



# A right to fish for a living? The case for coastal fishing people's determination of access and participation

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## Abstract

Fisheries management systems everywhere tend to be dominated by the proprietary claims of nation states. These claims are embodied in a number of international agreements such as the United Nations' Convention on the Law of the Sea, which accords rights to nation-states on the basis of adjacency and historic use. In this paper, we present results from research in Nova Scotia, Canada, to demonstrate that small boat fishing families in that region have been continuously fishing the grounds adjacent to their communities for many generations, but must now fish those areas on the basis of a state-granted 'privilege' rather than a secure right. In this paper we argue that the principles of adjacency and historic use should apply to individuals and fishing families and that states should move towards a more community-determined approach to fisheries management. The lobster fishery of Northeastern Nova Scotia provides a particularly compelling example of how this type of change in management policy could be successfully accomplished.

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## 1. Introduction

On January 1, 1977, Canada and a number of other nations declared exclusive authority over a 200-nautical mile Exclusive Economic Zone (EEZ). Nested within the United Nations Law of the Sea negotiations and forming agreement, national claims for exclusive

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management authority over massive tracts of ocean encompassing most, if not all, of the critically bio-productive continental shelf regions, including ocean bottom and sub-sea mineral potentials, are based on a couple of key principles embodied in many legal systems such as the English Common Law. Among these is the apparently reasonable and seemingly self-evident notion that coastal nation-states should obtain recognition of exclusive, first-order access rights and management authority with respect to the ocean tracts and sea floor EEZs abutting their coastlines (e.g., [1, 21, 29, Articles 2 and 33]).

Adjacency was a key reference point in the recognition and distribution of access priority and management authority within the Law of the Sea negotiations and outcomes. In large measure, adjacency goes hand-in-glove with a claim that the people of coastal nation-states have a history of socio-economic dependence on and continuous use of marine-based resources. This is fully evident in many sections of the United Nation's 1992 Conference on Environment & Development RIO Declaration, and its so-called Action Plan–Agenda 21. For instance, various paragraphs in chapter 17 specifically note the expectation that nation-states account for the needs, knowledge, and interests of coastal communities, indigenous people, fish workers, and small-scale fisheries in the development and implementation of resource management schemes [2, p. 178–180].

Continuity of use and dependence are key bases in many legal systems for establishing a legal entitlement to use and to enjoy the fruits of property, even though that property formally belongs to or is claimed by another.<sup>2</sup> The *right of adverse possession*, commonly known as 'squatters rights', also affirms legal entitlement to property and its 'fruits' once conditions such as continuity of occupation and publicly visible use of its resources have been satisfied.<sup>3</sup> Historical continuity of socio-economic use and economic dependency were key attributes of the Canadian and American positions. This was particularly evident in the presentations during the boundary dispute cases involving Canada and the United States adjudicated by the International Court at La Hague [4].<sup>4</sup> Notably, historical use patterns have also been one of the key references enabling non-coastal adjacent nation-states to establish access prerogatives to marine resources that somewhat moderate coastal states EEZ authority. This principle is expressed explicitly within the Convention on the Law of the Sea (e.g., [1] (Article 62, paragraph 3)).

The notion of adjacency, made legally substantive as a basis for and of 'rights' through empirical reference to historical continuities of use and economic dependence, has been employed forcefully and successfully by nation-states such as Canada to establish the legal and moral basis for their claim to access priority and management authority over the 200-mile EEZ [5]. Yet, an identical empirical reference has yet to be recognized as a legitimate and substantive basis for establishing the management authority and access rights of

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<sup>2</sup>Of course, these qualities have been central to establishing, in law, aboriginal entitlement [3].

<sup>3</sup>At least five conditions must be met in order to establish a 'right of adverse possession'. These are actual occupation and use of the property; publicly observable use of the property; occupation and use of the property without its formal owner's permission; exclusive use of the property; and continuous occupation and use of the property ([http://www.absoluteastronomy.com/encyclopedia/squatters\\_rights](http://www.absoluteastronomy.com/encyclopedia/squatters_rights), and [www.env.gov.nl.ca/env/lands/lm/definition.html](http://www.env.gov.nl.ca/env/lands/lm/definition.html)). The Newfoundland and Labrador government specifies that such a right is established "[w]here such possession has occurred on Crown land, has continued for a period of twenty (20) consecutive years or more prior to January 1, 1977, and has remained continuous since that date to the present time ..."([www.env.gov.nl.ca/env/lands/lm/definition.html](http://www.env.gov.nl.ca/env/lands/lm/definition.html)).

<sup>4</sup>While the Court's judgement explicitly dismissed and excluded historical use patterns and economic dependence as key considerations in its determination, it did encourage Canada and the United States to take such factors into consideration when addressing the conditions arising from the Court's decision ([4, p. 92, 97 and 99]).

fishing people and communities within nation-states such as Canada. In this essay we present a diversity of evidence that closely documents historical, familial, and individual continuities of participation within and livelihood dependence on a small boat coastal-zone fishery associated with Chedabucto Bay and environs, situated on the Northeastern Nova Scotian Atlantic coast. The record of participation within the commercially important lobster fishery receives particular attention, as this resource is more or less sedentary and has been fished continuously by the people residing within the region's coastal communities for over 150 years, or at least five generations. The central purpose of the paper is to present a body of richly featured information, derived through a multi-faceted research design and methodology, which thoroughly documents the human record of continuous participation within the fisheries and continuous use of marine resources. Once established, we explore the sensibility of employing individual, familial, and community continuities in participation, and use as the basis for developing familial and community-defined access rights and local management authority.

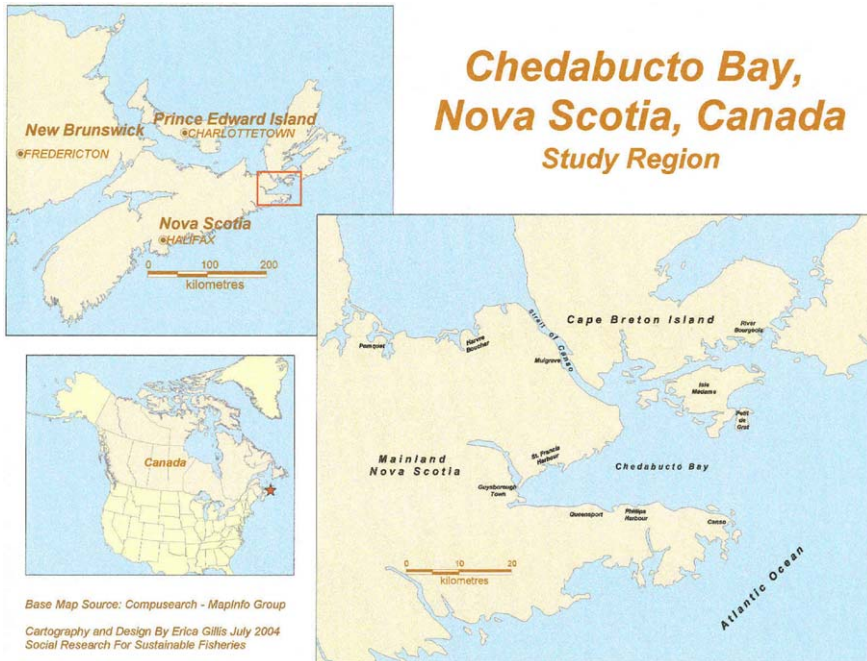
The Canadian nation-state neither recognizes nor reflects any of individual, familial, and community historical continuities in participation and use within its fisheries management system, particularly in its allocation of privileges to fish through management tools such as limited entry licensing (LEL) and Individual Quotas (IQs). Indeed, the Canadian Fisheries Act clearly establishes that all commercial fishing occurs at the discretion of the Minister, and that participation in fishing is a 'privilege', the terms and conditions of which are determined by the Crown [6].

