

Canadian Technical Report of  
Fisheries and Aquatic Sciences No. 1549

September, 1987

ATLANTIC FISHERIES AND SOCIAL SCIENCE: A GUIDE TO SOURCES

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Cat. no. Fs 97-6/1549E      ISSN 0706-6457

Correct citation for this publication is:

Lamson, C., and J.G. Reade. 1987. Atlantic fisheries and social science: a guide to sources.  
Can. Tech. Rep. Fish. Aquat. Sci. 1549:vi + 10 p.

## CONTENTS

ABSTRACT/RÉSUMÉ.....	v
ATLANTIC CANADA FISHERIES REGIONS (map).....	vi
INTRODUCTION.....	1
ATLANTIC FISHERIES DEVELOPMENT: BACKGROUND READINGS.....	1
ETHNOGRAPHIC STUDIES: FISHERMEN, FISHING COMMUNITIES AND RESOURCE EXPLOITATION.....	2
RELATIONS BETWEEN PRODUCERS AND PROCESSORS AND FISHERMEN'S ORGANIZATIONS.....	2
RESPONSE AND ADAPTATION TO TECHNOLOGICAL AND POLICY CHANGES....	2
REGIONAL INFORMATION SOURCES	
Quebec.....	3
Newfoundland and Labrador.....	3
Nova Scotia.....	3
Prince Edward Island.....	4
New Brunswick.....	4
CONCLUSION: INFORMATION NEEDS.....	4
REFERENCES.....	6



## ABSTRACT

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Access to Atlantic fisheries social-science research is problematic for two reasons. First, research results are often not published in professional journals and therefore cannot be accessed through on-line computer searches of established data files. Second, because fisheries social-science research activity takes place throughout the region by academics, governmental and non-governmental organizations and industry personnel, centralization of information services has not been achieved. This report serves as a user's guide to Atlantic fisheries research literature and argues for the establishment of a more formalized fisheries social-science information network to serve future research requirements.

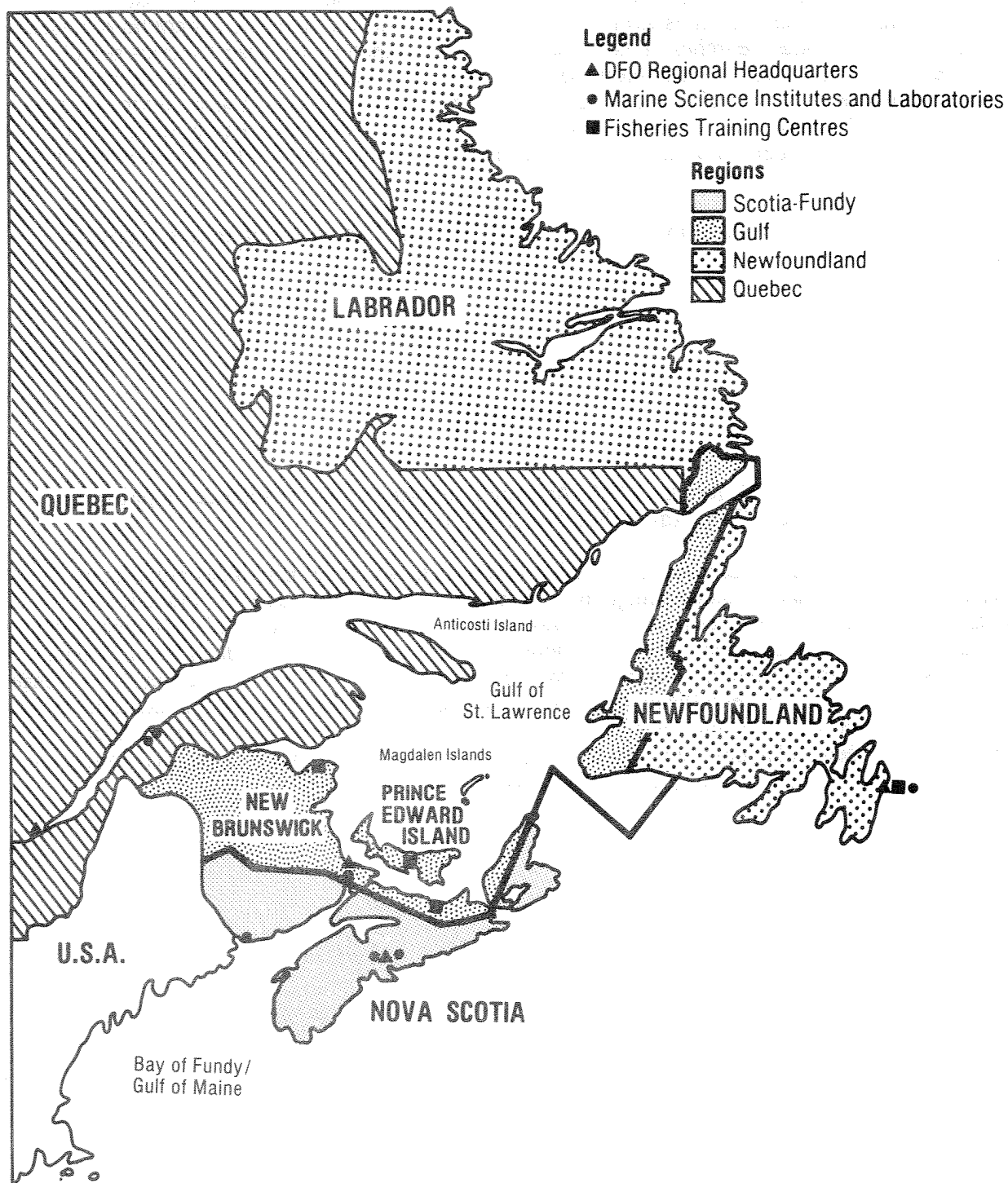
Key words: Atlantic fisheries - bibliographies, fishermen and fishing communities, maritime anthropology.

