# CO-MANAGEMENT AND THE EASTPORT LOBSTER FISHERY



JOY BLUNDON

# Co-Management and the Eastport Lobster Fishery

by

Joy Blundon

A report submitted to the
School of Graduate Studies
in partial fulfillment of the
requirements for the degree
of Master of Marine Studies

February 1999

St. John's Newfoundland

## Abstract

Fisheries management has traditionally been regulated through governments which have vested ownership in natural resources. Despite regulatory efforts, the common property nature of natural resources often results in overexploitation and destruction of otherwise renewable resources. Fisheries worldwide have experienced declines in landed volumes and fisheries managers have looked to alternative management approaches to stem the tide of unsustainable use. Natural resource exploitation has shown examples of sustainable use through long enduring institutions, which depend on the resource user at the local level to husband local resources. The particular problems that plague fisheries are explored and successful and unsuccessful co-management regimes are examined. The role of government in fisheries policy formulation is examined in the context of Canadian fisheries management with a case study analysis of a lobster co-management initiative on the Eastport Peninsula.

Acknowledgment

This paper would not have been written without the patience and input from the lobster fishermen on the Eastport Peninsula. Their willingness to share their experiences allowed me to examine fisheries co-management from a practical perspective. I am also indebted to Ted Potter of Parks Canada and Jerry Ennis of DFO for sharing their professional works and encouraging my exploration of the co-management initiative at Eastport. And last but not least I must acknowledge the people with whom I have worked over the past few years who have striven to create a different paradigm for fisheries management. This includes all the participants in the Inshore Fisheries Resource Assessment Training Programs who displayed such enthusiasm for the "science" despite the complex words and the hard chairs. It also includes Jan Negrijn of the Marine Institute and Ben Davis of DFO for affirming that scientists and fish harvesters share a common concern for resource husbandry.

## TABLE OF CONTENTS

# Chapter I

## 1.1 Introduction

Fisheries are natural resources that are often pursued competitively by resource users, which can lead to eventual overexploitation. Leaving fish in the water to catch another day does not make sense if there is no guarantee that the fish will not be taken by another fisherman. This is the situation for all open access natural resources that are regarded as "common property". Assigning private property rights appears to be a swift solution to avert the "tragedy of the commons" but our limited experience of this property regime or any property regime suggests it does not resolve the dilemma of common property resources. What type of management regimes and ownership rights lead to sustainable utilization of natural resources? This paper examines institutional arrangements under which natural resource sustainability has been achieved through management process which allows for user involvement in decision making and recognition of the right to organize at the local level. These regimes are reflected in long enduring institutions that provide guiding principles for natural resource management. The problems that plague fisheries management are examined and the underutilzation of human capital in fisheries management is identified as a problem area for fisheries management. The sharing of

decision making powers in co-management regimes means that fishermen actively participate in the management process. Their knowledge of local resources both human and ecological provides the basis on which decisions are made and choices are influenced. Who better to decide the type of management arrangement than the resource user in co-operation with the resource protector?

Can any management regime successfully achieve the goal of resource sustainability? This paper explores three co-management arrangements and identifies the factors contributing to the success or failure of each situation. A case study of a new co-management initiative in lobster management in Newfoundland is analyzed to compare its characteristics to long enduring resource management regimes identified by Ostrom (1990).

## Chapter II - Literature Review

### 2.1 Current and Alternative Management Approaches

A review of the state of world fisheries in 1994, by the Food and Agriculture Organization of the United Nations (FAO) showed that the average rate of increase of world fisheries production had significantly decreased since 1950 and was approaching zero indicating that maximum production of world fishing resources had been reached. In its latest report on the state of world fisheries the situation for marine resources has not improved (FAO 1997). In order to reverse the current trend and return resources that are below peak production up to historical levels there is an "urgent need for effective measures to control and reduce fishing capacity and effort" (FAO 1997 p.45). The FAO attributes overfishing to excess fleet capacity and inappropriate policy planning and management initiatives and calls for a more precautionary approach to fisheries management (FAO 1997 p.23). Considering the degree of regulatory control and the use of science and other technologies in fisheries management, developed countries such as Canada should be excluded from this trend analysis, but alas Canada is singled out in the FAO report as attaining "only a small

fraction of earlier production values" due to a moratorium on cod harvesting (FAO 1997 p.80).

Fluctuations in natural ecosystems that result in the "boom and bust" character of fisheries described by Caddy and Gulland (1983) have been problematic for those trying to earn a living from the resource as well as for those tasked with resource management. Traditional fisheries management emphasizes a quantitative approach based on stock assessments and single species models. The flaw in this management approach is that maximum sustainable yield cannot be determined until it is surpassed and overfishing is usually not detected until it is quite severe (Hilborn and Walters 1992). Fisheries worldwide have experienced boom periods followed by declines or complete failures as evidenced by the collapse of the Peruvian anchovy fishery and the North Sea herring and the complete destruction of the California sardine fishery (Ludwig et al. 1993; Hilborn and Walters 1992). Closer to home, the collapse of Atlantic groundfish stocks and the resulting moratoria in 1992 and 1993 have created calls for better management of marine resources (Canada$_a$ 1998). Alternative management regimes which direct efforts at multiple species and ecosystem approaches address the information problem "by attempting to manage small areas of ocean which

are known intimately and scaled appropriately to biological processes" (Wilson et al. 1994 p. 305). This different approach to management requires a layered or hierarchical management structure which incorporates decentralization and community based governance (Wilson et al. 1994).

The search for alternative management systems has led researchers like Ludwig to critique management systems and view natural resource management from a different perspective. Ludwig et al. (1993 p.547) states: "It is more appropriate to think of resources as managing humans than the converse: the larger and the more immediate are prospects for gain, the greater the political power that is used to facilitate unlimited exploitation." The authors argue that more effective management of resources is needed to prevent the over-exploitation of the past particularly in reference to fisheries. They echo the FAO in calling for a more cautious approach to resource exploitation and suggest that management should include human motivation and responses as part of the system to be studied and managed. Furthermore they suggest that scientists should be called upon to recognize problems but not to solve them.

## 2.2 Fisheries Management Objectives

A fundamental approach to fisheries management is to manage marine resources for the benefit of mankind, which results in various, and often-conflicting management objectives. The management objectives are drawn from four broad areas: biological, economic, recreational and social (Hilborn and Walters 1992). These overlapping areas are intertwined and interdependent as early research by economists Scott and Gordon demonstrate.

An attempt to integrate the biology of commercial species with the economic realities that characterize the fishing industry was first proposed by Gordon in 1954. He proposed "that the ultimate question is not the ecology of life in the sea as such, but man's use of these resources for his own (economic) purposes". The central theme of Gordon's argument was that "on the whole, biologists tend to treat the fishermen as an exogenous element in their analytical model, and the behavior of fishermen is not made into an integrated element of a general and systematic "bionomic theory" (Gordon 1954 p. 128). Gordon maintained that "practically all control measures have, in the past, been designed by biologists, with sole attention

paid to the production side of the problem and none to the cost side" (Gordon 1954 p.132). He pointed out that the fishery is included among the natural resources that are held in common and exploited under conditions of individualistic competition and that (Gordon 1954 p. 135):

> There appears, then, to be some truth in the conservative dictum that everybody's property is nobody's property. Wealth that is free for all is valued by none because he who is foolhardy enough to wait for its proper time of use will only find that it has been taken by another.....the fish in the sea are valueless to the fisherman, because there is no assurance that they will be there for him tomorrow if they are left behind today.....Common-property natural resources are free goods for the individual and scarce goods for society. Under unregulated private exploitation, they can yield no rent; that can be accomplished only by methods which make them private or public (government) property, in either case subject to a unified directing power."

Scott (1955) developed the argument for sole ownership of fishery resources to overcome Gordon's (1954) observation that "everybody's property is nobody's property." Scott contended that no one would take the trouble to husband a resource unless he had some reasonable certainty of receiving some benefit from his efforts. "Yet the mere existence of the institution of private property is not sufficient to ensure the efficient management of natural resources; the property must be allocated on a *scale* sufficient to insure that one management unit has complete control of the asset" (Scott 1955 p. 116). Some assets such as fisheries occur on an

immense scale and "it is a very real problem to know whether the efficiency gained from unified management provides a social gain sufficient to offset the possible danger of some immense sole ownership[1] organization (such as a co-operative, a government board, a private corporation or an international authority)" (Scott 1955 p. 116).

Although the early works of Gordon and Scott set a new course for fisheries management it was Garrett Hardin's (1968) article on the human population crisis that popularized the notion of the "tragedy of the commons". Feeny et al. (1990) noted that Hardin's (1968) "tragedy of the common's" model has been used as a "metaphor of common-property resource management" (Feeny et al. 1990 p.2). The phrase "the tragedy of the commons" has become the descriptor of the situation that plagues fisheries the world over. Gordon's observation on the futility of leaving fish (or other resources) for tomorrow without guarantee that it will be there is not advantageous to the individual and leads to over exploitation of natural resources. Despite misgivings both Gordon and Scott argued that a unified body responsible for management of the common resource was necessary to

[1] Scott defines sole ownership as the complete appropriation of all natural resources in a particular location or specific to one owner and states explicitly that he is not referring to monopoly.

avert a "tragedy of the commons" be it either by private or public ownership of resources (Gordon 1954; Scott 1955).

## 2.3 Common Property Resources

Common property resources share two characteristics that dictate management options. The first relates to the problem of exclusion of potential users, which is complicated by the physical nature of the resource. It may be too difficult or too costly to control access of potential users. The second relates to the subtractability of the resource whereby each user subtracts from the welfare of other users. It is this second feature of common property resources that leads to a divergence between individual and collective economic rationality of joint use (Gordon 1954). Thus common property resources are resources for which exclusion is difficult and joint use revolves around subtractability (Berkes et al. 1989).

Research on the social mechanisms of common property management has shown that the tragedy of the commons is not necessarily a consequence of common property management ( Berkes et al. 1989; Feeny et al. 1990; McCay and Jentoft 1996: Jentoft and Kristofferson 1989; Ruttan 1998;

Feeny et al. 1996). Feeny et al. (1996) argue that overexploitation in fisheries is not exclusive to situations of common property as indicated by the tragedy of the commons model but on the contrary, successful long-term resource management can be found under either communal, private, or state property regimes. Similarly Scott argued "that long-run considerations of efficiency suggest that sole ownership is a much superior regime to competition but that in the short run in the ordinary case there is little difference between the efficiency of common and of private property" (Scott 1955 p.117). Ostrom's (1990) research into long-standing common property management regimes highlights institutions that have withstood the test of time for resource users. Her analysis of centuries old institutions includes land and forest tenure in Switzerland and Japan and irrigation systems in Spain and the Philippines.