Aboriginal entitlements are the exception to this rule. In Canada, aboriginal entitlements to fisheries largely arise from Supreme Court of Canada adjudications that affirm the existence of treaty rights or other forms of aboriginal rights as recognized in the Canadian constitution. Supreme Court decisions over the last 20 years have affirmed that aboriginal people have a treaty right to access marine resources for ceremonial, subsistence, and, with the *R. v Marshall* decision in September 1999, 'modest' commercial livelihood purposes. These rights, akin to the Law of the Sea arguments, are rooted in the idea that, unless formally extinguished, indigenous people establish explicit property rights as a consequence of historically continuous occupation of specific localities and use of resources within those localities [3,7].

To date, such entitlements are not available in Canada for non-indigenous persons, irrespective of the continuous numbers of years that they and their ancestors may have participated in fisheries and used marine resources within specific localities. Here we will explore attributes of the incongruity of the Canadian nation-state employing the principle of adjacency to claim management authority over a 200-mile EEZ, while at the same time denying similar claims to the people whose historic use patterns actually enable the nation-state's claim. We conclude this essay with a discussion of the sensibility for livelihood security, ecological stability and resource management efficacy of affirming a 'right to fish' for those who satisfy conditions such as historical adjacency and use.

## 2. A methodological note

The research results presented here are an outcome of the Social Research for Sustainable Fisheries Project (SRSF). SRSF is a collaboration of academic researchers, two small boat fish harvester associations, and a Mi'kmaq First Nation organization, the Paq'tnkek Fish and Wildlife Society ([www.stfx.ca/research/srsf](http://www.stfx.ca/research/srsf)). In this paper, we focus



Map. 1. The study region, Chedabucto Bay, Nova Scotia, Canada.

primarily on research conducted with the Guysborough County Inshore Fishermen's Association (GCIFA) in the Chedabucto Bay region of northeastern Nova Scotia (see Map 1).<sup>5</sup> A three-step research design was used that involved (1) historical documentation of Chedabucto Bay fisheries; (2) telephone interviews with fish harvesters to obtain current information about fishing activities and to solicit recommendations of local fishing 'experts'; and (3) in-depth interviews with peer-nominated experts.

During the initial phase of research, information was gathered from all available government and published sources that described various characteristics of fisheries, such as landings and landed values through time for each fishing sector and species. To the extent possible, information concerning catches, values, fleet attributes, licenses, and the numbers fishing by sector was gathered at the community or port level. In the second phase, a telephone survey was conducted with all lobster license holders fishing in the Chedabucto Bay region—a total of 211 persons.<sup>6</sup> Of the 211 license holders, 159 completed interviews, 24 declined to participate, and, after repeated attempts, interviewers were unable to contact 28 license holders. The overall interview completion rate was 75.4%, a notably high and encouraging rate given the telephone survey method. The high level of participation provides a clear indication of fish harvesters' deep interest in the research

<sup>5</sup>The two other partner organizations involved in the SRSF Project are the Gulf Nova Scotia Bonafide Fishermen's Association and the Paq'tnekek Fish and Wildlife Society. More information on all three organizations and the overall project can be found on the project website at [www.stfx.ca/research/srsf](http://www.stfx.ca/research/srsf).

<sup>6</sup>Chedabucto Bay and adjacent portions of the Atlantic coastline are dissected into four Lobster Fishing Areas—LFAs 29, 31A, 31B, and 32.

issues and topics under investigation and provides strong assurance that the survey results are representative.

A primary purpose of the telephone survey research was to identify local fishing ‘experts’ with whom we intended to conduct more in-depth interviews. To this end, each participant was asked: ‘Other than yourself, who would you say knows the most about the local fishing ground?’ After providing this first named recommendation and an indication as to whether the person specified was retired or currently fishing, each interviewee was then asked: ‘Are there any other persons currently fishing or retired from fishing who you think are very knowledgeable about the fishing ground?’ As many as four additional names were obtained by repeatedly asking this question, although most participants provided no more than three. This approach systematically solicits ‘peer recommendations’ as the means to identify the persons considered to be particularly knowledgeable about the local fishing grounds. This approach arose simply from the determination that fish harvesters are best positioned to assess and to identify those who, from within their families, communities, and livelihood, are reputed as and respected for knowing a lot about the grounds.<sup>7</sup>

Overall, 136 individuals received at least one mention. Of those named, 41 (30.1%) were retired while 95 (69.9%) were currently fishing. This result demonstrates that the persons interviewed clearly drew distinctions among local fish harvesters, respecting perceived differences in knowledge of local fishing grounds. A list was constructed that rank ordered by community or port area all of the fish harvesters who had been recommended. The assigned rank was based on two considerations: the number of first mentions and the total number of mentions each fish harvester received. Since interviewee was asked to provide expert recommendations in an implicit rank order, we were able to use those rankings to create an overall ranking system for nominated experts in each port. No fish harvester was included on the list of nominated experts unless he or she received at least two first mentions or three total mentions.

The third phase of the research involved face-to-face interviews with the most highly ranked local ecological knowledge (LEK) experts. These interviews covered three areas of questioning and documentation.<sup>8</sup> The first employed a genealogical approach to gather information concerning family fishing history and involvement with fisheries livelihoods. Here, the interviewee was asked to provide basic information on the residence and fishing activities of at least three generations of their family, from self and siblings through to their grandparents and including all collateral kin and relatives by marriage. Most provided detailed accounts for at least four generations, i.e., a minimum of 120 years, assuming that each generation is roughly equivalent to 30 years. This information was critical to understanding the social context within which persons entered and learnt how to participate successfully in family- and community-centred small boat fishing livelihoods.

The second section focused on documenting the interviewee’s life history in fishing. Questions were asked about the technological characteristics of boats and fishing activities, the social attributes of fishing crews, quantities and types of fishing gear, seasonal fishing patterns with respect to targeted species, and the general location on the fishing grounds

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<sup>7</sup>We have previously published a detailed description of this method of selecting local experts together with a thorough review and critique of the selection techniques reported by other researchers [8].

<sup>8</sup>A copy of the interview schedule may be viewed on the project website at [www.stfx.ca/research/srsf](http://www.stfx.ca/research/srsf) within the Research Instruments section.

where each species was fished. Information was also gathered about fish marketing, landed values by species, names of fish buyers, and the division of income among the fishing crew.

The final section of the in-depth interview process focused on documenting ecological knowledge with respect to four main marine species—lobster, herring, mackerel, and cod. Information was also purposively gathered on a more incidental basis for species such as hake and haddock. The interview was designed to target the documentation of observations, experiences, and interpretations on matters such as seasonal variations in the distribution of species on the fishing ground, physical attributes of the fishing grounds, spawning locations, nursery habitats, predator–prey relationships, and distinctive characteristics of the biological communities, both on the ocean floor and in the water column, as these are associated with species behaviour, distribution, and availability.<sup>9</sup> Nautical charts of Chedabucto Bay and adjacent coastal areas were employed to record various recollections, experiences, and observations respecting the targeted species and ecosystem attributes.

Face-to-face interviews were initiated in July 2002 and continued through to the fall of 2003. Complete interviews were obtained from 12 of the peer-recommended LEK experts, with no fewer than three completed in each of the three Chedabucto Bay community and port areas. All interviews were transcribed and assembled into a single database using qualitative data analysis software (Atlas-ti). Additionally, all of the information recorded on nautical maps was digitized and analysed using MapInfo GIS software. The data acquired and analysed in this way thus allowed us to reconstruct LEK experts' family fishing histories over a period of four generations, approximately 120 years, from the late 1880s to the present. It also allowed us to reconstruct changes that have occurred to the region's small boat fishing industry over the last 60 years or so, during the lifetimes and in the memories of those interviewed.

