a coastal zone roughly covering the 12 mile limit. Offshore refers to all those fishing activities totalling more than 24 hours of time occurring outside of the coastal zone. These are the criteria used by the fishermen when categorizing effort as either "inside" or "outside" fishing.
5. These fishermen fish for lobster in District 4B. Legally, the season extends from the last Monday in November to June 1st. To the fishermen, this season is divided by the onset of winter into two distinctive portions, "fall lobsterin'" and "spring lobsterin.'"
6. Seasonality and variable fishing strategies have been identified in the literature as definitive characteristics of small boat artisanal fisheries. For instance, see James M. Acheson, "Anthropology of Fishing," *Annual Review of Anthropology*, Vol. 10, (1981): 275-316, and various articles in Raoul Andersen, ed., *North Atlantic Maritime Cultures: Anthropological Essays on Changing Adaptations* (The Hague: Mouton Publishers, 1979).
7. Actions in spite of these regulatory measures are noted since the fishermen often pursue strategies that circumvent government rules. For instance, offshore captains often swing a portion of their longline, when setting, into a closed area. Lobster fishermen sometimes set one or two pots prior to the official opening of the fall season in order to obtain an indication of the distribution and abundance of lobster. Lobster captured at this time is thrown back.
8. Numerous formulations of the common property idea and its economic consequences have appeared in the literature. For instance, H. Scott Gordon, "The Economic Theory of a Common-Property Resource: the Fishery," *Journal of Political Economy*, Vol. 62 (1954), pp. 124-42; Colin W. Clark, "Bioeconomics of the Ocean," *BioScience*, Vol. 31, (March 1981), pp. 231-237; Environment Canada, Fisheries and Marine Service, *Policy For Canada's Commercial Fisheries* (Ottawa: Queen's Printer), 1976, p. 39ff.; Anthony Scott and Philip A. Neher, *The Public Regulation of Commercial Fisheries in Canada: A study prepared for the Economic Council of Canada*, Ottawa, 1982, pp. 1-9; and Michael J.L. Kirby, *Navigating Troubled Waters: A New Policy for the Atlantic Fisheries*, Task Force on Atlantic Fisheries (Ottawa: Supply and Services, 1982), p. 211ff. The atttibutes or/and difficulties with the common property view of marine resources is discussed in detail later in the essay.
9. For a discussion of the uniqueness of marine resources and environments see Gordon W. Hewes, "The Rubric 'Fishing and Fisheries'," *American Anthropologist*, Vol. 50, (1948), pp. 238-246.

10. Many anthropologists have noted that artisanal, coastal zone fishermen maintain and exploit community specific resource zones which serve as their "fishing universe" (Forman, 1967: 418). For instance, see James M. Acheson, "The Lobster Fiefs: Economic and Ecological Effects of Territoriality in the Marine Lobster Fishery," *Human Ecology*, Vol. 3, (1975), pp. 183-207; Raoul Andersen, "Public and Private Access Management in Newfoundland Fishing" in *North Atlantic Maritime Communities: Anthropological Essays on Changing Adaptations*, R. Andersen ed. (The Hague: Mouton Publishers, 1979), pp. 299-336; James C. Faris, *Cat Harbour: A Newfoundland Fishing Settlement*, Newfoundland Social and Economic Studies No. 3 (Toronto: University of Toronto Press, 1972); Shepard Forman, "Cognition and the Catch: The Location of Fishing Spots in a Brazilian Coastal Village," *Ethnology*, Vol. 6, (1967), pp. 417-426; Bonnie J. McCay, "Systems Ecology, People Ecology, and the Anthropology of Fishing Communities," *Human Ecology*, Vol. 6, (1978), pp. 397-422.
11. Some of the following description has appeared in a more detailed form in Anthony Davis, *The Organisation of Production and Market Relations in a Nova Scotian Inshore Fishing Community*, University of Manitoba Papers in Anthropology, Number 15, (1975), Winnipeg.
12. This contrasts with Acheson's findings in the Maine lobster fishery, cf., James M. Acheson, "The Lobster Fiefs: Economic and Ecological Effects of Territoriality in the Maine Lobster Fishery," op. cit.; and James M. Acheson, "Variations in Traditional Inshore Fishing Rights in Maine Lobstering Communities," in *North Atlantic Maritime Cultures: Anthropological Essays on Changing Adaptations*, R. Andersen, ed. (The Hague: Mouton Publishers, 1979), pp. 253-276. In this latter essay, Acheson describes a form of individualized property rights in the Maine lobster fishery that, through technological change, have mostly become amalgamated into larger resource zones exploited by men from a couple of harbours (Acheson, 1979: 264). The Port Lameron Harbour fishermen, to my knowledge, have never lobster fished within a system of individualized property claims.
13. Andersen, in "Public and Private Access Management in Newfoundland Fishing," notes that, in Newfoundland,

    > Residence in the community and economic dependence on local marine resources gave one the minimal *de jure* right to share a common base of operations and compete for local fish (Andersen, 1979:304).