Bromley (1992 p.4) argues that there is "no such thing as a common property resource; there are only resources controlled and managed as common property, or as state property, or as private property". The confusion exists over resources to which no property rights are recognized and where open access to the resource occurs. These "open access resources" are subject to overexploitation whenever the benefits of

obtaining them are greater than the costs (Ostrom 1992). Ostrom argues that when property rights exist whether they are private, state or common rights the costs and benefits of managing the resource will determine the degree of overexploitation and destruction to the resource.

Ostrom uses the term *common pool resources* to describe natural and man-made resources that are large enough "to make it costly (but not impossible) to exclude potential beneficiaries from obtaining benefits from its use" (Ostrom 1990 p.30). Common pool resources are used by individuals in common and require self-governance and institutional arrangements to ensure resource sustainability.

Private or public property regimes identified by Gordon (1954) as rent generators for the resource, the sole ownership organization to which Scott (1955) referred and the "tragedy of the commons" situation which Hardin (1969) popularized are organized by Berkes et al. (1989) into one of four basic property regimes. The first regime is open access where there is an absence of well-defined property rights and the resource is free and open to all as with fisheries of the past. Hardin (1968) used the analogy of free pasture where it is advantageous for each individual herder to add more and

more animals until the pasture is overgrazed and all herders suffer the consequence of overexploitation. The second regime is the private property situation where an individual or a corporation has the right to exclude others from using the resource. The third situation is communal property where the resource is held by an identifiable community of users who can exclude others and regulate the resource use for themselves. The fourth situation is state governance whereby the government has exclusive rights to the resource and regulates access and exploitation. The authors give examples of successes and failures under each ownership regime to argue that privatization or government control are not the only institutional arrangements for natural resource management and that these regimes do not necessarily ensure resource sustainability.

## 2.4 Common Property Management Institutions

The present state of world fisheries reported by the FAO and the current situation of Canadian fisheries particularly on the East Coast points to the need to include human motivation and responses in fisheries management as argued by Ludwig et al. (1993).

Ostrom (1990) identified seven characteristics as essential elements or conditions of the design principles in common pool resource (CPR) institutions that contribute to the successful management of the resource. Her principles draw heavily on human interaction from a social perspective as well as the interaction of humans with the local conditions and environment.

**Design principles illustrated by long enduring CPR institutions:**
(Ostrom 1990)

1. Clearly defined boundaries.
   Individuals or households who have rights to withdraw resource units[2] from the CPR must be clearly defined, as must boundaries of the CRP itself.
2. Congruence between appropriation and provision rules and local conditions.
   Appropriate rules restricting time, place, technology, and/or quantity of resource units are related to local conditions and to provision rules requiring labor, material, and/or money.
3. Collective -choice arrangements.
   Most individuals affected by the operational rules can participate in modifying the operational rules.
4. Monitoring.
   Monitors, who actively audit CPR conditions and appropriate behavior, are accountable to the appropriators[3] or are the appropriators.
5. Graduated sanctions.
   Appropriators who violate operational rules are likely to be assessed graduated sanctions (depending on the seriousness of the offense) by other appropriators, by officials accountable to these appropriators, or by both.

[2] Resource units are what individuals appropriate or use from the resource system i.e. tons of fish, cubic meters of water or tons of fodder (Ostrom 1990 p.30).
[3] The process of withdrawing resource units from the resource system is appropriation and those who withdraw are called appropriators (Ostrom 1990 p.30).

6. Conflict-resolution mechanisms.
   Appropriators and their officials have rapid access to low-cost arenas to resolve conflicts among appropriators or between appropriators and officials.
7. Minimal recognition of rights to organize.
   The rights of appropriators to devise their own institutions are not challenged by external government authorities.

*For CPRs that are a part of larger systems:*

8. Nested enterprises[4].
   Appropriation, provision, monitoring, enforcement, conflict resolution, and governance activities are organized in multiple layers of nested enterprises.

CPRs are not exclusive to fisheries but include a variety of natural resource utilizations that can of course encompass fisheries management. The design principles Ostrom has defined relate to the activities of people orchestrating the exploitation of the resources. It is the mechanisms of people management that she is observing rather than the mechanisms employed in resource exploitation. This "human management" element in resource exploitation is a variation on Ludwig et al.'s (1992) statement that it is more appropriate to manage resources in terms of managing humans than the converse.

[4] Nested enterprises are multi-layered institutions which are tasked with CPR management.

## 2.5 Fisheries Management

Ostrom (1990) has outlined the requirements of success for any common pool resource but particular problems are associated with fisheries. Pinkerton and Weinstein (1995) observed that fisheries management is fraught with problems that can be attributed to the fact that management agencies manage fish but not people, yet the principal way fisheries are managed is by regulating the activities of human harvesters, the fishermen. By analyzing case studies from fisheries around the world the autnors identified nine sociopolitical problems associated with a failure of fisheries management to achieve the goals of sustainable fisheries.

The nine sociopolitical problems of fisheries identified by Pinkerton and Weinstein (1995) are:

**1) the problem of undervaluing or ignoring human capital**

Human capital or social capital is the problem solving capabilities that societies have developed over time and is the basis of turning resources into capital. In the fisheries context it is the knowledge and skills of the fishermen that are often localized and unrecorded about the behavior of fish populations and the local environment. Fishermen may also be in the position to construct plausible hypotheses about observations on fish disappearance based on local history that is not available to the research scientist.

**2) confusing public policy /public values with the interests of a few powerful actors**

Lobbying by advisory committees to policy makers may not be in the best interest of communities, fishermen or the health of the stocks.

**3) down loading the costs of fish habitat protection to the fishing communities and the public**

Often the cost of fish habitat and pollution is passed on to the local level as there is insufficient public policy to make those responsible pick up the tab of these costs.

**4) compliance/enforcement problems**

Some fishermen obey the rules because it is lawful to do so while others follow regulations to greater or lesser degrees in proportion to how legitimate they consider the regulation to be. While there are some fishermen who disobey regulations regardless of the quality of the regulation, this group will be less tolerated by law-abiding fishermen who support regulations that are important to the welfare and future of the fishery.

**5) too many big and powerful boats**

The tendency of fishermen to over-invest makes them more susceptible to fluctuations in abundance making fishing effort more difficult to control. Communities that regulate their inshore, near shore or river fisheries have instituted rules that address fishing effort. There is less of a tendency to over-invest due to equitable access and equitable economic return.

**6) defining boundaries and access: the exclusion problem**

Exclusion is necessary for local communities to make rules and enforce them. The right to fish may be defined by state laws or by well-defined social roles and may include outsiders or non-residents. Some form of exclusion makes it easier to capture human capital and members are more willing to invest time and energy into enhancing local stocks or improving management efforts if they expect benefits to remain in their own area.

**7) uncoordinated strategies and users**

Conventional management often ends up being a tug of war between different divisions or departments (harvesting, enhancement, planning). Ecosystem management means includeing species interactions and the impact of environmental conditions. At the local level there is potential for conflict from neighboring communities on use and enhancement strategies.

**8) inter-governmental conflict**

Conflicts exist between federal and provincial agencies over jurisdiction and management of natural resource use. Economic interests in timber and energy may create power struggles between provincial agencies pitting economic interests against environmental concerns.

**9) supply management, product quality and product diversity.**

The price that fishermen receive for their catch is influenced by market conditions of supply and demand, freshness and quality, and product form. The ability of communities and fishermen's organizations to influence these factors has implications on the stability and sustainable management of the fish resources.

Ostrom (1990) defines social mechanisms which allow sustainable exploitation of resources while Pinkerton and Weinstein (1995) identify the lack of human capital in fisheries management regimes as the major element which has contributed to the unsustainable fisheries situation reported by the FAO. Although fisheries management is burdened with many problems there appears to be a lack of inclusion of the fishermen in the management process, which leads to human capital deficit.

## Chapter III Background of Co-management

### 3.1 Co-management Regimes

The management alternative that addresses the exclusion of user participation is co-operative management or co-management. Fisheries co-management is looked upon as an alternative to existing management regimes, but it is not a panacea for all the woes associated with the present system of government-dominated, top-down management (Jentoft 1989; Jentoft and McCay 1995; Kearney 1981). Co-management regimes include government **and** user groups in the decision-making process. The National Round Table on the Environment and the Economy NRTEE[5] stated in its report on Oceans that co-management is an arrangement between government and another group where roles may differ between the partners but an "acknowledgment of investment of resources and the joint sharing of authority distinguishes co-management from other forms of discussion or consultation" (Canada$_b$ 1998 p.13). Sen and Nielson (1996) utilized case studies and literature reviews to classify co-management arrangements into five broad types according to the role taken by government and user groups.

[5] NRTEE holds public consultation meetings throughout the country on issues relating to sustainable economic development. NRTEE was established by the Government of Canada in 1988 and its members are drawn from government agencies and industry.

The arrangements vary from instructive, consultative, co-operative, advisory, and informative. Instructive and consultative management is management by governments whereby industry acts on the decisions made by the government authority. Advisory and informative management has industry making decisions on fishery management with government acquiescing to industry decisions. Co-operative arrangements have government and industry jointly making management decisions that affect the fishery. Co-management is distinguished from community-based management and traditional marine tenure systems by the exclusion of government from the decision-making process of these regimes (Sen and Nielson 1996).

Likewise Jentoft and McCay (1995) describe user participation in fisheries on a continuum scale of which government-industry interaction can take many forms. They found no one prescriptive of institutional design for co-management regimes. Co-management arrangements between governments and industry can take many forms and the degree of user participation varies by country. In a review of fourteen countries in the Western Hemisphere the authors found that the institutional arrangements fell between the two extremes of government control and fishermen control. All

countries display institutional arrangements of government (or other agencies) and user groups which collaborate on the design and implementation of management systems but the type of arrangements reflects the institutional patterns and practices prevalent in the particular country. Consequently the authors argue that there is little mutual learning between countries, but there are opportunities for transferring design principles from one country to another, particularly on the issue of participatory democracy whereby they observe that the larger the organization, the more difficult it is to maintain a democratic process based on direct participation.

## 3.2 Examples of Co-management Success and Failure

The longest running co-management regimes, found in Norway (Lofoten Islands) and Japan are similar in that both have a legal basis on which the institutional structure is designed but the rationale for forming and the institutional structures differ. The Japanese system was born out of economic pressure and social conflict in the early 19th century whereas the Lofoten Islands regime was developed to address crowding and gear conflicts on fishing grounds (Lim et al. 1995).