### 3. An overview of the historical context

The Chedabucto Bay region in general and the Canso area in particular have a long and storied place in the history of Atlantic Canada's settlement and fisheries development. In part, this arises from the region's strategic location at the entrance to the Strait of Canso and passageway into the Gulf of St. Lawrence, coupled with the marine bounty of cod, haddock, hake, herring, and mackerel seasonally concentrating in Chedabucto Bay and on the Canso fishing grounds. As early as 1602, French Basques are known to have fished in

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<sup>9</sup>Boats fished on were chosen as the specific reference points for soliciting descriptions and recollections, because previous research experiences had revealed that most fish harvesters retained detailed memories about many facets of the boats on which they had worked and boats that they had owned. This practice was also intended to enable the gathering of life histories and LEK in a manner that would establish the basis for constructing relative chronologies and time depth of fishing experiences and observations. Organizing the collection of information in this manner also enables LEK expert experiences and observations to be associated comparatively and systematically with respect to time and location. In addition to adding time depth and comparative richness, this practice was judged critical to satisfying another research design and method. A minimum of two, but ideally three or more, independent observations was established as the reference criteria or test for which any experience or claim would be judged as an aspect of LEK. That is, a minimum of two LEK 'experts' would have to have described the same phenomenon within similar locational and time references for the observation to be assessed as LEK. A criterion such as this is essential for identifying and assessing LEK, on the assumption that LEK constitutes a local system of knowledge that is to some extent shared among fish harvesters and constructed from assemblages of similar observations, experiences, and interpretations.

the region for cod, setting up on the shore for drying fish [9, p. 83–84]. By the mid-17th century, the region had become a well-established and well-known fishing area [9, p. 87]. French, British, and New English fishing interests struggled for control in the region throughout the late 17th century and early decades of the 18th century. Following the defeat of the French, first New English, then British fishing interests captured control of the region's fisheries. By the mid-18th century, Canso had become an important centre for the offshore schooner fishery. In Innis' view,

Canso was at once a part of the fishery frontier and of the trading frontier between England and New England. Fishing stores brought via Canso both contributed to the expansion of the New England fishery and encouraged the development of shipbuilding and trade...[9, p. 167].

Fisheries-related settlement and growth had been such that by the end of the 18th century it was remarked that "... Canso was of 'more real value and consequence ... to Great Britain as a nursery for seaman and fishing than all the remaining coast of Nova Scotia'" [9, p. 230].

The dominance within Canso of the schooner offshore fishery and its associated shore-based fish businesses over-shadowed the development of a vibrant small boat coastal fishery in every viable harbour all along the Atlantic Coast and Chedabucto Bay shorelines. These fisheries were often combined with largely subsistence farming, forestry harvesting, trapping, and hunting to create the basis for the livelihoods sustaining community development throughout the region [10]. Early settlers were a diverse crowd, including persons of French ancestry, Irish from Newfoundland, and British Empire Loyalists who appeared as a part of the post-American Revolution migrant flood into what were now the British North American colonies [9, p. 273]. Canso Town, as the locus of both offshore and near-shore fisheries businesses and developments, came to be peopled from a variety of ethnic and religious backgrounds. This quality contrasts starkly with the religious and ethnic homogeneity associated with the vast majority of coastal fishing communities [10, p. 153].

Throughout the 19th and into the early 20th centuries, both the shore-based and the schooner fisheries thrived. Most labouring in these fisheries earned at best hard-won and meagre livings, while economic benefits flowed to fish business owners and traders. The region sustained its economic prominence within the fisheries through the adoption of motorized deep-sea trawlers within the context of consolidating fish companies that maintained processing plants in Canso Town. The expansion of corporate concentration and trawler- and seiner-based offshore fishing power began, by the post World War II period, to reduce finfish resources to the extent that small boat shore fisheries in the Chedabucto Bay region began to suffer. Only smaller quantities of the key finfish resources were appearing seasonally and were accessible to small boat harvesters. The closure of the Strait of Canso with the building of the Canso Causeway (1950s) added additional grief by blocking the seasonal migration of white hake from the Gulf of St. Lawrence into Chedabucto Bay, and thereby entirely eliminating one species from the diminishing resources available to the Bay's small boat harvesters.

The late 19th century advent of the relatively high-value lobster fishery provided an important economic boost for small boat livelihoods [11]. From a longer view perspective, the development and growth of lobster fishing also has provided the region's small boat harvesters with an alternative to finfish resources of such a magnitude that many fishing

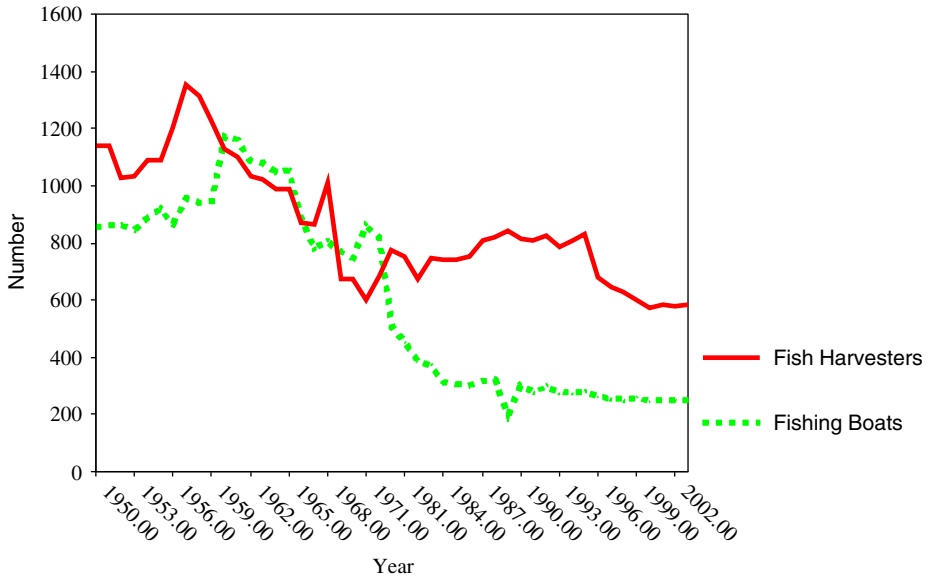


Fig. 1. Total fish harvesters and boats, Guysborough County, 1950–2003. *Source:* Government of Canada, Department of Fisheries and Oceans. The statistics were compiled by Ms. Virginia Boudreau, Researcher, the Guysborough County Inshore Fishermen's Association. The information on the numbers of fish harvesters and fishing boats is compiled from sources that have altered categories and classification over the years. The information presented here is intended to represent no more than estimates of totals and trend-lines over time.

from the shore were buffered from the resource declines brought on by corporate–industrial seine and trawl fishing. Of course, greater livelihood dependence on the lobster resource has also meant greater vulnerability to swings in this resource's available biomass.

Overall, the available statistical information shows that the Chedabucto Bay and region fisheries have been in decline for around 50 years, resulting in notable reductions in landings, persons fishing, and boats employed. Fig. 1 indicates that by the mid-1950s, a first precipitous decline occurred in the number of fish harvesters and boats. Another precipitous decline occurred during the 1970s and was associated with a Fisheries and Oceans Canada (FOC) license buy back. The buy-back programme had the effect of permanently reducing the total number of fishing licenses available in the small boat sector throughout Atlantic Canada. As might be anticipated for a fisheries-dependent setting, these declines have contributed greatly to an increased pace of out-migration and community depopulation.