    Although similiar to the Port Lameron Harbour situation, Andersen's characterisation does not go far enough. In Port Lameron Harbour the de jure right extends to a claim on a specified portion of the coastal zone. For a discussion of legal entitlement as a consequence of occupation and use see Legal Committee of the Indian-Eskimo Association of Canada, *Native Rights in Canada* (Toronto: Indian-Eskimo Association of Canada, 1970), pp. 5-32. The authors of this study note that: "English law would only recognize native land rights if territory was occupied in some regular way" (Ibid: 7). This minimal condition to legal claim is certainly met by the Port Lameron Harbour fishermen.
14. Marshall Sahlins, *Stone Age Economics* (Chicago: Aldine Publishing Company, 1974), p. 93.
15. During the first week of September 1982, the Canadian Broadcasting Corporation presented several items during the "Information Morning" and "Soundings" shows concerned with fishermen on the Northumberland Strait using firearms to settle such disputes.

16. An identical process is reported by G. Stiles, "Fishermen, Wives and Radios: Aspects of Communication in a Newfoundland Fishing Community," in *North Atlantic Fishermen: Anthropological Essays on Modern Fishing*, R. Andersen and C. Wadel, eds., Newfoundland Social and Economic Papers No. 5 (Toronto: University of Toronto Press, 1972). For instance, he notes that in the southwest coast Newfoundland small boat longline fishery:

    Recognition activities, and the accumulation of data in a direct exchange with another boat, are rapidly converted to strategy; or at least, they are offered openly to the crew by whomever has perceived the information in question... (Ibid: 51).

17. Andersen, in "Public and Private Access Management in Newfoundland Fishing," op. cit., argues that inshore fishermen strive to gain positional advantage over each other within the grounds that they define as "theirs." This is considered to be the competitive consequence of producers exploiting common property. He insists on viewing communication activity in this manner even when the fishermen are reported to be openly sharing information (Ibid: 315-317). Certainly, the advantage of any specific position within the resource zone depends on the distribution of resources. Since this varies throughout the fishing season, fishermen equipped with similiar know-how and technologies will have equal access. Moreover, the commonness of knowledge concerning the locations of "good bottom" means that positional advantage can only be realized by individuals on a situational basis. As one longliner remarked, "You have a good catch one day and the next day you can't get your gear in the water for all the men fishin' there."
18. This is a poorly understood phenomenon in all of the literature concerning petty commodity producers such as small boat commercial fishermen. Attitudinal and motivational factors influencing producer decisions concerning investment of earnings, work behavior and goal setting have not received extensive study.
19. For instance, Port Lameron Harbour inshore small boat fishermen were receiving 25 cents per lb. for haddock during the summer of 1976. In 1982, they were receiving between 30 and 32 cents, an increase of about 28 percent, yet, frozen bait costs during the same period, had risen from 18 cents to 55 cents/lb. (mackerel) — an increase in excess of 205 percent.
20. Environment Canada, Fisheries and Marine Services, op. cit., p. 3.
21. Ibid., p. 20.
22. Ibid., p. 69. Federal policy implicitly recognizes use-rights through this practice of first offering licences and quotas to fishermen currently engaged in the fisheries.
23. Anthony Scott and Philip A. Neher, op. cit., p. 3.
24. Colin W. Clark, op. cit., p. 231.
25. Ibid., p. 231.
26. Anthony Scott and Philip A. Neher, op. cit., p. 6.
27. For instance, landed values as a percentage of market values have been consistantly below 50 percent since 1971 for all species landed in Nova Scotia. See Department of the Environment, Fisheries Service, *Annual Statistical Review of Canadian Fisheries*, Vol. 10, (1977), pp. 137-142, and Vol. 11, (1978), p. 77, and Department of Fisheries and Oceans, Economic Policy Branch (1979), pp. 60, 84. If the landed and market values of scallop and lobster were excluded, (since these two species are bought and sold at high values) landed values would constitute an even smaller percentage of market values.
28. Rosemary E. Ommer, " 'All the Fish of the Post': Resource Property Rights and Development in a Nineteenth-Century Inshore Fishery," *Acadiensis*, Vol. X, (Spring 1981), p. 107.