### 3.21 Norway (Lofoten Islands)

The cod fishery of the Lofoten Islands is found southwest of the Norwegian mainland and has been co-managed for close to a hundred years. Migratory cod (*Gadus morhua*) arrives at the coast of Norway from the Barents Sea to spawn during the winter and spring. These migratory aggregations of cod have for centuries provided an abundant and rich harvest. Fishermen from the northern and southern areas of Norway congregate in Lofoten to harvest cod using an array of fishing gear, which often causes conflicts on the fishing grounds. The regulatory system for gear use was born out of conflicts extending from the 19th century when regulations specifically designed to reduce conflict proved to be ineffective. By 1890 fishermen were dissatisfied with the regulation of the fishery and demanded changes whereby they could manage the fishery themselves. A new law was written in consultation with the fishermen and represented an entirely new system in fishery legislation. Instead of prescribing rules for execution of the fishery as did previous laws, the Lofoten Law of 1897 established principles for the organization of fishermen to establish rules of conduct for the fishery. These rules of co-management dominate the regulatory system in Norway's fishery today. The boundary for the fishery has been stable over the years and each gear type is restricted to its own field, which has been

determined by a committee. Skippers serve as inspectors for regulation adherence and as ombudsmen for conflict resolution. Individual fishermen can appeal field size to their elected members and decisions are voted upon by the committee. Committee meetings are called within one week and if changes pass committee vote they are executed within two days. It is interesting to note that access has never been limited in the Lofoten fishery. Any fisherman who wants to fish has had the opportunity to do so although the amount and type of gear may be limited. The Lofoten fishermen support free access and equal distribution of opportunities. The success of the co-management system at Lofoten is in its endurance and continuing survival (Jentoft and Kristofferson 1989). The legislation governing the co-management of the Lofoten Island fishery governs the conduct of the fishermen within their organization and the fishermen are left to their own devices on how to manage access to the resource. There is no exclusion of any fishermen but as each is added to the particular gear sector the substractability issue comes into play. An interesting point about this co-management system is that it governs a migratory rather that a sedentary species.

## 3.22 Japan

Ostrom (1990) describes the ancient land and forest tenure systems of Japan which are included in the CPRs design principles. Lim et al. (1992) provide a descriptive of fishery co-operatives that emerged in the early 19th century from a feudal system with exclusive use and hereditary rights. Management functions of the fishery were administered by village guilds which administered the fisheries regulations and other economic activities. Numerous disputes over fishing rights and gear usage as well as other matters forced the government to enact legislation to improve productivity and democratization of fisheries. The Japanese government enacted the Fisheries Cooperative Association Law in 1948 and the Fisheries Law of 1949 to promote fishery productivity and grant fishery rights. Fishery Cooperative Associations (FCAs) are granted property rights that they extend to their members. This system of fishery rights and licensing evolved to protect coastal fisheries from encroachment by other economic sectors. While the Fisheries Cooperative Associations are engaged in business activities of granting credit, marketing and support services, the activities are not profit driven but are intended to promote the socioeconomic condition of fishermen and processors. A further level of government exists in the form of commissions to oversee the democratic

implementation of fishery rights and licenses. The commissioners are both elected and appointed officials who represent fisheries expertise and public interest. The main function of the board is to develop fishing ground plans, evaluate qualifications of right holders, provide advice to local government on living aquatic resources and resolve conflicts (Ruddle 1987 cited in Lim et al. 1995). The Minister of Agriculture, Forestry and Fishery has the right to dissolve the board if it violates laws or is unjust in its operation. Interaction between all levels of governments i.e. FCAs, municipal, prefecture and federal is multiple and complex and close interaction between all levels occurs in the formation and implementation of management plans, fishery projects, budgets, and subsidies. The system's continued success depends on the active involvement of both fishermen and government as well as on underlying factors of conflict avoidance, compliance behavior, and cultural values of collective action and participatory decision-making (Lim et al. 1995).

### 3.23 Canada (Nova Scotia)

Kearney (1981) reports on a co-management scheme for fisheries that did not work. In response to a new fishery policy in 1976 the government of Canada initiated a number of changes to improve the earnings of the purse

seine herring fishermen in the Bay of Fundy. This fishery was developed to supply fish meal with corresponding low prices paid to fishermen. The fishermen were in competition with each other to land as much volume as possible resulting in processing gluts and underutilization in the processing sector. The government banned the use of herring for fishmeal, provided loans and grants to processors to increase processing capacity and worked closely with the fishermen to improve their marketing methods. Fleet quotas, weekly quotas and over- the-side sales and logbook records led to better processing and monitoring of the product. Although industry and government worked together to develop the fishery the system fell apart in 1980 through a combination of environmental, social and economic factors. The fishermen's marketing co-operative did not perform the marketing function it was supposed to and individual fishermen made individual marketing arrangements with processors resulting in large-scale under-reporting of catches. At the time of crisis in 1980 the fishermen's co-op did not have the authority to deal with the situation and the government did not respond quickly enough to the changing circumstances. Kearney does not elaborate on conflict resolution mechanisms of the agreement but he implies that the desire to change the purse seine fishery was more of an initiative of government than of fishermen.

## 3.3 The Role of Government

According to Dyer and McGoodwin (1994) all fisheries management regimes must address two fundamental and problems: first how to conserve marine resources and second how to fairly and equitably proportion resources to fish harvesters. While the first problem is in the realm of marine biology the second problem lies in the disciplines of economics and social science. Paramount to any action by biologists, economists or sociologists is the impact of harvesting on the resource, by the harvester. Furthermore fishermen belong to communities and as such, participate in making policies and by-laws for protecting society and promoting orderly and wise use of the society's resource. Yet few fishermen are involved in devising fishing regulations and policies which serve the public good and the good of the fishing community (Pinkerton and Weinstein 1995).

The compliance of fishermen to regulations and the activities of fishermen that affect resource conservation are important from enforcement and conservation perspectives. The state has the means to ensure a high level of regulation compliance but in the days of shrinking budgets and staff shortages other approaches may be more cost effective and more socially

acceptable. Successful management schemes get fishermen to voluntarily advance their collective interests at the expense of private ones but in order for this to happen regulations must have legitimacy. That is, fishermen will accept the regulations as appropriate and consistent with their own values and compliance to regulations will be high. High compliance to regulations ensures that management efforts will be met with success (Jentoff 1989).

As we have pointed out very few fisheries are managed for the benefit of the fish but are instead managed for the benefit of man. As noted above fisheries management objectives are grouped into four general and often conflicting areas: biological, economic, recreational and social. Fisheries may be managed for one or more of these objectives but invariably tradeoffs occur between these areas. This is not to say that governments are insensitive to the human element of fishery management as the following quote from a Canadian government report shows (Canada 1976 p.5) :

> Although commercial fishing has long been a highly regulated activity in Canada, the object of regulation has, with rare exception, been the protection of renewable resource. In other words, fishing has been regulated in the interest of the fish. In the future it is to be regulated in the interest of the people who depend on the fishing industry. Implicit in the new orientation is more direct intervention by government in controlling the use of fishery resources, from the water to the table, and also more direct participation by the

> people affected in the formulation and implementation of fishery policy.

The redirection of management efforts in 1976 was precipitated by a crisis in the commercial fishing industry particularly in eastern Canada with the recognition that the fishing industry " failed to yield to its participants the kind of reward that similar effort yields in other occupations" (Canada 1976 p. 1). Kearney (1981) argued that this change in management policy led to the co-management effort in Nova Scotia's purse seine herring fishery. While the government initiative did not produce the intended results a valuable lesson may have been learned. In 1996, the Canadian government proposed the "fisheries management partnering concept" which is contained in the proposed New Fisheries Act Bill C-62. Partnering is intended to "build upon and extend our existing co-management approach. It will provide for a more participatory, efficient and effective Fisheries Management regime" ($Canada_c$ 1996 p.1-2). The National Round Table on the Environment and the Economy Report ($Canada_d$ 1998) states that a fundamental shift in the relationship between government and resource users is needed to blend ecological, economic and social goals concerning ocean management. It recognizes that: "Co-management uses sustainable development, integrated management, and the precautionary approach to

encourage more comprehensive ocean management by a broader base of stakeholders." (Canada$_d$ 1998 p.xiv).

Arguably fisheries management cannot be viewed as merely an exercise in fisheries biology but as an integral part of societal objectives and functions, and co-management of fisheries is an opportunity for greater user inclusion in management processes. This shift in policy raises the question of how to encourage user participation in management issues and how to create successful co-management regimes. Such changes in policy also indicate that some management decisions will no longer be the exclusive duty of the Minister of Fisheries and Oceans. The partnering concept promotes the sharing of regulatory authority with aboriginal and local groups. An example of co-management between First Nations and the Government of Canada followed the 1990 Supreme Court decision on aboriginal fishing rights known as the "Sparrow decision". The federal government developed the "Aboriginal Fishing Strategy" which included provisions for cooperative management projects. The subsequent agreements have resulted in more stable relations between government and aboriginals as well as improved management of the resource. "Capacity building" and improved economic benefits to often times remote aboriginal communities are paybacks to self-management initiatives (McCorquodale 1996). The present

is a time in which fishery co-management initiatives by local groups are likely to be met with encouragement by regulatory authorities, but subsequent enabling legislation for power sharing arrangements may prove to be more elusive. Pomeroy and Berkes (1997) maintain that enabling legislation which defines roles for the co-management parties and determines the degree of decentralized government authority is essential for successful co-management regimes.

The following case study of the Eastport lobster fishery demonstrates that the sharing of management responsibilities is an alternative management option that addresses the government's concern about resource sustainability while at the same time encompasses the concerns of local fishermen. The husbandry responsibilities related to resource management have been undertaken by the local fishermen and the recognition of their efforts has been instituted in a co-management arrangement with the Canadian government.

## Chapter IV Case Study

### 4.1 Background of Eastport Project

The Eastport Peninsula is located in the central part of Bonavista Bay adjacent to Terra Nova National Park. The Park separates the peninsula from the mainland but the park boundary ends at the low tide mark. The fishermen in the area legally fish for lobster in waters adjacent to the park. The Eastport Peninsula is included in Area 5 of the Lobster Fishing Areas (LFA) as designated by the Department of Fisheries and Oceans (DFO) which includes all of Bonavista Bay from Cape Freels in the north to Cape Bonavista in the south.

Fluctuations have occurred in Newfoundland lobster catches over the past few decades but a complete closure of the fishery for three years from 1925-27, shows that the stock is sensitive to over exploitation and environmental factors (Templeman 1941). In recent years Newfoundland catches declined steadily from the 1950's with an unexpected reversal of the downward trend in the 1970's. An all time low in 1972 was followed by a two-fold increase in landings in 1979. Catches in 1992 were the highest

since 1905, followed by declining landings in recent years. The severity of declining trends is greater in some areas than in other areas (Ennis et al. 1997).

## 4.2 Rationale

In 1993 the lobster fishermen on the Eastport peninsula experienced the lowest catches on record. The moratorium on cod was announced in the previous year and as a result fishermen turned to the lobster fishery to supplement their incomes. Previously this group of approximately fifty fishermen had more lucrative opportunities in the cod fishery and fished lobster for shorter periods. However with more time on their hands the extra effort that has to be put in at the end of the season when lobster are traditionally more difficult to catch was worth it.