#### 4. Family basis of the small boat fisheries

Not surprisingly, small boat fishing is a family- and kin-embedded livelihood. The 159 harvesters interviewed during the telephone survey phase of our research claimed that 837 of their family members and kin relations either fish for a living today or did so at some time in the past. In fact, almost one in every two (49.7%) claimed that six or more of their immediate kin fished commercially. Table 1 describes characteristics of family and kin



Table 1

Kin participation in small boat fishing by selected marine harvester attributes (age, years of formal education attained, and years of fishing experience)

Kin relations in fishing	Marine harvester attributes					
	Age (years)		Education		Years fishing	
	51 years > ( <i>N</i> = 72) %	50 years < ( <i>N</i> = 87) %	9 years < ( <i>N</i> = 87) %	10 years > ( <i>N</i> = 68) %	25 years < ( <i>N</i> = 79) %	26 years > ( <i>N</i> = 78) %
Fathers	81.9	87.4	86.5	82.6	84.6	84.6
Father's fathers	75.0	80.2	79.8	75.0	78.2	78.2
Father's brothers	63.4	69.8	72.7	58.8	67.9	67.5
Brothers	49.3	52.4	55.7	43.9	43.4	57.1
Sisters	6.9	8.3	12.5	1.5	7.8	7.8
Sons	41.4	16.3	30.6	23.4	11.3	55.8
Daughters	5.6	8.5	8.0	6.2	6.8	7.8
Mother's fathers	59.2	55.8	64.4	49.3	52.6	61.0
Mother's brothers	53.5	43.7	55.7	39.1	41.8	53.2
Wives' fathers	62.2	48.5	59.7	46.5	47.3	60.0
Wives	30.0	40.7	40.2	30.9	38.5	34.2
Sisters' husbands	33.3	28.6	42.0	14.9	26.0	35.1

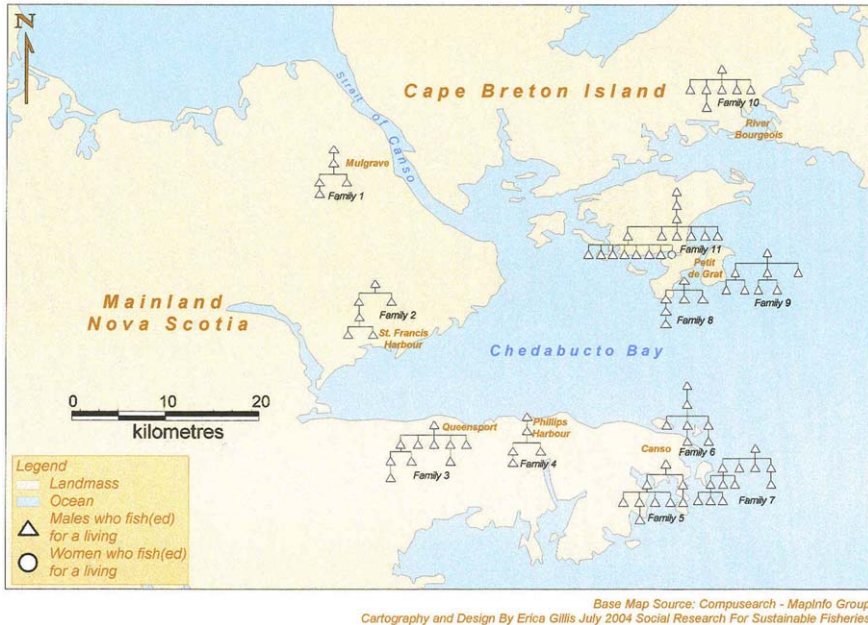
participation with respect to attributes of the respondents' age, formal educational attainment and years of fishing experience.

In general, the characteristics of family fishing activities are remarkably similar across all of the attributes profiled. This quality clearly demonstrates a fundamental cultural and social 'face' of small boat fishing livelihoods, i.e., these livelihoods are embedded within generationally deep and broad family and kin relations. For instance, many of the marine harvesters interviewed noted that their mother's father, father's father, and wife's father also fished. In short, they share a family-seated fishing background that no doubt defines key elements of family culture [10].

The one notable difference evident in Table 1 concerns the extent to which sons fish or have fished for their living. Younger marine harvesters who have attained higher levels of formal education are much less likely to have sons in commercial fisheries than those who are older than 50 years of age and who have attained formal schooling levels of grade 9 or less. This difference is most likely a consequence of fisheries management policies. Access and allocation policies have created an economic crisis wherein most cannot afford the hundreds of thousands of dollars required today to buy fishing licenses and equipment. Fewer sons within these circumstances can be recruited into, let alone effectively 'inherit', the small boat, family-centred fisheries than was the case in the past [12–14]. Nevertheless, though currently under stress and changing, the family-based attributes represented in Table 1 remain culturally and socially definitive of the small boat sector.

As might be anticipated, these family and kin connections are deeply embedded in the particular coastal communities and physical landscapes in which fishing families live. Using the genealogical information gathered from the peer-nominated local knowledge experts, Map 2 shows the multi-generational association of selected LEK expert fishing families with specific community locations and adjacent fishing grounds around Chedabucto Bay. The genealogical information shown expresses a minimum of three

### Chedabucto Bay Local Expert Fishing Families



Map. 2. The local expert fishing families in the Chedabucto Bay, Nova Scotia, Canada.

and a maximum of five unbroken generations of fishing for a living, covering a minimum of 90–150 years in time. With one exception, only men within these families were specified either as having fished or as currently fishing. Reflected here is a snapshot of the historical continuity within fishing families of participation in the livelihood and of use of the adjacent fishing grounds that can be interpreted as ‘typical’ for those of similar backgrounds and engagements throughout the region’s coastal areas.<sup>10</sup> We could have documented, if it had been a primary objective of our research, a minimum of six to seven generations of continuous occupation, use and dependence on fisheries for most of the families represented. One might think that these unbroken family histories would establish recognized *use-* rights to marine resources occurring within community-adjacent fishing grounds, but such has not been the case.

Historical continuity is also evident in the life histories of most current marine harvesters. The majority of the peer-recommended local knowledge experts interviewed for

<sup>10</sup>The males represented are only those who participated in fisheries livelihoods. Most families have numerous males who never enter the fisheries. From a birth-order perspective, most of these are among the last born or youngest males. By the time they come along space aboard family boats has been occupied by the elder sons, leaving the youngest either to develop a non-fisheries livelihood or to migrate out of the area [15]. The reductions in participation notable in the most recent generations for many of the families is largely the result of the implementation, since the late 1960s of the Canadian federal government’s allocation resource management systems such as limited entry licensing. Firm limitations placed on the availability of the number of licenses required of harvesters to participate in each specific fishery, particularly high-value fisheries such as lobster and snow crab, assure that only a few within each generation will be permitted to fish.

this study began fishing full-time by the age of 15 years. While a couple actually began their fishing careers as crew on large offshore trawlers, 10 started as crew on their father's boat, usually trapping lobster, netting mackerel and herring, and fishing with hook and line for species such as cod, hake, and haddock. Today, the vast majority of these men fish from the very harbours and wharves in which they first started their fishing careers.