## RÉSUMÉ

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Ceux qui veulent étudier les sciences humaines de la pêche des provinces atlantiques doivent faire face à deux problèmes majeurs. Premièrement, on ne trouve pas souvent les résultats des recherches dans les revues professionnelles; par conséquent, on n'a pas accès à ces résultats par catalogues en ligne. Deuxièmement, la diversité de chercheurs dans les universités, les organismes du gouvernement fédéral et provincial, les collectivités spécialisées, et les industries représente un obstacle à la centralisation des services. Ce rapport sert de guide à la documentation de recherche sur la pêche des provinces atlantiques. Pour faciliter les études sur les sciences humaines de la pêche à l'avenir, les auteurs recommandent qu'on établit un réseau d'information, pour assurer la liaison entre des personnes intéressées.

# ATLANTIC CANADA FISHERIES REGIONS



## INTRODUCTION

The fishing industry is the backbone of the Atlantic regional economy. Approximately 48,500 fishermen live in 1,400 communities scattered along the coastlines of the five eastern provinces - Nova Scotia, New Brunswick, Prince Edward Island, Quebec and Newfoundland and Labrador. The fish-processing sector also employs an estimated 48,000 workers in seasonal and full-time jobs (Task Force on Atlantic Fisheries 1982). Additional employment opportunities are provided through the marine services sector and fisheries management operations. Romeo LeBlanc, a former Minister of the Department of Fisheries and Oceans, once described the study of fisheries as a major cottage industry in the Atlantic Provinces but, despite the abundance of fisheries-related research and associated expertise in the region, no single institution has evolved to examine fisheries policy or the socio-cultural dimensions of fisheries management decisions on an ongoing basis.