The Eastport Lobster Protection Committee (EPLPC) on the Eastport Peninsula was formed in 1994 to address the declining resource and the threat to livelihoods. At the same time information about Marine

Conservation Areas, an initiative from Parks Canada[6], became available and the information was brought back to the local fishery committee meetings. On the issue of conservation the fishermen identified the harvesting of undersized lobster as a problem area to which fishermen themselves were contributing. From the beginning it was apparent that the majority of fishermen favored the idea of stopping undersized lobster catches and closing some areas to fishing. The Fisheries Resource Conservation Council (FRCC) published a report on the state of lobster stocks in Canada that identified v-notching[7] of egg bearing females as a means to increase the egg per recruit ratio as a sustainable management practice. The EPLPC considered the recommendations contained in the FRCC's report and entertained a program of v-notching to boost egg production as a means of resource sustainability.

The Eastport Lobster Protection Committee was formed to focus attention and effort on conservation measures for the purpose of sustainability. Although there was a substantial amount of support among the local fishermen, during the initial stages some skepticism remained.

---

[6] Parks Canada has identified Bonavista and Nortre Dame Bays as a prospective Marine Conservation Area. Such areas are managed for sustainable use with smaller areas set aside as protected or closed areas.

## 4.3 Monitoring

Fishermen knew that taking undersized lobster for local sale and consumption was destroying the resource and agreed that the practice of taking undersized lobster should be stopped. However they did not want to be burdened with the role of enforcer. Instead they decided to promote a program of "monitoring". All fishermen would be monitored by other fishermen who would report any infractions to the committee. The committee would then approach the non-complying fishermen directly about their activities and the impact of their actions on the livelihoods of other fishermen. This approach was direct and above board and would not alienate the reporter from the offender. If the offender continued to threaten the livelihood of fishermen by disregarding the regulations then the committee would report the infractions to DFO. To reinforce the commitment of the EPLPC to stopping the harvest of undersized lobster DFO was asked at public meetings to randomly check lobster holding vats on the peninsula throughout the season. All the lobster fishermen on the peninsula were aware of the request for random vat checks by DFO and if caught with illegal lobster they would "lose face" with their peers.

[7] V-notching of lobster is a voluntary conservation method whereby fishermen put a notch in the shell of egg-bearing females and return them to the water. If v-notched lobster are caught the next

The problem of poaching lobster by non-fishermen was more difficult for the committee to address as these activities tend to occur at times when the fishermen are not fishing: either at night, on weekends or during closed seasons. Although the fishermen may observe the results of non-fisher poaching on the fishing grounds by the scarcity of catch, the enforcement responsibility for non-fishers is beyond the scope of the committee.

## 4.4 Exclusion of Outsiders and Defining Boundaries

To protect the livelihoods of the fishermen on the Eastport Peninsula the committee decided that they had to protect the resource from "outsiders". The lobster resource on the peninsula could be improved by the action of the local fishermen but they would not reap these benefits unless they could protect the resource from fishermen who had the legal right to fish in all waters of LFA 5. Such an exclusion order would require the sanction of DFO as well as the agreement of all fishermen affected by the exclusion order.

The ELPC organized meetings to the north and south of the Eastport Peninsula to garner support for their exclusion zone. The fishermen

year after the eggs are released it still must be returned to the water.

considered where fishermen on the peninsula traditionally fished and where neighboring fishermen from St. Brendan's and Glovertown traditionally fished. With the co-operation and consent of the fishermen from these communities and the other fishermen in LFA 5, the committee drew up boundaries around the peninsula which would exclude neighboring communities. The fishers on the peninsula gave up the right to fish outside of the boundary and those outside agreed not to fish within the boundary. A buffer zone between the outer boundary and the inner boundary is an area where both "outsiders" and peninsula fishermen can fish. Any fishermen that traditionally fished these buffer areas before the committee formed can continue to fish there. DFO supported the exclusion zone proposed by the EPLPC and incorporated the fishing zone exclusion into the license conditions for LFA5. Fishermen in LFA 5 who are not residents of Eastport have a license condition that prevents them from fishing in the inner zone (Refer to Appendix 1A). Resident lobster fishermen on the Eastport Peninsula have conditions attached to their licenses that restrict their fishing activity to the inner zone of LFA 5 (Refer to Appendix 1B). Both groups of fishermen can fish in the buffer zone between the outer and inner areas. This exclusion order became the basis for the Memorandum of Agreement for the 1997 Eastport lobster fishery (Refer to Appendix II). This initial

agreement was structured as a pilot project between the local committee and DFO for the 1997 season.

The closed areas around Round Island[8] and Duck Island were chosen on the criteria that they had good bottom habitat for lobster, had shown good catch rates in the past and had shown evidence of mature and juvenile lobster. The areas were also chosen on the basis that few fishermen fished these areas. Additionally the closed areas also had to be highly visible to compliment the monitoring program. Initially, the fishermen analyzed the areas in light of how many fishermen fished in the area and the number of pots that would be displaced from the closed area to the remaining ground.

## 4.5 Incorporation of Local Knowledge

Environmental conditions such as bottom type, currents, historical catches and the presence of large lobster were important ecological factors which were considered as these closed areas would be the main egg production zones to replenish the stock. The displacement of fishermen from the

[8]Round Island lies within Terra Nova National Park boundaries and in effect its waters have become a protected area within a national park.

closed area was also a pivotal issue and those that were displaced from the closed areas were supporters of the fledgling committee's initial efforts.

The effort to leave undersized lobster in 1995 was paying off by 1996 when catch rates hit a record high by Eastport Peninsula fishermen (Warren$_a$ 1998). By 1997 the Eastport Lobster Protection Committee was well established and although 1997 catches were lower due to v-notching lobster in the previous year, support for the committee was growing. Fortunately in the first year of the committee's operation lobster catches improved and the support for the committee grew. In the early stages of its work the committee realized that the anecdotal information they had concerning lobster movement and the suitability of the closed areas for a lobster sanctuary needed to be substantiated by a scientifically based research initiative. They also knew that in recent years DFO has been subjected to budget reductions and staff shortages. The committee worked closely with DFO to draw on available resources from the area and to initiate lobster research on the closed areas in addition to the logbook program that DFO was already conducting.

## 4.6 Legal Recognition

For the 1998 lobster fishery a more extensive project proposal was developed. The Joint Project Agreement contained in Appendix III is between the government of Canada and the Food Fisheries and Allied Workers / Canadian Auto Workers (FFAW/CAW) Union Resource Centre[9]. This agreement covers a period of five years from 1998 to March of 2003 and is a formal legal arrangement requiring the signature of a duly incorporated body such as the FFAW/CAW Resource Centre. The Joint Project Agreement specifies the roles that each party is to carry out in the co-management of the Eastport lobster resource.

## 4.7 Local Resource Initiatives

The Eastport lobster fishermen were interested in the impact of the closed areas on the population of lobster and the migration of lobster into and out of the closed areas. But with the limited resources of DFO in recent years a full-scale research project was not possible. However, Parks Canada was interested in the project that was taking place on its doorstep and within its

[9] The FFAW/CAW Union represents inshore fishermen and established the incorporated Fishermen's Resource Centres in 1990 to promote local development projects related to fisheries.

boundary at Round Island. Subsequently, personnel from the Park as well as research scientists from Memorial University of Newfoundland (MUN) became involved in the project working closely with DFO and the EPLPC to incorporate research on lobster movements from tagging studies. A graduate student from Memorial has worked on the research project and in 1997 and 1998 collected data on lobster movement from tagging studies. In 1998 Parks Canada hired a summer student to collect and compile data on the v-notching efforts of local fishermen.

DFO is responsible for the science component of the project at Eastport but they work closely with Parks Canada and Memorial University. Parks Canada provides accommodations, use of its facilities and equipment, and support services for administration and field research while Memorial University provides research support and personnel. Considerable personal contributions in time and energy are donated by the committee chair, committee members and personnel from MUN, DFO and Parks Canada. These contributions by "outside" organizations no doubt contribute to the high regard that committee members attribute to these agencies. The committee members interviewed were unanimous in that they received good support from local and regional DFO personnel.

It is difficult to attach dollar values to the contributions of time and effort by the individuals and organizations involved in the project at Eastport. Determining the labour cost required for v-notching a lobster or placing a value on the time required to plan, attend and execute meeting agenda objectives is an arduous task. Determining the value of the project outcomes is equally difficult, as some objectives such as social benefits are difficult to quantify. This may be why the Joint Project Agreement makes no reference to cost sharing arrangements.

Under the project agreement DFO is tasked with the promotion of conservation and protection activities of the area. To this end DFO has worked with the local school to create a database from the fishermen's logbooks (O'Leary 1997).

The fishermen who are listed in the Joint Project Agreement have the legal right to fish within the inner boundaries of the Eastport Peninsula. However the agreement has no provision for restricting the number of lobster fishermen on the Eastport Peninsula. As with any other lobster fishing area licenses can be transferred within the LFA. Eastport fishermen can still

obtain a license from anywhere in LFA 5 and fish within the Eastport area if they live within the peninsula boundary. The committee was not set up to limit other fishermen in the area from entering the lobster fishery but to protect the resource and provide better incomes for Eastport fishermen. While this may appear to be contradictory, it was pointed out that the committee's intent was not to discourage local fishermen from participating in the fishery, the intent was to improve the condition of the lobster stocks and keep the benefits of their efforts in the local area.

## 4.8 Resolving Conflict

At any one time three to nine fishermen sit on the committee and handle the monitor reports from other fishermen. If unusual circumstances or situations arise a general meeting of all lobster fishermen is called to decide on the course of action. Each fisherman is free to discuss the topic and if a vote is taken each fisherman is entitled to vote. The level of agreement and co-operation is high among the fishermen on the Eastport Peninsula and this conflict resolution mechanism is effective. Participatory democracy of this type works well for small groups of people and reflects a leadership style

that is open and democratic. The Joint Project Agreement is non-binding in that either side can opt out of the agreement at any time.

## 4.9 Results

The EPLPC has collected two years of data (1997 and 1998) from the logbook program. At the time of writing the figures for 1998 were not analyzed; however initial reports show that some fishermen have had increased catches by as much as fifty percent in 1998 (Warrren$_b$ 1998). From discussions with fishermen, some reported an increase in catches in 1998 over 1997 despite a shorter season and the imposition of a size increase on legal lobster by DFO in mid-season. Other fishermen fishing in the buffer zone said that catches were about the same as always but there were more pots in that area from licenses transferred from other communities. These reports are insignificant from a statistical viewpoint but they are significant for two other reasons. The first is that overall the efforts of the EPLPC are not in vain, the resource is showing signs of improvement. Elsewhere in Bonavista Bay lobster catch rates were worse than on the Eastport Peninsula (Warren$_b$ 1998). The second reason these reports are significant is the increased fishing effort observed by local

fishermen in the buffer zone. Fishermen will fish where the catches are the best per unit of effort. After four years of monitoring, the undersized lobster that would otherwise have been removed in 1995, is now of legal size. The foraging nature of lobster means that it will migrate over short distances for seasonal feeding and mating (Templeman 1938). Unlike the fishermen the lobster are not restricted to the a particular zone and the change in fishing pattern in the buffer zone may reflect effort directed at a larger population of legal sized lobster.