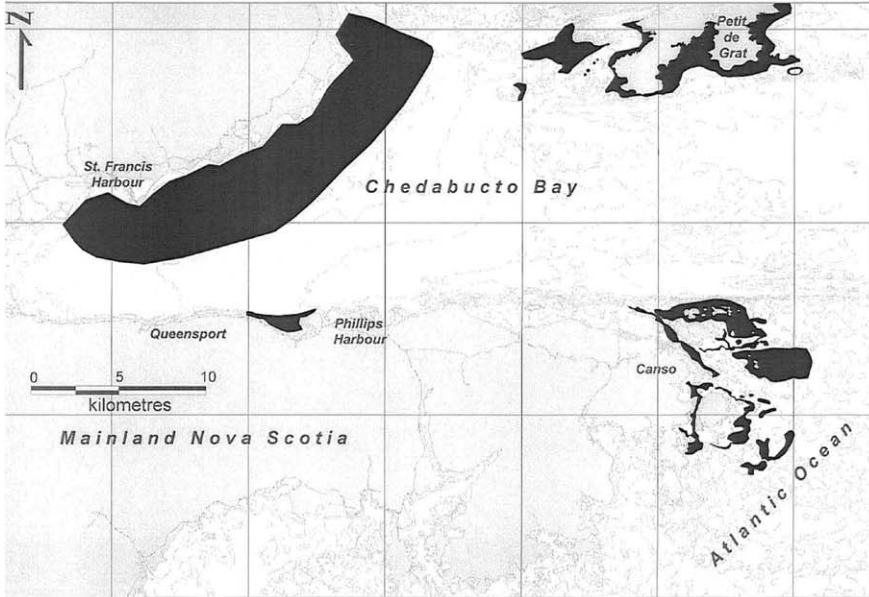
The time spent crewing on their fathers' boats, combined with earlier bouts of summer fishing while still in school, essentially constitutes an apprenticeship period during which they learnt the essentials about handling boats and fishing equipment, as well as acquired, most importantly, the foundations for their knowledge of where and when to fish for specific marine resources within the local fishing grounds. For example, all needed to learn a complex suite of 'shore marks' and compass directions combined with 'steamin' time' in order to know where to set their fishing gear within the local ground for each targeted species. After several years, most of these men left their fathers' boats for boats of their own, but they continued fishing from the same harbours and on the same fishing grounds. This sketch of life histories underlines the historical constancy of relations between the physical location within which men enter and pursue their small boat fishing livelihoods and the richness of kin relationships definitive of the livelihood. These qualities will become even more evident through the following discussion of the lobster fishery.

## **5. The lobster fishery**

For the Chedabucto Bay region, the historic and rich relationship of local fish harvesters to fishing grounds adjacent to their natal communities and fishing harbours can be most clearly illustrated through a description of involvements in the lobster fishery. Unlike most other major fisheries in this region, the lobster fishery has remained entirely a small boat fishery. This is largely the outcome of the fact that lobsters are caught mainly in shallow, near-shore areas. Lobster are fished with traps, each captain fishing a few hundred, that are baited and left on the sea bottom for a period of 24 h. These are 'hauled' daily, weather permitting, emptied, re-baited, and re-set throughout the lobster fishing season. Fishing captains will move their traps from place to place within the lobster ground, depending on catch results and in anticipation of the movement of lobster to shallower water as the water warms. Space availability within which to set their gear is a delimiting consideration. Lobster ground is limited in area; so prime space is soon occupied. It is considered to be very bad form, even provocative, to set gear on top of traps already in place. Angered captains may cut off the violating buoy lines, assuring loss of traps. Consequently moving gear to new locations is a carefully considered activity.

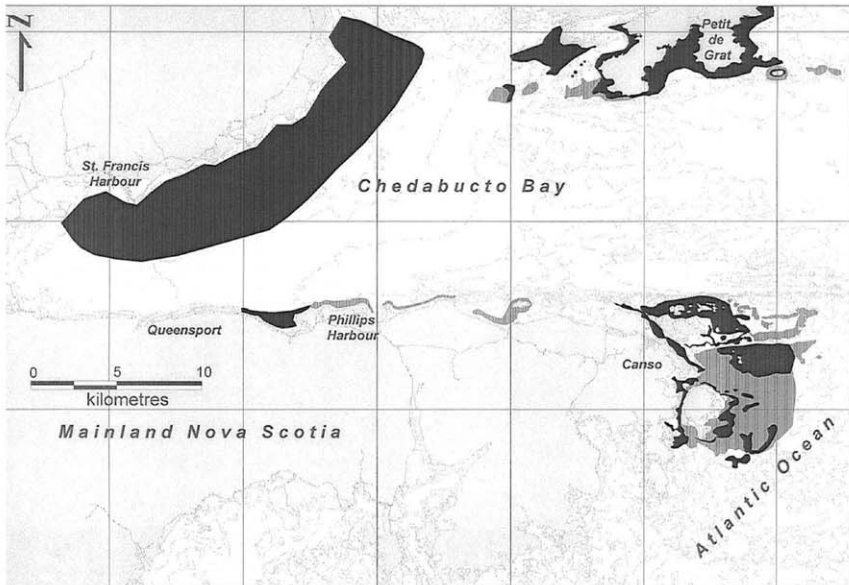
Map 3 provides composite information for all the fish harvesters interviewed. For comparative purposes, the fishing grounds identified by those interviewed have been divided into those grounds that were being fished before 1980 and areas that have been added since that time. This has been done in order to identify where expansion of fishing grounds has occurred. In the case of Canso, for instance, Map 3 indicates that fishing effort has expanded significantly towards the east and south (the area marked in red). A similar but less extensive pattern of expansion can be seen on the north side of Chedabucto Bay near Petit-de-Grat. Here, fish harvesters have expanded their range to shoals and islands that were too difficult to reach with smaller boats.

### Lobster Fishing [First Lifetime Period]



Base Map Source: Compusearch - MapInfo Group  
Cartography and Design By Erica Gillis July 2004 Social Research For Sustainable Fisheries

### Lobster Fishing [Second Lifetime Period]



Base Map Source: Compusearch - MapInfo Group  
Cartography and Design By Erica Gillis July 2004 Social Research For Sustainable Fisheries

Map. 3. Lobster fishing before 1980 (first lifetime period) and since then (second lifetime period).

### 5.1. Customary property rights in the lobster fishery

For as long as the commercial fishery for lobster has existed in Chedabucto Bay, harvesters have been catching lobster in the waters immediately adjacent to their home port. No doubt this pattern arose initially as a matter of technological necessity, during the days when only oar-powered rowboats were available to reach the fishing grounds. The pattern continues today, however, despite the fact that boats now are mobile enough and sufficiently well equipped to fish a much larger area. Fishing grounds have expanded much less than might be predicted on the basis of technological capacity alone.

The distributional pattern of fishing areas depends on the historic use patterns of individual harvesters but also reflects the unique ecological characteristics of the grounds in any given setting. In the vicinity of Philip's Harbour, for instance, lobster habitat runs along the shoreline and never extends more than half a mile from shore. Those fishing out of Philip's Harbour collectively fish an area that extends both east and west of the port, treating most of that area as their exclusive fishing zone. At the western extremities of this zone, however, boats from Philips Harbour fish among boats from Queensport.

The pattern at Canso, however, is quite different.<sup>11</sup> Here, the lobster fishing grounds extend much further from shore and are located on the edges of a large number of small shoals and islands that stretch several kilometres east and south of Canso. By comparison to Philip's Harbour and Queensport, the customary practices that determine who fishes where at Canso are much more complex. Historically, each individual's choice of where to fish was significantly more constrained than today. While different harvesters had somewhat different understandings of historic patterns, they were nevertheless in agreement about certain core characteristics of the system. The accounts of two Canso fishermen, named for this purpose as Charles and Hugh, illustrate these basic principles.

According to Charles, who began fishing lobster in 1955, the Canso grounds were formerly divided into three clearly demarcated areas and each harvester was obliged to stay within one of those areas. Those who broke this rule would likely have their traps cut free from their buoys or be harassed in some other way. Typically, a young man who had just acquired his own boat and gear would fish the same grounds he had formerly fished as a crew member with either his father or another captain. By returning to this same area with his own boat, he could minimize the likelihood of anyone opposing his presence and also benefit from his existing knowledge of the fishing grounds.