29. Fish buyers in Port Lameron Harbour accomplish the function of concentrating wealth through their control of basic resources such as access to bait freezers, frozen bait, and credit. The control of these resources enables the fish buyer, in effect, to monopolize catches since the fishermen's access to these resources is predicated upon their selling of the catch to the buyer. For more detail see Anthony Davis, (1975), op. cit. Control of economic wealth does not necessarily require ownership of productive property or resources. If ownership translates into control, it is analytically essential to differentiate between legal ownership and economic ownership. For instance, multinational corporations, although legally owned by shareholders, are actually controlled by boards of directors and management. The latter retain the power to make decisions concerning investments, operations, etc. See Nicos Poulantzas, "On Social Classes," *New Left Review*, No. 78, (1973), pp. 27-54. The fish processors' control of price, shore-based resources and access to markets, etc. effectively negates the importance of private property in marine resources. In fact, continued debate concerning the tragedy of the commons in the fisheries actually deflects attention away from the more critical issue of the manner in which competing national capitalist/international-industrial interests, in their race to "husband" resources, rape the environment and control wealth.
30. The extensive learning or apprenticeship period associated with skill acquisition in the commercial fishery has been noted by numerous researchers. For instance, see James M. Acheson, "Anthropology of Fishing," op. cit.; James Faris, op. cit.; Melvin M. Firestone, *Brothers and Rivals: Patrilocality in Savage Cove*, Newfoundland Social and Economic Studies No. 5, Institute of Social and Economic Research (St. John's: Memorial University of Newfoundland, 1967); Thomas F. Nemec, " 'I Fish with My Brother': The Structure and Behavior of Agnatic-Based Fishing Crews in a Newfoundland Outport," in *North Atlantic Fishermen: Anthropological Essays on Modern Fishing*, R. Andersen and C. Wadel, eds., Newfoundland Social and Economic Papers No. 5, 1972.
31. Colin W. Clark, op. cit., p. 232.
32. Anthony Scott and Philip A. Neger, op. cit., p. 3.
33. Maurice Godelier, *Rationality and Irrationality in Economics* (New York: Monthly Review Press, 1972). Godelier argues that:

    In reality, everything that we know of ethnology and history shows that, in all societies, individuals and groups have tried to maximize certain objectives, the content and order of priority of which expressed the dominance of certain social relations (kinship, religion) as compared with others...(p. 21).

    Hence, the rationality of any particular socio-economic system expresses the dominance of certain, historically and culturally defined, social realtions. Economic rationality is likewise a product of these factors. So, competitive behaviour resulting in resource overexploitation is not a "natural" consequence of common property as is assumed by the "tragedy of the commons" view. Rather, its roots can be traced to the rationality of profit maximization, self-interest, and efficiency in production particular to capitalist-industrial societies. (Ibid: 7-24). A revealing analysis of the ideological foundations in this view of rationality is found in: C.B. Macphereon, *The Political Theory of Possessive Individualism, Hobbes to Lodge* (London: Oxford University Press, 1962). In fact, Colin W. Clark goes so far as to state that in considering the impact of scarcity on producer behaviour, "We must assume that there is no collusion, or cooperation, between the exploiters" (1981: 232).

34. The necessity for this assumption reveals the ideological Achilles' heel of the "tragedy of the commons" view. This perspective requires that we conceptualize socio-economic life as constituted by essentially self-interested individuals attempting to maximize utilities regardless of the consequences. Although perhaps an appropriate characterization of what it takes to be a capitalist, a more sophisticated and studied view of day-to-day socio-economic life reveals cooperation, especially in regard to achieving livelihood objectives, as a dominant necessity.
35. Vaughn Mullin, "Major Policy Change in the Offing," *Shelburne Coast Guard*, December 7, 1977.
36. Jim Vibert, "Interference Cited," *The Fishing Industry in Nova Scotia*, supplement to the Chronicle-Herald, May 15, 1979, p. 12-F.
37. The multioccupational approach to making a living, also referred to as occupational pluralism, has been a noted feature of small boat fishermen in Atlantic Canada. For instance, see Donald Silver Cameron, *The Education of Everett Richardson: The Nova Scotia Fishermen's Strike 1970-71* (Toronto: McClelland and Stewart, 1977); and James Faris, op. cit.
38. A number of researchers have remarked on this feature of petty commodity producers. See: Harriet Friedmann, "Household and the Natural Economy: Concepts for the Analysis of Agrarian Formations," *Journal of Peasant Studies*, Vol. 7, (1980), pp. 158-184, and Max J. Hedley, "Independent Commodity Production and the Dynamics of Tradition," *Canadian Review of Sociology and Anthropology*, Vol. 13, pp. 413-421.
39. Nancy Kimber MacDonald, "Lobstermen Limit Catches," *The Fishing Industry in Nova Scotia*, supplement to the Chronicle-Herald, May 15, 1979, p. 7-F.