## Chapter V Conclusions

The essence of fisheries co-management is the sharing of power between government and resource users. This definition implies that fishermen as resource users will be included in the decision making process. Fishermen will bring to the table their human capital and expertise on local resources. Their knowledge of local resources includes historical catches, bathymetry, weather patterns, gear usage and the interaction of fishermen with the environment. Basically fishermen know what works and what doesn't work in the local area and how best to solve local dilemmas.

The most striking observation on the Eastport Lobster Protection Committee is that this effort came from the fishermen themselves rather than from government. This observation is in stark contrast to the herring seine fishery co-management effort described by Kearney. The desire in Eastport to protect the resource and increase the returns for fishermen is a grass roots movement. The fishermen on the Eastport Peninsula know that the issue at hand is how to use the lobster resources for their own economic purpose and that they are not an exogenous element in fisheries management (Gordon 1955). The assurance that undersized lobster that are

put back in the system will be there for them next season when they have grown and become more valuable, is the cornerstone to the committee's success. They have identified the group who will benefit from this exercise and they have received recognition from the government that they have rights to the adjacent lobster resource.

The level of co-operation among the government agencies is evident from the contributions each agency has made to the project at Eastport. It appears that this initial co-management effort has overcome the sociopolitical inter-governmental conflict problem identified by Pinkerton and Weinstein (1995). The compliance /enforcement problems and the exclusion problems identified by Pinkerton and Weinstein (1995) have also been addressed by the ELPC.

The Eastport case study reflects "clearly defined boundaries" in which the Eastport fishermen can fish, a design principal of Ostrom which was previously discussed. Local conditions were a major consideration in deciding which areas around Eastport were to be closed to fishing. Also lobster fishermen on the Peninsula have a collective-choice arrangement whereby they can participate in modifying the operational rules. The

monitoring arrangement of the committee is performed by the fishermen themselves who monitor appropriate behavior. Enforcement is handled by DFO enforcement personnel who are partnered in the Joint Project Agreement with the committee. Conflict resolution is carried out at local and joint meetings with the fishermen, DFO and Park authorities. This is a low cost conflict resolution mechanism which is both rapid and effective for the relatively small group involved. It is unlikely that the situation with the herring seine fishery in Nova Scotia will repeat itself in Eastport as the committee has established itself as an authority through its support by resident fishermen and the by the Joint Project Agreement.

The formulation of the Joint Project Agreement is a recognition of a right to organize by the external government authority, the Minister of Fisheries and Oceans. Nested enterprises have a role in this particular co-management case study in that DFO is a large and multi-layered organization. Likewise Eastport Peninsula fishermen are nested in the FFAW/CAW organization. Yet both of these groups have organized their resources to support the initiatives of a small group of fishermen.

The Eastport Lobster Protection Committee works in close co-operation with the Science Branch of DFO but the Enforcement Branch is responsible for ensuring that fishermen inside and outside of the Eastport Peninsula abide by DFO regulations as well as rules specified in the agreement. The support that the fishermen receive from DFO shows that the government is open to initiatives such as this one and recognizes the impact of such initiatives on future generations. The efforts by DFO to initiate a logbook data program in the local schools means that through example and through education the next generation will inherit a sustainable lobster resource.

The signing of the Joint Project Agreement legitimizes the committee's existence from a legal standpoint; however the test will be in how the government responds to challenges from outsiders to fish inside the Eastport Peninsula boundaries.

The Eastport lobster fishermen have an avenue of flexible options for dealing with the access problems to the resource. The option for other fishermen on the peninsula to enter the lobster fishery reflects the same type of inclusion scenario as the Lofoten cod fishery. Too many fishermen in the lobster fishery may not be a problem because there may be few new

fishermen to enter the fishery and other established fishermen may have no interest in gearing up for a short season. If access problems develop it will be interesting to see how they are resolved. Will DFO ignore the committee and let license transfers occur into Eastport or will DFO share its licensing rights and let the joint committee decide how to respond to local access pressure, as described by Ostrom (1990) and Berkes et al.(1989). In the co-management spirit can DFO work with the ELPC to implement access options that are acceptable to local residents? Such options could include limiting new licenses to retirements, matching licenses to effort or any combination of options that local fishermen and government officials decide are workable solutions. The Partnering Agreement allows for this mechanism but will it work under public local pressure?

Local knowledge as human capital is a tool we can use to co-manage fisheries. In an interview with George Feltham[10], chairman of the ELPC he made the following statement :

> If we can build up the stocks then our income is going to go up which is the bottom line. One of the reasons we think this is working here is that too often government focuses on conservation or marine protected areas and they can't identify who they are protecting it for. And fisher people especially in outer communities once government agencies come in they get the feeling that

[10] Interview recorded with G. Feltham at Sandy Cove, Bonavista Bay, July 24, 1998.

> government is not doing it for him but is doing for the tourist industry or for some person in Toronto with very little benefit to the local person. What we've done is we've put our focus on the community for our benefit and our survival. This is why we get people to come on side. We were given the information we made our own decisions we took the areas that we wanted to close out of the system and identified them as good lobster habitat and after that science came in and verified that.

The Eastport Lobster Protection Committee incorporates local knowledge into the implementation of its co-management agreement with DFO and "getting people to come on side" is a measure of its success.

## REFERENCES


Berkes, F, D. Feeny, B.J. McCay and J.M. Acheson. 1989. The benefits of the commons. *Nature* 340: 91-93.

Bromley, Daniel W., 1992. The commons, property and common-property regimes. In Bromley, Daniel W. (ed.) *Making The Commons Work.* Institute for Contemporary Studies Press, San Francisco, pp. 3-15.

Caddy, J. F. and J. A. Gulland. 1983. Historical patterns of fish stocks. *Marine Policy* 7(4):267-278.

Canada$_a$ . 1998. The East Coast report: an all-party unanimous report of the standing committee on fisheries and oceans. Public Works and Government Services Canada, Ottawa.

Canada$_b$. 1976. Policy for Canada's commercial fisheries. Environment Canada Fisheries and Marine Service, Ottawa.

Canada$_c$. 1996. The Fisheries Management Partnering Concept. Communications Directorate Fisheries and Oceans Canada.

Canada$_d$. 1998. Sustainable Strategies for Oceans: A Co-management Guide. National Round Table on the Environment and the Economy, Ottawa.

Dyer, Christopher L. and James R. McGoodwin. 1994. Folk Management in the world's fisheries: lessons for modern fisheries management. In Dyer, C. and J. McGoodwin (eds) *Folk Management of World Fisheries.* University Press of Colorado, p 1-7.

Ennis, G.P., P.W. Collins, G.D. Badcock, and G. Dawe. 1997. Review of the Newfoundland lobster fishery. Research Document 97/126, Department of Fisheries and Oceans. St. John's.

FAO. 1997. The State of World Fisheries and Aquaculture 1996. Food and Agriculture Organization of the United Nations, Rome.

Feeny, David, Fikret Berkes, Bonnie J. McCay and James M. Acheson. 1990. The tragedy of the commons: twenty-two years later. *Human Ecology* 18(1):1-19.

Feeny, David, Susan Hanna, and Arthur F. McEvoy. 1996. Questioning the assumptions of the tragedy of the commons model of fisheries. *Land Economics* 72(2): 187-205.

Gordon, Scott H., 1954. The economic theory of a common-property resource: The fishery. *Journal of Political Economy* 62:124-142.

Harden, Garrett, 1968. The tragedy of the commons. *Science* 162: 1243-1248.

Hilborn, Ray and Carl Walters. 1992. Quantitative Fisheries Stock Assessment: Choice, Dynamics and uncertainty. Chapman and Hall, New York.

Jentoft, Svein. 1989. Fisheries co-management: Delegating government responsibility to fishermen's organizations. *Marine Policy* 13(2):137-154.

Jentoft, Svein and Bonnie McCay. 1995. User participation in fisheries management: lessons drawn from international experiences. *Marine Policy* 19(3) 227-246.

Jentoft, Svein and Trond I. Kristofferson. 1989. Fishermen's co-management: the case of the Lofoten fishery. *Human Organization* 48(4) 355-365.

Kearney, John F., 1981. Fishermen's response to regulation of the herring purse seine fishery in the Bay of Fundy. Dalhousie Ocean Studies Programme Institute for Resource and Environmental Studies. Halifax, Nova Scotia.

Lim, C.P., Y. Matsuda, and Y. Shigemi. 1995. Co-management in marine fisheries: the Japanese experience. *Coastal Management* 23: 195-221.

Ludwig, Donald, Ray Hilborn, Carl Walters. 1993. Uncertainty, resource exploitation, and conservation: Lessons from history. *Ecological applications* 3: 547- 549.

McCay, Bonnie J. and Svein Jentoff. 1996. From the bottom up: participatory issues in fisheries management. *Society and Natural Resources* 9:237-250.

McCorquodale, Susan. 1996. The aboriginal fishing strategy: An attempt at an orderly policy response. Paper for the Atlantic Provinces Political Science Association, Acadia University, Wolfville.

Ostrom, Elinor. 1990. *Governing the commons: The Evolution of institutions for collective action.* New York: Cambridge University Press.

Ostrom, Elinor. 1992. The rudiments of a theory of the origins, survival, and performance of common-property institutions. In Bromley, Daniel W. (ed) *Making The Commons Work.* Institute for Contemporary Studies Press, San Francisco, pp. 293-318.

Pinkerton, Eleven and Martin Weinstein. 1995. Fisheries that work: Sustainability through community-based management. Vancouver: The David Suzuki Foundation.

Pomeroy, Robert S and Fikret Bekes. 1997. Two to tango: the role of government in fisheries co-management. *Marine Policy* 21: 465-480.

Templeman, W., 1941. The Newfoundland lobster fishery; an account of statistics, methods and important laws. Research Bulletin No. 11. Department of Natural Resources, Newfoundland Government, St. John's.

Ruttan, Lore M. 1998. Closing the commons: cooperation for gain or restraint? *Human Ecology* 26(1) 43-66.

Scott, Anthony. 1955. The fishery: The objectives of sole ownership. *Journal of Political Economy* 63:116-124.

Sen, Sevaly and Jesper Raakjaer Nielsen. 1990. Fisheries co-management: a comparative analysis. *Marine Policy* 20(5):405-418.

Templeman W. 1938. Investigations into the Life History (*Homarus americanus*) on the West Coast of Newfoundland, 1938. Fisheries Research Bulletin No. 7. Dept. of Natural Resources. Government of Newfoundland. St. John's.

Wilson, James A., James M. Acheson, Mark Metcalfe, and Peter Kleban. 1994. Chaos, complexity and community management of fisheries. *Marine Policy* 18(4):291-305.

Warren$_a$, Ted. 1998. Conserving lobster stocks: Leading the world in Lobster conservation. *The Navigator* 1(2): 10-13.

Warren$_b$, Ted. 1998. Lobster conservation pays off. *The Navigator* 1(8):16-19.