Charles reported that he did not entirely follow precedent, however, when he first began fishing. He gained most of his early lobster fishing experience on a small rowboat that he fished independently with a friend while still a teenager. His father fished mainly on the offshore boats and had more or less given up on lobster fishing by this time. When he bought his own lobster boat he went to the grounds fished by his older brother, but reported that his lines were regularly cut all the same. As Charles described it:

And I'll tell you, we had [it] hard ... the first year we went at it, we lost about 100 traps. Even the fishermen that were around the light, they didn't want us out there when we first started. ... It was a hard racket when you first started, trying to break in because if they could run you or put the run to you, they were going to... because they didn't want no new fellers on their ground. That's how you just had to... we just

<sup>11</sup>Map 3 data for Canso is based on information gathered from four fishermen.

took it all in the first year. And we went back again the next year and after a while they decided to leave us alone.

According to Charles, the three-zone system broke down entirely during the 1970s, following a downturn in the lobster fishery. In response to a diminishing catch of lobster and in order to further their own goals of economic rationalization, FOC implemented a license buy-back programme that significantly reduced the number of lobster licenses being fished out of Canso. By the 1980s, as shown in Fig. 2, lobster stocks were rebounding and the market value of lobster increased dramatically. The greater profitability of the fishery now made it feasible for harvesters to invest in faster boats and more sophisticated gear. The smaller number of harvesters and improved technology quickly led to a significant reconfiguration of fishing territories. According to Charles, younger fishermen like him by now had a different set of attitudes about their fishing grounds. Rather than following the more controlled practices of previous generations and each staying within a fairly small area, his generation were more interested in sharing the total fishing grounds among everyone on the dock.

Charles expanded his fishing territory during the late 1970s and throughout the 1980s. Two main strategies guided his choice of where to go. On the one hand, he began to experiment in new areas, trying traps here and there and returning to the ‘best spots’ (i.e., most productive places) on a regular basis. But he also retained the best fishing locations within his previous territory. This first strategy, then, was mainly one of expanding his fishing area and concentrating his efforts on the best spots within that larger area. This strategy also involved setting more traps in the areas where lobsters were most abundant early in the season, and concentrating on other areas later in the season when the lobsters ‘moved in’. To a great extent this strategy involved setting most traps in deeper waters to

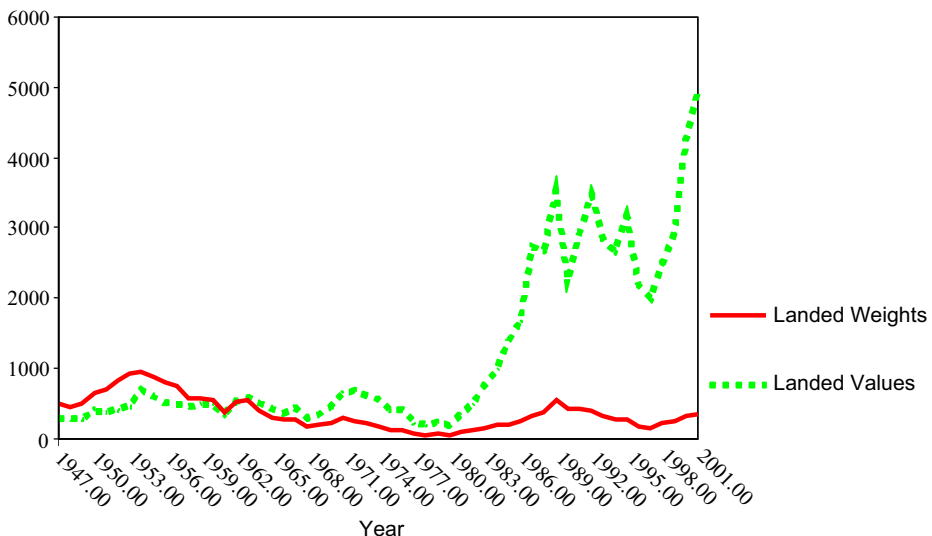


Fig. 2. Lobster landed weights (in thousand mt) and values (in thousand \$) in Guysborough County, 1947–2001. Source: Government of Canada, Department of Fisheries and Oceans. These statistics were compiled by Ms. Virginia Boudreau, Researcher, the Guysborough County Inshore Fishermen’s Association.

begin with and moving them in to shallower waters as the season progressed and the shallower water warmed. However, according to Charles, it also involved a movement from south to north. Lobsters are more abundant in the south end of Canso's fishing grounds in the early weeks of the season and many harvesters concentrate their traps in this location until catches decline. By then, catches are likely to be improving further north, closer to Canso, and traps are moved north.

The second element in Charles's strategy related to the fact that lobster numbers in the 1980s rebounded more quickly on the southern grounds than in the north. Charles gravitated further and further south over a period of several years, to the edge of the Canso territory. At the south end of Canso grounds, described typically as 'behind the Cape', the fishing grounds about those of harvesters operating out of Little Dover, the next port to the south. In Charles' case, this seasonal, south-to-north fishing pattern emerged gradually as he expanded south. But, Charles, by his own admission, stayed out of areas traditionally fished by those from Little Dover. In essence, then, while the three-zone system broke down during this time, harvesters from Canso continue to share what amounts to their exclusive lobster fishing area, one that abuts and, to a small extent, overlaps at both ends with the grounds of harvesters from other ports.

The account of Hugh, another harvester from Canso, confirms important overall principles of the customary system. Like Charles, Hugh did not begin fishing in his father's territory even though his father also fished for a living. When he began small boat fishing in 1964, he went to an area being fished by his wife's brothers who were from Little Dover. By his own account, he was very much dependent on their help and expertise when he first began. Hugh did not confirm Charles' assertion that there had been a three-zone system in place when he began fishing in 1964, but he began fishing outside of the entire Canso ground. Hugh reported the same pattern of expansion as Charles, beginning in the 1980s. In his case, expansion occurred mainly to the east and north and to a lesser extent to the south. His expansion to the east and north meant that he was fishing at times in the same areas as Charles. Expansion to the south, which would have made sense in geographic and economic terms, was constrained by the fact that he would have been considered an outsider, except in those areas traditionally considered to be the shared territory of Canso and Little Dover.

A set of distinct, though mutable, principles thus determines how lobster harvesters in Chedabucto Bay distribute themselves on the water. These principles do not correspond to the licensing practices of FOC. Each lobster license issued by FOC is attached to a specific lobster fishing area (LFA). Canso lies within LFA 31a, which extends from Francis Harbour in the west to Tor Bay on the Atlantic coast. Harvesters from Canso are thus legally able to fish anywhere within that region, but are significantly constrained by and generally respect a set of customary, informal understandings that have been in operation for as long as lobster has been fished off these shores.

The practices followed by harvesters from Chedabucto Bay are less defined than those from St. Georges Bay described elsewhere [16]. They are, however, more generally representative of practices documented elsewhere in Nova Scotia [15], and, e.g., in Maine [17]. While the description offered here focuses on the Canso area, the principles and practices are very much the same on the north side of Chedabucto Bay, despite significant cultural differences between the two settings. Fishing communities of the north side are predominantly francophone and have entirely different settlement and development histories than those of the Canso side. Nevertheless, on both sides of the bay, the principles

of adjacency and the facts of family histories are recognized as fundamental to determining who can fish as well as where they fish.