Sources of scientific data about regional fisheries are located throughout the region at marine research centres such as the Bedford Institute of Oceanography (Dartmouth, Nova Scotia), the Huntsman Marine Laboratory and St. Andrews Biological Station (St. Andrews, New Brunswick), the Institut National de Recherche Scientifique (Rimouski, Quebec) and the Institut Maurice-Lamontagne (Ste. Flavie, Quebec). Libraries at universities with strong marine-science programmes, notably Université du Québec à Rimouski (Rimouski, Quebec), the Université de Moncton (Moncton, New Brunswick), Memorial University of Newfoundland (St. John's, Newfoundland) and Dalhousie University (Halifax, Nova Scotia), also maintain extensive oceanographic and marine-science collections. Information about industrial or technical developments and marine training programmes may be acquired at regional institutions such as: the Nova Scotia School of Fisheries (Pictou), the Technical University of Nova Scotia and the Nova Scotia Nautical Institute (Halifax), the Newfoundland and Labrador Institute of Fisheries and Marine Technology (St. John's), Prince Edward Island's Holland College (Charlottetown), Institut Maritime du Québec (Rimouski), and the New Brunswick School of Fisheries (Caraquet).

Access to, and retrieval of fisheries scientific literature is facilitated by several information systems, notably WAVES (a Department of Fisheries and Oceans bibliographic file that includes report or "gray" literature) and NTIS (the U.S. counterpart to WAVES). Other major abstracting services, such as Biological Abstracts, Food Science and Technology Abstracts and Aquatic Science and Fisheries Abstracts, provide access to the international scientific and technical literature of fisheries.

Access to fisheries social-science information, however, is more challenging because research is largely external to government and results may or may not be published in professional journals. Difficulties are compounded because no central clearinghouse, depository or comprehensive bibliographic reference tool exists to assist would-be users in finding materials relevant to current needs. This lack of centralized, continuously up-to-date information services proves costly in two respects. For individuals, the time required to find appropriate material represents a hidden but substantial research cost. The public, in turn, shoulders the financial burden whenever governments undertake major social and economic assessments of the Atlantic fishery. For example, the price tag attached to preparing the Canadian case for the Georges Bank dispute heard in the World Court was approximately \$5 million. Other recent undertakings, including the Task Force on Atlantic Fisheries (popularly known as the Kirby Task Force), the Royal Commission on the Economic Union and Development Prospects for Canada (Macdonald Commission) and the Royal Commission on Seals and the Sealing Industry in Canada (Malouf Commission), also involved substantial allocations of public funds to locate, analyze and systematize existing social-science data.

The need for improved information storage, retrieval and bibliographic services to assist fisheries social-science research in Atlantic Canada was first noted by Raoul Andersen in his seminal article, "The Need for Human Sciences Research in Atlantic Fisheries" (1978). An extensive bibliography of international fisheries social-science literature was subsequently published by an American maritime anthropologist, J.M. Acheson (1981). However, as a research tool or guide to the Atlantic Canadian fisheries, Acheson's bibliography falls somewhat short of serving user needs. This paper endeavours to survey the range of known fisheries social-science research materials, resource collections and centres of expertise in Atlantic Canada. The authors do not claim to have compiled a comprehensive reference tool by preparing this paper, but their goal is to expedite research by producing an introductory, multidisciplinary guide to fisheries social-science materials that will be useful to librarians, researchers and the general public.