## OTHER SOURCES

Department of Fisheries and Oceans. 1996. The Fisheries Management Partnering Concept. [Brochure]. Communications Directorate, Fisheries and Oceans Canada.

Feltham, George. Personal Communication. Sandy Cove, Bonavista Bay. July 24,1998.

O'Leary, Kevin. (producer). 1997. In Our Own Hands Lobster Enhancement on the Eastport Peninsula . [ Video]. School of Continuing Education, Memorial University of Newfoundland.

# APPENDIX I

## Application / Commercial Licence and Registration

This licence is issued under the authority of the Minister of Fisheries and Oceans Canada, and is not transferable

This Document authorizes the registration card/licence holder to engage in fishing and related activities on the Atlantic coast of Canada subject to the provisions of the Fisheries Act and Regulations.

## Demande / Permis commercial et enregistrement

A

Ce permis est délivré sous l'autorité du ministre des Pêches et Oceans du Canada et n'est pas transferable

Ce document autorise le titulaire de la carte d'enregistrement à permis à se livrer à la pêche et à des activités connexes sur la Atlantique du Canada, sous réserve des dispositions de la Loi Règlement sur les pêches.

PLEASE INDICATE LANGUAGE OF YOUR CHOICE — WRITTEN COMMUNICATION — ☐ English Anglais — VERBAL COMMUNICATION — ☐ Engl

VEUILLEZ INDIQUER LA LANGUE DE VOTRE CHOIX — COMMUNICATION ECRITE — ☐ French Français — COMMUNICATION VERBALE — ☐ Fren

## Commercial Fishing Licence Conditions for:

**THESE CONDITIONS MUST BE ATTACHED TO THIS FISHER / ENTERPRISE'S 1997 COMMERCIAL FISHING LICENCE DOCUMENT #009813**

This LOBSTER LICENCE is also subject to the following conditions:
Fishing for Lobster is restricted to that portion of Lobster Fishing Area 5 lying inside the line drawn from Bloody Bay Point to South East side of Martin Shepherd Island to Point Salvagemens Hr. or Willis Island to North Point Willis Island to 48 48'15"N latitude, 53 35'50"W longitude to 48 00'53"N latitude, 53 32'36"W longitude to 48 34'06"N latitude, 53 34'36"W longitude to Southern Point of Eric's Head, Newman Sound.

TAG#'S _____ TO _____

ISSUED BY: _____ DATE ISSUED: _____

Not valid for lobster fishing until an authorized DFO representative assigns your 1997 tags.

No person shall fish with or have onboard a vessel a lobster trap unless a valid tag is securely attached to the frame of the trap in the manner for which the tag was designed and in a manner that the tag is readily visible when the trap is not in the water.

No person shall fish with or have on board a vessel a lobster trap unless that trap has in the exterior walls of each parlour in the trap and not more than 76 mm (3 in) from the floor of the trap, at least

a) two unobstructed circular openings not less than 57.2mm (2.25in) in diameter or

b) one unobstructed rectangular opening not less than 44mm (1.75 in) in height and 127mm (5 in) in width.

It is prohibited to have in your possession a "V" notched female lobster or a female lobster with any of the tail sections missing.

Co-ordonné
for outside line

THIS DOCUMENT IS NOT A VALID LICENCE / REGISTRATION UNLESS SIGNED BY THE REGISTRATION HOLDER / LICENSEE AND AN AUTHORIZED DFO AGENT.

CE DOCUMENT N'EST PAS VALIDE S'IL N'EST PAS SIGNÉ PAR LE DETENTEUR ET UN AGENT AUTHORISÉ DU MPO.

FOR OFFICE USE ONLY / À L'USAGE DU BUREAU

THIS LICENCE / REGISTRATION WILL BE SIGNED BY A DFO AGENT WHEN ISSUED.

CE PERMIS / CET ENREGISTREMENT SERA SIGNÉ PAR UN AGENT AUTORISÉ DU MPO AU MOMENT DE SA DELIVRAN

LICENCE CONDITION #: 1997-700-000021-00

## Application / Commercial Licence and Registration

This licence is issued under the authority of the Minister of Fisheries and Oceans Canada, and is not transferable.

This Document authorizes the registration card/licence holder to engage in fishing and related activities on the Atlantic coast of Canada subject to the provisions of the Fisheries Act and Regulations.

## Demande / Permis commercial et enregistrement

B

Ce permis est délivré sous l'autorité du ministre des Pêch Oceans du Canada et n'est pas transférable.

Ce document autorise le titulaire de la carte d'enregistrer permis à se livrer à la pêche et à des activités connexes Atlantique du Canada, sous réserve des dispositions de l Règlement sur les pêches.

PLEASE INDICATE LANGUAGE OF YOUR CHOICE / VEUILLEZ INDIQUER LA LANGUE DE VOTRE CHOIX

WRITTEN COMMUNICATION / COMMUNICATION ECRITE: ☐ English Anglais ☐ French Français

VERBAL COMMUNICATION / COMMUNICATION VERBALE: ☐ ☐

## Commercial Fishing Licence Conditions for:

## THESE CONDITIONS MUST BE ATTACHED TO THIS FISHER / ENTERPRISE'S 1997 COMMERCIAL FISHING LICENCE DOCUMENT #000024

This LOBSTER LICENCE is also subject to the following conditions:
Fishing for Lobster is restricted to that portion of Lobster Fishing Area 5 lying outside the line drawn from North Point of Little Harbour in Swale Tickle, Newman Sound to 48 40'00"N latitude, 53 32'36"W longitude to 48 45'40"N latitude, 53 41'36"W longitude to Purgatory(Puckatory) Head Fair and False Bay.

TAG#'S _____ TO _____

ISSUED BY: _____ DATE ISSUED: _____

Not valid for lobster fishing until an authorized DFO representative assigns your 1997 tags.

No person shall fish with or have onboard a vessel a lobster trap unless a valid tag is securely attached to the frame of the trap in the manner for which the tag was designed and in a manner that the tag is readily visible when the trap is not in the water.

No person shall fish with or have on board a vessel a lobster trap unless that trap has in the exterior walls of each parlour in the trap and not more than 76 mm (3 in) from the floor of the trap, at least
a) two unobstructed circular openings not less than 57.2mm (2.25in) in diameter or
b) one unobstructed rectangular opening not less than 44mm (1.75 in) in height and 127mm (5 in) in width.

It is prohibited to have in your possession a "V" notched female lobster or a female lobster with any of the tail sections missing.

Co-ordinate for inside line

THIS DOCUMENT IS NOT A VALID LICENCE / REGISTRATION UNLESS SIGNED BY THE REGISTRATION HOLDER / LICENSEE AND AN AUTHORIZED DFO AGENT.

CE DOCUMENT N'EST PAS VALIDE S'IL N'EST PAS SIGNÉ PAR LE DÉTENTEUR ET UN AGENT AUTHORISÉ DU MPO.

FOR OFFICE USE ONLY / À L'USAGE DU BU

THIS LICENCE / REGISTRATION WILL BE SIGNED BY AGENT WHEN ISSUED

CE PERMIS / CET ENREGISTREMENT SERA SIGNÉ PA AGENT AUTORISÉ DU MPO AU MOMENT DE SA DÉLI

# APPENDIX II

1997

# MEMORANDUM OF AGREEMENT

## CONTAINING THE TERMS AND CONDITIONS

## BETWEEN

## THE DEPARTMENT OF FISHERIES AND OCEANS (DFO)

## AND THE EASTPORT PENINSULA LOBSTER FISHER COMMITTEE

## (COMMITTEE) FOR A PILOT PROJECT FOR THE 1997 LOBSTER FISHERY

### 1. PURPOSE

This Memorandum of Agreement (MOA) outlines the terms, conditions and responsibilities of both parties to this agreement under which the 1997 lobster fishery in the area referred to as the EASTPORT PENINSULA LOBSTER MANAGEMENT AREA (EPLMA) and as described in Annex I will be conducted.

The objective of this pilot project is to promote greater industry involvement into decisions affecting the management of the lobster fishery in the defined area which will result in improved conservation and a more stable fishery for the benefits of fishers and their communities.

### 2. MANAGEMENT COMMITTEE

2.1 A Management Committee shall be formed by the Parties to oversee the management and administration of the pilot project. The Management Committee shall consist of:

a) DFO

Area Manager - Eastern and Southern (Co-Chair)
Area Chief- C & P, Eastern
Staff Officer- Fishery and Policy Innovation
one Science Representative

b) COMMITTEE

Chairman - Lobster Committee (Co-Chair)
a maximum of 6 lobster licence holders residing within the EPLMA

2.2 The Management Committee may call upon such other persons for assistance as it considers necessary.

2.3 The Management Committee shall meet at least once during the period April 1, 1997 to March 31, 1998

2.4 The Management Committee will develop a Work Plan (ANNEX II) for the 1997 lobster fishery specifying the activities to be undertaken and the responsibilities of each Party and monitors the progress and performance of both Parties.

## 3. PUBLICATION

3.1 Subject to the Access to Information and Privacy Act, Project data and any other Project related information shall be freely available to both Parties and may be used, disseminated or published by either Party, at any time. Any material which is to be published by either Party shall be provided to the other Party prior to public dissemination.

3.2 Each Party shall retain the right to have the name of any of its employees or members who may have been involved in specific scientific projects, analysis or report writing, named as a co-author of any scientific publication resulting therefrom.

## 4. TERM

This Agreement shall come into force on the date on which it is signed by both Parties and shall remain in force until March 31, 1998, unless terminated sooner in accordance with Clause 5.

## 5. TERMINATION

5.1 This Agreement may be terminated by either Party by giving written notice 30 days in advance to the other Party or at any time with the consent of both Parties.

## 6. ENTIRE AGREEMENT

The terms, conditions and responsibilities herein, together with ANNEX I and ANNEX II form the entire agreement of the Parties with respect to this Project.

# ANNEX II

## WORK PLAN

## PART I - DFO

## A. MANAGEMENT AND CONSERVATION

### 1. Licence and Conditions

- Issue lobster licence and vessel registration(s)

- Prepare and distribute lobster conditions to all Lobster Fishing Area 5 licence holders establishing the Eastport Peninsula Lobster Management Area(EPLMA) and
  - restricting access to the inner portion of the EPLMA to fishers identified in Schedule I
  - restricting access to that portion of Lobster Fishing Area 5 outside the EPLMA to all holders of lobster licences for LFA 5 not identified in Schedule I.

### 2. Variation Orders

- Prepare and announce variation orders closing the two areas outlined in Schedule II referred to as Round Island Closed Area and Duck Island Closed Area to lobster fishing.

### 3. Trap Tags

- Purchase and distribute trap tags to all lobster fishers in LFA 5

### 4. Conservation and Protection Activities

- Promote conservation and protection activities in the area.