## **6. Discussion and conclusions**

Current marine resource management and allocation policy, in Canada and many other national jurisdictions generally subscribe to three objectives. These are: (1) ecological sustainability (i.e., protecting ecosystem health and diversity); (2) economic goals (e.g., maximum efficiency, generating and maintaining income and employment); and, (3) social outcomes (e.g., reducing conflicts, promoting equity and fairness, maintaining social and cultural qualities of the communities) [18,19]. Operationally, these objectives are frequently found to be in tension, if not in outright conflict. For instance, while many ecological and bio-economic models and market-based mechanisms have been developed to assist managers with attaining ecological and economic goals, very little effort has been devoted towards achievement of social objectives. In fact, the interests and agents of economic development, masked in policies promoting rational economic utilization and efficiency, typically supersede concerns about both ecosystem and community sustainability. As a consequence, some fisheries sectors, especially those of small boat and indigenous people, are systematically disadvantaged, under-valued and marginalized. This fact has been acknowledged by the United Nations in documents such as Agenda 21 which arose out of the 1992 Rio Summit. Specific direction is given to nation-states in that document concerning recognition of, respect for, and inclusion of rights of access to marine resources to coastal small boat harvesters [2].

The evidence presented here simply and unequivocally documents, for a population of Chedabucto Bay Nova Scotian small boat marine harvesters, the ‘facts’ of livelihood dependence, deep inter-generational occupation and participation, and a historically rich practice of harvesting marine resources from grounds located adjacent to settlements and family residences. Similar, if not essentially identical, qualities characterize coastal people throughout the globe. Unfortunately, most also share conditions of disadvantage and marginalization. Yet, the nation-states within which they reside have achieved legally recognized proprietorial and management ‘rights’, in large measure through recognition and the attribution of legal meaning to the very socio-economic and historical practices of their coastal people. In the main, nation-states have exercised their ‘rights’ to pursue an economic growth agenda that has done little more than further marginalize these coastal and indigenous people and accelerate the degradation of marine ecosystems.

Many coastal and indigenous people have been reduced to fishing on ‘privileges’ (licenses, quotas, etc.) dispensed to them by the proprietary state in the guise of access and allocation management policies, ostensibly intended to regulate what would otherwise be resource- and ecosystem-destroying fishing practices. ‘Privileges’ so given remain the prerogative of the state to withdraw. Such occurs frequently in the form of license buy-backs, fisheries closures, license cancellations, quota reductions and the like. Likewise, decisions to dispense privileges to industrial harvesters and corporations are typically made without regard for their impact on coastal people’s rights and livelihood stability. The failure of natural resource allocation management policies either to maintain ecosystem and resource integrity or to assure some measure of equity in access to sustainable small boat fisheries livelihoods signals a clear need for a new and creative approach that will leverage and empower the inclusion of coastal people in the formation and exercise of



resource management policy. Formal, legal recognition of these people's rights must occur before political leaders and resource managers from nation-states begin to adopt more inclusive and creative approaches to resource management.

Of course, acknowledging and empowering 'rights' as the basis for access to and participation in what is generally understood as no more than a livelihood, trade or occupation pose a number of challenges. Not the least among these is identifying the means of achieving formal definition and recognition of rights. The social, logistical and historical profile of most coastal people respecting occupation and use of adjacent marine resources offers moral substance in support of some form of rights-based entitlements. But, 'rights' are most frequently achieved through struggle, usually articulated in the current era as courtroom battles resulting in judicial interpretations and decisions. Such has been the case in Canada for legal recognition and affirmation of indigenous people's treaty-based entitlements, a situation where negotiated and signed treaty agreements already exist. Court challenges and judicial reference are the likely paths facing those desirous of establishing rights within nation-states where legal systems have precedence for acknowledging use and occupation as the basis of entitlements.

Equally as challenging is defining the character and scope of 'rights' as determined with reference to social, historical, and logistical attributes. Rights are attributed most commonly to individuals and individual proprietorship.<sup>12</sup> This finds one of its earliest, and perhaps most provocative, expressions in Thomas Paine's 'The Rights of Man'. For instance, Paine, in explaining the distinction between 'natural' and 'civil' rights argued that "[e]very civil right has for its foundation some natural right pre-existing in the individual". Further, "[t]he natural rights which he retains are all those in which the Power to execute is as perfect in the individual as the right itself ... Society grants him nothing. Every man is a proprietor in society, and draws on the capital as a matter of right."<sup>13</sup> Contemporary presumptions of the individual as primary referent of civil and human rights rests on these very particular historical and European cultural perspectives. This concept of right, one that requires individual possession in order to enable the alienation of that which is 'owned', does not capture the collective nature of rights that arises out of the social, historical, and familial context of coastal fishing as described here.

Co-existing through time with egocentric treatments of rights are local-level, collective or shared systems of rights. Residuals of this are found, for instance, in the English Common Law recognition of 'easements', i.e., "... the right of use over the real property of another ... Traditionally, it was a right that could only attach to an adjacent land and was for the benefit of all ...".<sup>14</sup> Today easements are most commonly understood as public rights of way (as roads, trails, paths, etc.) through privately owned land. In addition, many European communities had 'commons' or lands held in common. These were reserved for local residents and used in activities that ranged from grazing animals through gardening

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<sup>12</sup>For insightful background to the rise of the 'individual' as the site of social and civil meaning, see 'Political Theory of Possessive Individualism: From Hobbes to Locke [20]. The revolutionary reconceptualization during the European Enlightenment of the individual human being as proprietor of their labour certainly underwrote the thinking about 'rights' inherently residing in the self-possessing individual, and was an essential condition associated with the rise of labour markets and industrial capitalism.

<sup>13</sup>[www.ushistory.org/paine/](http://www.ushistory.org/paine/). Of course, it is important to recall that most progressive social and political thinkers from the 17th–19th century, such as Paine, were jousting with the European feudal concepts of the place of humans within a divinely predestined social order and hierarchy of authority and power.

<sup>14</sup><http://www.absoluteastronomy.com/encyclopedia>.

to recreational pursuits. The absence of individual proprietorship in these settings is not in the least expressive of an absence of ownership. Local collective ownership was expressed through formal and informal processes whereby the terms of access were specified (e.g., a requirement of local residence embedded within settled families and kin groups) and the conditions of use were managed (e.g., periodic decisions on who gets to use what over specified durations of time). The local importance of and attachment to these ‘commons’ has been such that formal legislation (e.g., *Great Britain’s* Acts of Enclosure) and policing interventions have been employed frequently to divest communities of their commons.<sup>15</sup> The older parklands and public places in many municipal settings were originally commons. Further, these distinctly community-referenced expressions of local entitlements provide the legal precedents, at least in part, to support the notion that indigenous people retain collective rights to lands and resources unless formally extinguished by the nation-state.

Coastal marine harvester’s rights may be located legally with respect to at least two customary and acknowledged bases for claims and recognition. These are the right of adverse possession (i.e., squatter’s rights) and *usufruct*. Most coastal fishing people express the attributes of occupation and use, as we have demonstrated for the Chedabucto Bay settings that may form the basis for a claim to the right of adverse possession. The nation-state, acknowledged as the formal proprietor of territorial waters as well as de facto proprietor of exclusive economic zones, has available to it the option of recognizing and managing rights of adverse possession through the negotiation and issuance of usufructs, or ‘use rights’.

In some European-based civil and common law practices, usufructs recognize an individual’s and, in some instances, a collectivity’s right to use and enjoy “... the fruits or profits of another’s property, without fundamentally changing its [i.e., the property’s] substance” (Abbott 2000–05). A usufruct may be created through a variety of processes. Among these are “... agreement or testamentary grant ... or it may be created by law”. Further, uses may apply to all forms of property (e.g., movable, immovable, and corporeal) and be subject to “... a set period of limitation ... and prohibition[s]...”<sup>16</sup> (Abbott 2004–2005). These recognized attributes of use rights offer considerable potential for both coastal fishing people and nation-states to acknowledge and value the realities of local occupation and use, while also establishing terms and conditions that would establish the basis for expressing and managing use rights.