## ATLANTIC FISHERIES DEVELOPMENT: BACKGROUND READINGS

The social and economic aspects of regional fisheries development have been investigated by numerous federally and provincially sponsored task forces, commissions of inquiry and special fisheries committees. Reports of these investigations provide valuable background information about the changing social and economic circumstances of fishermen, fish processors and coastal communities throughout the twentieth century - see, for example, Fisheries of the Province of Quebec (Chambers 1912), Report of the Royal Commission Investigating the Fisheries of the Maritime Provinces and the Magdalen Islands (1928), the Newfoundland Fisheries Development Committee Report (1953), the Report of the Royal Commission to Inquire into the Inshore Fishery of Newfoundland and Labrador (1980), It Were Well to Live Mainly off Fish (NORDCO 1981), and Navigating Troubled Waters: A New Policy for the Atlantic Fisheries (Task Force on Atlantic Fisheries 1982). These documents also illustrate the vulnerability of fishermen vis-à-vis the marketplace, the marine environment, and the processing sector. For example, changes in resource availability caused economic hardship that resulted in the establishment of a Royal Commission into the Inshore Fishery of Newfoundland and Labrador (1980). The Task Force on Atlantic Fisheries (Kirby Task Force) was created in the aftermath of a region-wide economic crisis in 1982. The emergence of fishermen's cooperatives in the 1920s and 1930s and the founding of the Newfoundland Fishermen, Food and Allied Workers Union in the early 1970s correspond with periods of rising frustration experienced by fishermen in their relationships with fish merchants and processors. In addition to reports produced by government-sponsored inquiries, three studies by political economists should also be compulsory reading for all Atlantic fishery researchers: The Canadian Atlantic Fishery (Grant 1934), The Cod Fisheries: The History of an International Economy (Innis 1940), and The Decay of Trade: An Economic History of the Newfoundland Saltfish Trade, 1935-1965 (Alexander 1977; see also Alexander 1976).

Economists have played central roles in shaping Canadian fishery policy throughout the twentieth century. They have been called upon to design fisheries-related regional development programs, such as the Newfoundland Household Resettlement Program (see Copes 1972), and to assess the implications of restructuring fish harvesting and production activities (e.g., Department of Regional Economic Expansion 1976; Gardner 1984). Economists also participate in resource management by serving as consultants and advisers to governments. For example, the Economic Council of Canada has commissioned reports to stimulate debate about management options in particular fishery sectors such as the northern cod fishery (Munro 1980; Munro and McCorquodale 1981) and the Bay of Fundy herring fishery (Campbell 1981). The Future of the Atlantic

Fisheries (Weeks and Mazany 1983) was commissioned by the Institute for Research on Public Policy (IRPP) in 1980, prior to the establishment of the federal Task Force on the Atlantic Fishery. IRPP also supported a study of fishery and trade relations between New England, Quebec and the Atlantic Provinces (Mills and LeBlanc 1986).

The Department of Fisheries and Oceans' Economic Services Branch prepares periodic costs and earnings studies; see, for example, An Economic Assessment of the Newfoundland Small Boat Groundfish Fishery, 1979 (Legrow 1981) and Costs and Earnings of Selected Fishing Enterprises, Nova Scotia 1983 (1984). In addition, the federal Department of Fisheries and Oceans also undertakes to compile data concerning community reliance on the fishery, and a useful compendium on this topic, profiling fishing communities in the Scotia-Fundy Region, has recently been released (Raymond 1985; see also Poetschke 1984).

Academic sociologists and anthropologists have published numerous studies about Atlantic fishermen and community life. Core collections should include North Atlantic Maritime Cultures (Andersen 1979), North Atlantic Fishermen: Anthropological Essays on Modern Fishing (Andersen and Wadel 1972), Newfoundland Fishermen in the Age of Industry: A Sociology of Economic Dualism (Brox 1972), Cat Harbour: A Newfoundland Fishing Settlement (Faris 1972), Communities in Decline: An Examination of Household Resettlement in Newfoundland (Iverson and Matthews 1968), There's No Better Place than Here: Social Change in Three Newfoundland Communities (Matthews 1976), and Atlantic Fisheries and Coastal Communities (Lamson and Hanson 1984). Five special issues of professional journals should also be included in a basic reference library: "Canada and the Sea" Canadian Issues (Anon. 1980), "Les Sociétés de Pêcheurs" Anthropologie et Sociétés (Anon. 1981), "Fisheries" Journal of Canadian Studies, V. 19, No. 1 (Anon. 1984a), "Regional Science and Fisheries Analysis" Canadian Journal of Regional Science (Anon. 1984b), and "Labour Developments in the Fishing Industry" (Chaumel 1984).

The sociological literature of the Canadian Atlantic fisheries may be divided into three general categories: ethnographic studies about fishermen, fishing communities and resource exploitation strategies; studies about relations between producers and processors and organizational activities; and studies documenting response and adaptation to technological or policy changes.