- Co-ordinate and plan land and sea surveillance activities in and around the EPLMA in consultation with the Committee

### 5. Data Collection

- Prepare and distribute the data collection sheets to fishers identified in Schedule I

## 6. Management and Administration

- Monitor the fishery in general

- Consult and participate in the co-management process

## 7. Policy and Economics

- Have the option to conduct cost and earnings surveys with local fishers

- Monitor the annual fishing revenues from lobster and other species

- Monitor the economic performance of the group.

# B. SCIENCE

- Establish the data collection requirements for scientific purposes including the format of data collection sheets

- Monitor the performance and characteristics of the fishery

- Conduct timely consultation with the lobster fisher's committee

- Distribute scientific information and hold meetings with the lobster fisher's committee

- Maintain contact with the lobster fisher's committee and encourage input from fishers regarding catch experience and other knowledge regarding lobster stocks

- Whenever possible, train and educate fishers about lobster biology, statistical and measuring techniques so that fishers may participate in data collection and studies to enhance the knowledge about lobster and to ensure responsible co- management decisions.

# PART II - COMMITTEE

## Management and Conservation

- Conduct consultation and confirm support of the neighboring lobster fishers to the EPLMA for this pilot project

- Assist in developing the physical description of the EPLMA, including the inner and outer sections

- Assist in developing the physical description of the two areas to be closed to all lobster fishing.

- Assist, as required, in the distribution of tags

- Consult and participate in the co-management process

- Promote conservation and protection activities and stewardship of the resource with fishers inside and outside the EPLMA.

- Encourage fishers to report ant incidents of illegal activity either observed or reported

## Science

- Encourage fishers to complete and make accurate entries in the log sheets provided by DFO

- Be responsible for the collection and safe-keeping of the log sheets at the end of the lobster fishing season

- Inform fishers of the importance of reporting to DFO any significant observations concerning the biology and exploitation of the lobster

- Organize information sessions for presentation of project related information by the DFO.

In witness whereof the Parties hereto have executed this Agreement by their authorized representatives:

DFO

Witness

EASTPORT PENINSULA
LOBSTER COMMITTEE

Witness

## SCHEDULE I

## LIST OF FISHERS PERMITTED TO FISH

## IN THE INNER PORTION

## OF THE EPLMA

| FIN | SURNAME | FIRST NAME |
|---|---|---|
| 549100103 | BADSTOCK | MAC |
| 566010801 | BALSOM | MICHAEL WILLIAM |
| 560071701 | BROWN | ANDY |
| 547052801 | BROWN | CALVIN NEVILLE |
| 558032001 | BROWN | ROBERT |
| 553012203 | BROWN | WILLIAM JOSEPH |
| 560102701 | BURDEN | CARSON |
| 559043001 | BURDEN | WAYNE BERTRAM |
| 554120303 | BURRY | LLOYD J |
| 556112102 | BUTT | ALBERT J |
| 527061501 | DURDLE | ALLISTER |
| 552041703 | DYKE | HARRISON R G |
| 542073101 | ELLIOTT | ALFRED J |
| 553081302 | ELLIOTT | DAVID HAROLD |
| 554082802 | ELLOITT | RICHARD |
| 556020404 | ELLOITT | VICTOR |
| 510120301 | EST POWELL | LAWRENCE |
| 547122901 | FELTHAM | CHARLES H |
| 555081903 | FELTHAM | GEORGE |
| 540053001 | HALLETT | ALBERT |
| 553051702 | HANCOCK | KEVIN |
| 542070204 | HEFFERN | ALLISTER |
| 559071601 | HEFFERN | GEOFFREY |
| 555081903 | HUNTER | BRIAN DONALD |
| 529100604 | HUNTER | JOHN S |
| 558080302 | JANES | GORDON |
| 533120301 | JOHNSON | LEWIS |
| 543040401 | KING | LEONARD |
| 550032002 | LANE | BROCK |
| 552110702 | LANE | KENNETH |
| 526111902 | LANE | LAWRENCE REGINALD |
| 560012302 | MERCER | WILLIAM |

| | | |
|---|---|---|
| 551013101 | MOSS | HOWARD J |
| 540090802 | MOSS | RONALD |
| 541012001 | OLDFORD | CLIFFORD E |
| 543110903 | OLDFORD | GERALD T |
| 561110501 | PENNEY | CRAIG T |
| 557021804 | PENNEY | ROGER WILLIAM |
| 565122603 | PIKE | PAUL |
| 558090702 | PAYNE | RALPH |
| 535110201 | RALPH | ALBERT CLAUDE |
| 539020201 | RALPH | ANTHONY W |
| 559060803 | RALPH | BRUCE W |
| 559122601 | RALPH | DERRICK |
| 554080101 | ROGERS | JOHN |
| 558061702 | SQUIRE | BONNELL |
| 562081401 | SQUIRE | BOYD NATHAN |
| 555010801 | SQUIRES | WINSTON |
| 555020802 | TURNER | WADE W |

# ANNEX I

The Eastport Peninsula Lobster Management Area (EPLMA) is described as that area inside a line bounded by a series of straight lines commencing at Bloody Bay Point to South East side of Martin Shepherd's Island to Point of Salvagemens Harbour on Willis Island to North Point, Willis Island to 48 degrees 48'15" N latitude, 53 degrees35'50" W longitude to 48 degrees 40'00" N latitude, 53 degrees 32'36" W longitude to 48 degrees 34'06" N latitude, 53degrees 34'36" W longitude to Southern Point of Eric's Head, Newmans Sound.

# APPENDIX III

# JOINT PROJECT AGREEMENT

This Joint Project Agreement is made in duplicate

**BETWEEN:** **HER MAJESTY THE QUEEN IN RIGHT OF CANADA,** as represented by the Minister of Minister and Oceans (" the Minister")

**AND:** **FFAW/CAW FISHERMEN'S RESOURCE CENTRE** a body duly incorporated under the Corporation's Act with a head office located at P. O. Box 1242, Stn C, 2 Steers Cove, St. John's, Nfld. (" the Association").

**WHEREAS** the Minister and the Association (" the Parties") wish to undertake a joint project to efficiently manage the lobster fishery in the Eastport Peninsula Lobster Management Area ( " the EPLMA"), as described in Schedule A, through a long term co-operative relationship, fostered by trust and respect, and based on principles of conservation and environmental sustainability ( " the Project")
:

**NOW THEREFORE,** in consideration of the premises and the mutual covenants hereinafter set forth, the Parties agree as follows:

## 1. THE PROJECT

1.1 This project is described in Schedule B hereto. The responsibilities of each Party with respect to the Project are described in the Annual Work Plan, attached as Schedule C, which shall be revised each year in accordance with Clause 3.1.

## 2. THE MANAGEMENT COMMITTEE

2.1 Upon the coming into force of this Agreement, a Management Committee shall be formed by the Parties to oversee the management of this Project. The Management Committee shall consist of:

a) Representatives of the Minister:

Area Manager, Eastern and Southern ( co-chair)
Area Chief, Conservation and Protection, Eastern and Southern
Staff Officer, Fishery and Policy Innovation
one Science Representative

b) Representatives of the Association:

Chairman, Eastport Lobster Committee ( co-chair)
A maximum of 6 lobster licence holders residing within the EPLMA
One representative of the FFAW/CAW Fisherman's Resource Centre.

2.2 The Management Committee may call upon such other persons for assistance as it considers necessary.

2.3 During the term of this Agreement, the Management Committee shall meet at least once in each period running from April 1 to March 31 (" the fiscal year").

## 3. DUTIES OF THE MANAGEMENT COMMITTEE

3.1 The Parties shall ensure that the Management Committee:

a) by March 31 of each year, develops an Annual Work Plan for the following fiscal year, specifying the activities to be undertaken and the responsibilities of each Party with respect to this Project;

b) monitors the progress and performance of the Parties under the Annual Work Plan.

## 4. OBLIGATIONS OF THE MINISTER

4.1 Once each Annual Work Plan has been accepted and signed by the Parties, the responsibilities of the Minister as itemized therein shall be binding upon the Minister for that fiscal year.

## 5. OBLIGATIONS OF THE ASSOCIATION

5.1 Once each Annual Work Plan has been accepted and signed by the Parties, the responsibilities of the Association as itemized therein shall be binding upon the Association for that fiscal year.

## 6. AUDITING AND MONITORING

6.1 The Minister and the Association agree to maintain books, records, documents, and other material pertaining to this Agreement. Records and documentation shall be retained by each Party for a period of three (3) years after the termination of this Agreement for whatever reason. Both Parties agree that all records pertaining to this Project shall be made available, subject to the provisions of the Access to Information and Privacy Acts, to the other Party for verification and audit upon request.

## 7. REPRESENTATIVES

7.1 For the Minister:

a) Project Authority: Area Manager
Eastern and Southern
136 Crosbie Road
St. John's, Nfld.
A1B 3K3
Phone (709) 772-4010
Fax (709)- 772-2659

b) Scientific Authority: Section Head - Shellfish
NAFC
P. O. Box 5667
St. John's, Nfld.
A1C 5X1
Phone (709) 772-2094
Fax (709) 772-4105

7.2 For the Association:

a) Project Authority: Chairman
Eastport Lobster Committee
C/O FFAW/CAW Fishermen's Resource Centre
P. O. Box 1242, Stn C
2 Steers Cove
St. John's, Nfld.
A1C 5M9
Phone (709) 677-2610
Fax (709) 677-2631

## 8. PUBLICATION

8..1 Subject to the Access to Information and Privacy Act, Project data and any other Project related information shall be freely available to both Parties and may be used, disseminated or published by either Party, at any time. Any material which is to be published by either Party shall be provided to the other Party prior to public dissemination.

8.2 Each Party shall retain the right to have the name of any of its employees or members who may have been involved in specific scientific projects, analysis or report writing, named as a co-author of any scientific publication resulting therefrom.

## 9. COMING INTO FORCE AND TERM

9.1 This Agreement shall come into force on the date on which it has been executed by both Parties and, other than Schedule C, shall remain in force until 31 March, 2003.

## 10. TERMINATION

10.1 This Agreement may be terminated at any time with the consent of both Parties.

10.2 Termination for cause:

a) The Association may terminate this Agreement, upon written notice to the Minister:

i) if the Minister breaches the terms or conditions of this Agreement.

b) The Minister may terminate this Agreement, upon written notice to the Association:

i) if the Association breaches the terms or conditions of this Agreement;
ii) if the Association is bankrupt, files for bankruptcy, or is involved in any bankruptcy proceeding; or
iii) if the Minister, in his or her opinion, is unable to fulfill the obligations under this Agreement.

## 11. EVENTS UPON TERMINATION

11.1 Upon termination of the Agreement, the following shall occur:

a) the Minister shall make available to the Association any and all data, reports or analyses generated pursuant to this Agreement.