Given that use right claims would rest upon a social and historical pattern of family- and community-centred occupation and use expressed, perhaps, in the right of adverse possession, any established rights arising from such conditions would be best understood as akin to indigenous entitlements. That is, the entitlements would be in the first instance communal and unalienable. They would be invested only with regard to settled families with documented histories of occupation and use respecting specific fishing grounds, and could neither be transferred to ‘new’ families nor bought and sold.

These characteristics of use right-based rights concretely address challenges in a rights approach, but also underscore several additional challenges that need to be acknowledged

<sup>15</sup>For instance, Customs in common: studies in traditional popular culture [21].

<sup>16</sup>Abbott’s ‘Encyclopaedia of real estate terms’ is available online at <http://www.deltaalpha.com/terms/usufruct.html>. His definitions and coverage of the topic is consistent with that found in other texts. See, for instance, <http://www.duhaime.org/dictionary> and <http://www.meocpa.com/usufruct.html>.

and would need to be resolved. One of these challenges is the need to assure close connection between the exercise of such rights and the goal of ecologically sustainable resource management. That is, what mechanisms would assure that use right-empowered families of marine harvesters would not simply exercise their rights through practices such as maximizing the numbers of family members and boats fishing, particularly if faced with similar practices on the part of other fishing families? As noted above, the right of usufruct specifically and unambiguously requires that users enjoy the exercise of their rights without damaging or otherwise fundamentally altering the property. That is, usufruct rights require that users engage in responsible use practices, and the continuation of usufruct is contingent on the demonstration of responsible use practices, otherwise known as resource management.

Such an elemental condition and limitation imposed on use rights would require intra-family regulation of factors such as scale of participation and fishing capacity and power, while also requiring organizational means for engaging inter-family cooperation and coordination. In other words, use rights would support and empower fishing family and coastal community representative organizations such as associations, unions and/or co-operatives. Organizational representation in forms such as these would arise and/or be substantially empowered simply as a consequence of the use right requirement for effective ways and means to exercise rights while also managing resource use.

Notably, use right-based resource management systems would enable a progressive move towards addressing the Rio Declaration, Agenda 21, goals of justice, equity, and representation for coastal fishing people within resource management practices of nation-states. Use rights would also require nation-states to engage as partners with coastal people for the purposes of developing the ways and means of managing resources as well as of monitoring use. Such an approach would add substantial muscle to resource management options, such as community-based co-management arrangements, by empowering the previously disenfranchised while delimiting the nation-states' capacity to behave arbitrarily in the design and implementation of resource management practices, and in the allocation of access privileges.

Ostensibly, family-based fishing use rights might exacerbate territorial claims to fishing grounds and boundary conflicts [22,23]. Certainly, rights of access to mobile marine resources (species ranging from the tunas through to various pelagics and groundfish) may be anticipated to initially increase conflicts.<sup>17</sup> Yet, the shared attributes of social history and material circumstances as well as the need for empowered local organizations provide a basis on which to identify and to resolve such conflicts.<sup>18</sup> At a minimum, familial and local vested interests, located within such a rights system, would necessarily have to act responsibly to resolve any conflicts jeopardizing sustainable use practices.

Of course, any property-based rights system will put in place terms and conditions that particularize access and participation, and as such will be exclusionary. Some social and political histories have established settlement patterns and practices that exclude, intentionally or otherwise, access and participation on the basis of ascriptive attributes

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<sup>17</sup>The issue of conflict with mobile industrial harvesting fleets that intercept migrating fish 'offshore' before reaching near-shore grounds represents an area where the nation-state has a clear responsibility to implement controls on offshore fishing that will assure coastal fishing people conditions wherein they are able to exercise their usufruct in a context where there is a reasonable opportunity for them to achieve livelihood goals.

<sup>18</sup>See 'Anthropology of fishing' [24], 'The lobster gangs of Maine' [17], and 'Lobster trap limits: a solution to a communal action dilemma' [22] for illustrations of boundary conflicts and local conflict resolution processes.

such as ethnic origin and gender. For instance, the colonial immigration and settlement of European ancestry fishing people to many places throughout the Americas commonly displaced indigenous people and established local practices that de facto excluded indigenous people and others from non-European ancestries from accessing commercial fishing livelihoods. Arguably, implementing rights based on usufruct would do little but further embed these inequities and buttress the advantages of local fishing ‘elites’, e.g., current generations of fishing families in possession of licenses, quotas or other nation-state-distributed allocation management privileges.

The potential for this socially undesirable outcome of use rights is undeniable. But, historical events cannot be replayed; the circumstances arising from them cannot be simply undone and recast. In Canada and other nation-states, the affirmation of treaty-based rights and aboriginal rights are assuring indigenous people access to and participation in commercial fisheries, thereby providing social readjustments and some justice. While not indigenous, long-settled people with established and unbroken histories of family-based fisheries livelihood participation and dependency have earned, at least with respect to the principles of ‘natural justice’, a prerogative and entitlement to continue fishing. Past discriminatory social practices denying access on the basis of gender and ethnic ancestry are mediated today through education and changes in social consciousness. For example, women participate in contemporary fisheries in much greater numbers than they did at any point in the past and inter-ethnic partnering and parentage are moderating and dulling racist practices. In and of themselves, rights of usufruct neither reproduce nor deepen sexist and racist exclusionary social practices. If anything, rights of usufruct will assist coastal fishing people to escape their marginalization and associated economic and social insecurities, thereby fostering the social conditions that are more welcoming of participation by women and those from other ethnic backgrounds (e.g., through marriage).

The historical and familial continuity in marine resource harvesting supports an establishment of a community-based, family-centred rights system as an alternative to individual fishing privileges. Here, we propose the development and implementation of a usufruct-based right to access marine resources in areas adjacent to home ports. Such a system would express and embody fairness for coastal marine harvesters with deep personal and family fishing heritages. It would acknowledge and privilege family histories, and the toil, risk, suffering, loss, and initiative that these embody. Such an approach would also assure some leverage for those who are otherwise at a disadvantage when competing with industrial-scale fishing enterprises in securing access. It would also foster responsible and sustainable resource exploitation through situating and embedding livelihood access and fishing practices in past, present and future family and kin experiences and interests, as well as in the specific conditions associated with maintaining the use right.<sup>19</sup> Notably, the sedentary nature and essentially near-shore distribution of species such as lobster offer good potentials for successful implementation of family-based access rights. Here, we acknowledge that the application of such an approach to accessing migratory species, such as most finfish, would pose different and possibly more difficult management challenges. Yet, the shared histories, experiences and interests of fishing families offer the prospect of developing dialogues and agreements supportive of continued access and sustainable use of mobile marine resources.

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<sup>19</sup>The opportunity for a locally determined approach to resource management, one that would employ harvesters’ local ecological knowledge, would become much more likely [25].

A major management challenge would concern regulation of industrial-scale exploitation of migratory marine resources, as there would be little value for near-shore fishing families in achieving access and use rights to resources that are largely exhausted by industrial effort. Recognizing and embedding family-centred fisheries access rights on the basis of historic participation and historic use of fishing grounds adjacent to home ports and communities would also square, so to say, the human experience and ‘on-the-ground’ facts with nation-state use of these people’s histories and practices as the basis for legally claiming exclusive authority over adjacent continental areas.

## Acknowledgements

The research reported in this paper was funded by a grant from the Social Sciences and Humanities Research Council of Canada (numbers 833-99-1012 and 833-2002-2000). Ms. Virginia Boudreau, Guysborough County Inshore Fishermen’s Association, provided key statistical information of fisheries as well as helpful insights; Ms. Erica Gillis, Social Research for Sustainable Fisheries, digitized the interview data enabling her to create the maps presented herein; and Dr. Ratana Chuenpagdee provided helpful commentary through the essay’s development.

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