#### ETHNOGRAPHIC STUDIES: FISHERMEN, FISHING COMMUNITIES AND RESOURCE EXPLOITATION

In addition to the classic volumes by Andersen and Wadel (1972), Brox (1972), and Andersen (1979), Atlantic fishing activities have been examined by Beaucage (1968), Wadel (1969), Geistdoerfer (1970), Andersen and Stiles (1973), Cove (1973), Balcom (1977), Martin (1979), Stiles (1976, 1979), Baril and Breton (n.d.), Blondin (n.d.), Breton (1980), Zulaika (1981), Bickerton (1983), Kearney (1983), Gray (1983), Wright (1984) and Davis (1984a and b). The first account of female participation in the fishery was produced by a Cape Breton group of fishing women (Department of the Secretary of State 1985). Work satisfaction and community attachment to fishing was studied by Apostle et al. (1985). Occupational hazards associated with offshore fishing were examined by Binkley (1984), and the Maritime Fishermen's Union (1986) undertook an exploratory study of the occupational health and safety issues confronting the inshore fishing sector.

The Atlantic fisheries have also been examined from the perspective of human ecology, and key studies include "Environment and Choice in Rapid Social Change" (Britan and Denich 1976), "Systems Ecology, People Ecology and the

Anthropology of Fishing Communities" (McCay 1978), "Environmental Perception in Two Local Fisheries: A Case Study from Eastern Newfoundland" (Shortall 1973), Ecologie Culturelle de la Côte-Nord du Golfe Saint-Laurent (Charest 1972, 1981), "Savoir et Techniques des Pêcheurs des Îles de la Madeleine (Quebec) ou de Quelques Moyens de S'Approprier la Mer et Ses Ressources" (Geistdoerfer 1974), and Against the Wind: The Human Ecology of Hazard in the Newfoundland Inshore Fishery (Lamson 1981).

#### RELATIONS BETWEEN PRODUCERS AND PROCESSORS AND FISHERMEN'S ORGANIZATIONS

Studies about secondary production, fish processing, have focused primarily on the role of women in the industry; see Antler (1977), McFarland (1980), Connelly and MacDonald (1983), Women's Unemployment Study Group (1983), Apostle et al. (1985), and Ilcan (1985). The rise and demise of fishermen's cooperatives is examined by Cujes (n.d.), McInnes (1978), and Jentoft (1985). Relations between fishermen and fish merchants, and the struggle to gain collective bargaining rights are chronicled by Coaker (1930), Steinberg (1973, 1984), Cameron (1977), Barrett (1979, 1984), Williams (1979), Macdonald (1980), Munro and Stewart (1981), Neis (1981), Calhoun (1983), Clement (1984), Fairley (1984), Gurdon and Wright (1984), Inglis (1985), Sinclair (1983, 1984, 1985, 1986), and Legge and Thompson (1986).

#### RESPONSE AND ADAPTATION TO TECHNOLOGICAL AND POLICY CHANGES

Most social-science research related to Atlantic fisheries focuses on some aspect of response or adaptation to change. Change is brought about by shifting biological, economic, political or technological circumstances, usually beyond the control of fishermen (e.g., Morrow 1980; Pross 1984). Important studies documenting response to change include McCay (1976), Antler and Faris (1979), Britan (1979), Heaney (1979), Macdonald (1979), Miller (1979), Barrett (1984) and Kearney (1984). Change occurs also as a result of policy and management initiatives - see Report (Committee on Federal Licensing Policy 1974), McCracken and Macdonald (1976), MacKenzie (1979), Pepper (1979), Draper (1981), Kafka (1981), Barrett and Davis (1984), Macdonald (1984), Davis and Kasdan (1984), Apostle et al. (1984), Carter (n.d.), Kearney (1985), Fraser (1985), and Davis and Thiessen (1986) and House et al. (1986).