## 12. NOTICE

12.1 Any notice under this Agreement shall be in writing and shall be address to the appropriate Party as follows:

For the Minister

Area Manager
Fisheries and Oceans
Eastern and Southern
136 Crosbie Road
St. John's, Nfld.
A1B 3K3

For the Association

Chairman
Eastport Lobster Committee
C/O FFAW/CAW Fishermen's Resource Centre
P. O. Box 1242, Stn C
2 Steers Cove
St. John's, Nfld.
A1C 5M9

13. **DISPUTE RESOLUTION**

13.1 Where a dispute as to the interpretation of this Agreement or of matters relating to its termination, or of performance hereunder, the Parties shall attempt in good faith to resolve the dispute through negotiation. Should negotiation prove unsuccessful, the Parties shall submit the matter to a mutually acceptable third party for mediation. The costs of the mediation shall be divided equally between the Parties.

14. **NO AGENCY**

14.1 Neither the Association nor any of its personnel or agents is an employee, servant or agent of the Minister or of Her Majesty and shall not hold themselves out to be so. The Association is alone responsible and liable for all claims, demands, losses, costs, debts, actions, damages, suits or other proceedings brought against it in any way arising out of or attributable to its obligations under this Agreement.

15. **HOUSE OF COMMONS**

15.1 No member of the House of Commons shall be admitted to any share of this Agreement or to any benefit arising herefrom.

16. **PUBLIC SERVANTS**

16.1 A person or former public servant or public office holder who is not in compliance with the applicable provisions of the Conflict of Interest and Post-Employment Code for Public Office Holders or the Conflict of Interest and Post-Employment Code for the Public Service shall not derive a direct benefit from this Agreement.

17. **APPLICABLE LAW**

17.1 The law in effect in the Province of Newfoundland and Labrador shall apply to the interpretation and administration of this Agreement.

## 18. ENTIRE AGREEMENT

18.1 The terms and conditions herein, together with Schedule A, Schedule B, and with Schedule C, as amended annually, form the entire Agreement of the Parties with respect to this project.

**IN WITNESS WHEREOF** the Parties hereto have executed this Agreement by their duly authorized representatives.

| | |
|---|---|
| Witness | For the Minister of Fisheries and Oceans |
| | Date |
| Witness | FFAW/CAW Fishermen's Resource Centre |
| | Date |
| Witness | FFAW/CAW Fishermen's Resource Centre |
| | Date |

# SCHEDULE A

The Eastport Peninsula Lobster Management Area (EPLMA) is described as that area inside a line bounded by a series of straight lines commencing at Bloody Bay Point to South East side of Martin Shepherd's Island to Point of Salvagemens Harbour on Willis Island to North Point, Willis Island to 48 degrees 48'15" N latitude, 53 degrees 35'50" W longitude to 48 degrees 40'00" N latitude, 53 degrees 32'36" W longitude to 48 degrees 34'06" N latitude, 53 degrees 34'36" W longitude to Southern Point of Eric's Head, Newmans Sound.

The inner portion of the EPLMA is described as that area inside a line bounded by a series of straight lines commencing at North Point of Little Harbour in Swale Tickle, Newman Sound to 48 40' 00"N latitude, 53 32' 36"W longitude to 48 45'40"N latitude, 53 41'36"W longitude to Purgatory (Puckatory) Head Fair and False Bay.

# SCHEDULE B

## PROJECT DESCRIPTION

During the past few years, fishers from the Eastport area have been actively participating, on a voluntary basis, in the management of the lobster fishery in their traditional lobster fishing waters.

The main objective was to enhance the lobster resource in this area by promoting and implementing sustainable harvesting practices and assisting in the planning of conservation and protection activities.

During 1997, a pilot project was implemented between the fishers and DFO to further build on these initiatives. The work of the fishers over the past few years have already shown signs of improved conservation measures in the area.

This project is designed to continue this work over the next five years in order to manage the lobster fishery in a co-operative relationship based on the principles of conservation and environmental sustainability.

The activities and responsibilities of both parties will be defined in the Annual Work Plan (Schedule C)

# SCHEDULE C

## ANNUAL WORK PLAN

## 1998/1999

### PART I - The Minister

### A. MANAGEMENT AND CONSERVATION

#### 1. Licence and Conditions

- Prepare and distribute lobster conditions to all Lobster Fishing Area ( LFA) 5 licence holders establishing the Eastport Peninsula Lobster Management Area ( "the EPLMA") and

  - restricting access to the inner portion of the EPLMA to fishers identified in Schedule D of the Annual Work Plan.
  - restricting access to that portion of Lobster Fishing Area 5 outside the EPLMA to all holders of lobster licences for LFA 5 not identified in Schedule D of the Annual Work Plan.

#### 2. Variation Orders

- Prepare and announce variation orders closing the two areas outlined in Schedule E of the Annual Work Plan referred to as Round Island Closed Area and Duck Island Closed Area to lobster fishing.

#### 3. Trap Tags

- Purchase and distribute trap tags to all lobster fishers in LFA 5

#### 4. Conservation and Protection Activities

- Promote conservation and protection activities with fishers within the project and the surrounding areas .

- Co-ordinate and plan land and sea surveillance activities in and around the EPLMA in consultation with the Association.

## 5. Data Collection

- Prepare and distribute the data collection sheets to fishers identified in Schedule D of the Annual Work Plan.

## 6. Management and Administration

- Monitor catches and the fishery in general
- On a regular basis consult and participate in the co-management process

## 7. Policy and Economics

- Have the option to conduct cost and earnings surveys with local fishers
- Monitor the annual fishing revenues from lobster and other species
- Monitor the economic performance of the group.

# B. SCIENCE

- Establish the data collection requirements for scientific purposes including the format of data collection sheets
- Monitor the performance and characteristics of the fishery through logbooks and at sea sampling
- Monitor scientific work conducted by outside agencies within the EPLMA. i.e. lobster tagging, juvenile lobster sampling, post-larva settlement surveys.
- Conduct timely consultation with the Eastport lobster fisher's committee
- Distribute scientific information and hold meetings with the lobster fisher's committee
- Maintain contact with the Eastport lobster fisher's committee and encourage input from fishers regarding catch experience and other knowledge regarding lobster stocks
- Whenever possible, train and educate fishers about lobster biology, statistical and measuring techniques so that fishers may participate in data collection and studies to enhance the knowledge about lobster and to ensure responsible co- management decisions.

# PART II - The Association

## A. Management and Conservation

- Conduct further consultation and confirm support of the neighboring lobster fishers as the project progresses.
- Assist in developing the physical description of the EPLMA, including the inner and outer sections
- Assist in developing the physical description of the two areas to be closed to all lobster fishing.
- Assist, as required, in the distribution of tags
- Consult and participate in the co-management process
- Promote conservation and protection activities and stewardship of the resource with fishers inside and outside the EPLMA.
- Act as an advocate of lobster conservation throughout the Newfoundland Region.
- Encourage fishers to report any incidents of illegal activity either observed or reported

## B. Science

- Encourage and, where necessary, assist fishers to make complete and accurate entries in the log sheets provided by DFO
- Be responsible for the collection and safe-keeping of the log sheets at the end of the lobster fishing season
- Be responsible for the data entry of all information collected on the log sheets.
- Inform fishers of the importance of reporting to DFO any significant observations concerning the biology and exploitation of the lobster
- Organize information sessions for presentation of project related information by the Minister.
- Provide assistance, when required, in all scientific work conducted within the EPLMA, i.e. lobster tagging, juvenile lobster sampling, post-larva settlement surveys.
- Conduct v-notching of female lobsters at a level acceptable to both parties.

# SCHEDULE D

## ANNUAL WORK PLAN

## LIST OF FISHERS PERMITTED TO FISH

## IN THE INNER PORTION

## OF THE EPLMA

| FIN | SURNAME | FIRST NAME |
|---|---|---|
| 549100103 | BADSTOCK | MAC |
| 566010801 | BALSOM | MICHAEL WILLIAM |
| 560071701 | BROWN | ANDY |
| 547052801 | BROWN | CALVIN NEVILLE |
| 558032001 | BROWN | ROBERT |
| 553012203 | BROWN | WILLIAM JOSEPH |
| 560102701 | BURDEN | CARSON |
| 559043001 | BURDEN | WAYNE BERTRAM |
| 554120303 | BURRY | LLOYD J |
| 556112102 | BUTT | ALBERT J |
| 527061501 | DURDLE | ALLISTER |
| 552041703 | DYKE | HARRISON R G |
| 542073101 | ELLIOTT | ALFRED J |
| 553081302 | ELLIOTT | DAVID HAROLD |
| 554082802 | ELLOITT | RICHARD |
| 556020404 | ELLOITT | VICTOR |
| 510120301 | EST POWELL | LAWRENCE |
| 547122901 | FELTHAM | CHARLES H |
| 555081903 | FELTHAM | GEORGE |
| 540053001 | HALLETT | ALBERT |
| 553051702 | HANCOCK | KEVIN |
| 542070204 | HEFFERN | ALLISTER |
| 559071601 | HEFFERN | GEOFFREY |
| 555081903 | HUNTER | BRIAN DONALD |
| 529100604 | HUNTER | JOHN S |
| 558080302 | JANES | GORDON |
| 533120301 | JOHNSON | LEWIS |
| 543040401 | KING | LEONARD |
| 550032002 | LANE | BROCK |
| 552110702 | LANE | KENNETH |
| 526111902 | LANE | LAWRENCE REGINALD |

| | | |
|---|---|---|
| 560012302 | MERCER | WILLIAM |
| 551013101 | MOSS | HOWARD J |
| 540090802 | MOSS | RONALD |
| 541012001 | OLDFORD | CLIFFORD E |
| 543110903 | OLDFORD | GERALD T |
| 561110501 | PENNEY | CRAIG T |
| 557021804 | PENNEY | ROGER WILLIAM |
| 565122603 | PIKE | PAUL |
| 558090702 | PAYNE | RALPH |
| 535110201 | RALPH | ALBERT CLAUDE |
| 539020201 | RALPH | ANTHONY W |
| 559060803 | RALPH | BRUCE W |
| 559122601 | RALPH | DERRICK |
| 554080101 | ROGERS | JOHN |
| 558061702 | SQUIRE | BONNELL |
| 562081401 | SQUIRE | BOYD NATHAN |
| 555010801 | SQUIRES | WINSTON |
| 555020802 | TURNER | WADE W |

# SCHEDULE E

## ANNUAL WORK PLAN

## DESCRIPTION OF AREAS WITHIN THE EPLMA CLOSED TO ALL LOBSTER FISHING.

A) ROUND ISLAND CLOSED AREA

That portion of lobster fishing area 5 within 650 feet of the shore of Round Island, Newman Sound, Bonavista Bay.

B) DUCK ISLAND CLOSED AREA

That portion of lobster fishing area 5 bounded by a straight line joining the following points in the order in which they are listed:

| | |
|---|---|
| 48 44' 30"N | 53 42' 06"W |
| 48 43' 54"N | 53 41' 18"W |
| 48 44' 30"N | 53 40' 42"W |
| 48 45' 06"N | 53 41' 18"W |
| 48 44' 30"N | 53 42' 06"W |