Other potentially useful, but often overlooked, sources of information for Atlantic fishery scholars and historians include literary works and biographical accounts. For example, Wallace's Shack Locker (1916) and Blue Water (1935) are still widely read and enjoyed as sea stories, but they also provide detailed pictures of life in the fishery during the first part of this century. Several novels of the same genre include The Way of the Sea (Duncan 1903) and Rockbound (Day 1928). Duncan's work is acclaimed by many as a stylized documentary about life in a remote Newfoundland outpost fishing community, while Day's novel is a highly fictionalized account of everyday life in a small Nova Scotia island community. The Outport People (Mowat 1983) is an autobiographical portrait of life in Burgeo, a town on Newfoundland's south coast. More recent contributions to the literature of Atlantic fisheries include Fisherwoman (Ross 1984), Death on the Ice (Brown 1974) and a collection of short stories entitled The Lost Salt Gift of Blood (MacLeod 1976).



## REGIONAL INFORMATION SOURCES

Due in part to jurisdictional fragmentation of fisheries administration and management, and in part to economic and political factors, most Canadian fisheries and marine research projects are conducted on a province-to-province basis, with a majority of studies being region- or sector-specific. Quebec is generally treated as an entity, separate and apart from its neighbouring eastern provinces, due to historic legal, cultural and linguistic differences.

### QUEBEC

Information about Quebec fisheries may be obtained from the federal Department of Fisheries and Oceans's Quebec Region headquarters located in Quebec City. This office publishes a monthly newsletter, Entre Filets, to advise fishermen and the interested public about industry initiatives, development and current management policies. The Quebec office has also produced a useful overview document, L'Industrie des Pêches Maritimes du Québec (1985), and the province's Bureau de la Statistique issues annual summaries of fishery effort and landings data in two complementary documents, Statistiques des Pêches Maritimes du Québec and Pêche Commerciale (Quebec: Bureau de la Statistique). Persons interested in information pertaining to the changing socio-economic conditions of Quebec fishermen should refer to the work of Daneau, including Situation Economique de la Pêche Côtière du Québec (1964) and Le Québec et ses Pêches Maritimes: Une Analyse des Politiques et des Programmes (1984a), and to a 1978 conference report, Les Pêches Maritimes, sponsored by the Québec Conseil Executif, Secretariat des Conférences Socio-Économiques.

The 1,250-km coastline of the North Shore of the Gulf of St. Lawrence (from Tadoussac to Blanc Sablon) supports numerous coastal fishing communities, and the region has been a focal point for social and human ecological research by Université Laval and Université du Québec scholars since the 1960s. Major publications documenting fishing activities and life on the North Shore are Les Changements Socio-Culturels à Saint Augustin (Tremblay et al. 1969), and a special issue of Recherches Sociographiques, Vol. XI, Nos. 1-2 (1970) containing six essays devoted to the Lower North Shore region. The development and diversification of fishing in the Gulf of St. Lawrence is well documented in La Pêche sur le Saint-Laurent (Mousette 1979). Université Laval is planning to institute an undergraduate program in fisheries management and administration in 1986-87.

The Marine Resources Study Group, or the Groupe d'Etude des Ressources Maritimes (GERMA), and the Centre d'Intervention et de Recherche pour l'Amélioration des Situations de Travail (CIRAST), based at the Université du Québec à Rimouski, are emerging as focal points for interdisciplinary fisheries research. GERMA maintains a current list of research publications and CIRAST has begun publishing a newsletter to create an "information network concerning the workplace in the fishery."

The fisheries-and-marine-based economy of the Magdalen Islands has, like those of many other small island areas, attracted researchers from a variety of disciplines. Principal sources of information about Magdalen Islanders' adaptation to the sea and surrounding marine resources include: Les Iles-de-la-Madeleine et les Madelinots (Hubert 1924); Capitaines des Hauts-Fonds (Landry 1978); Les Iles-de-la-Madeleine Face à Leur Destin (LeBlanc 1980) and a special issue of Recherches Sociographiques, Vol. XI, No. 3 (1970). Chantaine's book about the Gulf of St. Lawrence seal fisheries, The Living Ice (1980), tells a compelling narrative of human resiliency in the context of political oppression and geographic isolation for more than two centuries.

## NEWFOUNDLAND AND LABRADOR

Sir Wilfred Grenfell, the medical doctor responsible for establishing a network of missionary medical posts on the Labrador coast, focused international attention on the plight of coastal fishermen. His writing, including Tales of the Labrador (1916) and Labrador Days: Tales of the Sea Toilers (1919), documents social conditions and the folkways of Labrador fishermen in the early part of the century. Probably the first academic study of the Labrador coast was Isolated Communities: A Study of a Labrador Fishing Village (Junek 1937). Subsequent social and cultural studies of Labrador communities have been undertaken by researchers from Memorial University of Newfoundland. These studies include Holding the Line: Ethnic Boundaries in a Northern Labrador Community (Kennedy 1981), and Breaking the Ice: Seal and Seal Harvesting Patterns and Benefits in Relation to Navigational Ice Breaking in Lake Melville, Labrador (Boles et al. 1983). Inuit land use and occupancy patterns in Labrador are comprehensively documented in Our Footprints are Everywhere (1977), published by the Labrador Inuit Association.

The Institute of Social and Economic Research (ISER) at Memorial University of Newfoundland has been a focal point for resource and community-oriented research since its creation in the 1960s. Other Memorial University information resources include the Archives of the Maritime History Group, the Folklore and Language Archives, the Whale Research Group (Department of Psychology), and the Newfoundland Studies Centre (housed in the university's Queen Elizabeth II Library). The university's extension division publishes a monthly magazine, Decks Awash, often profiling people and resources of specific regions in the province. The extension service has also published The Fishery of Newfoundland and Labrador (Le Messurier and Sherk 1980), used as a social science text in provincial schools.

Headquarters for the Newfoundland Region of the federal Department of Fisheries and Oceans is located in St. John's. In addition to the Department's communications branch (which issues a quarterly newsletter, Fo'c'sle), an extensive library is maintained at the Northwest Atlantic Fisheries Research Centre, also located in the capital city. Responsibility for fisheries and community development rests largely with provincial authorities, and the Department of Fisheries has published two major planning documents, Setting a Course (1978) and a comprehensive 5-volume report, Inshore Fishing Port Assessment Study (1980). The Department of Fisheries also commissioned a study by NORDCO Ltd. called "It Were Well to Live Mainly Off Fish: The Place of Northern Cod in Newfoundland's Development" (1981), at the height of the controversy over rights of access to northern cod stocks. The province's Fishing Industry Advisory Board is a quasi-independent agency charged with the responsibility of promoting improved industry performance and enlarging marketing opportunities. Three other sources of Newfoundland and Atlantic fisheries news may be useful aids for social scientists interested in following industry developments - the Union Forum, a bimonthly newsletter of the Newfoundland Fishermen, Food and Allied Workers Union; Fisherman's Broadcast, a daily (local) CBC-radio program, and Land and Sea, a weekly (local) CBC-television program.

### NOVA SCOTIA

The best introductory sources to the Nova Scotia fisheries are Sea, Salt and Sweat (Nova Scotia Department of Fisheries 1977) and Fishermen of Nova Scotia (Jensen 1980). These volumes complement the Nova Scotia Fisheries Atlas (1982), prepared for the provincial Department of Fisheries. The atlas contains fourteen maps illustrating principal fishing ports, quantity and value of fish landings (by species), fleet sectors,

employment, onshore facilities and infrastructure, and fish product exports. The department also publishes an annual Nova Scotia Fisherman's Handbook, a directory of provincial services, personnel, and management activities.

The federal Department of Fisheries and Oceans has divided responsibility for the Nova Scotia fisheries into two regions, the Scotia-Fundy Region (headquarters in Halifax) and Gulf Region (headquarters in Moncton, N.B., with a regional office in Antigonish, N.S.). The Scotia-Fundy Region publishes a newsletter four times a year (Fisheries News), an annual report, and occasional discussion papers. News from the Gulf Region is published in Sonar, a quarterly newsletter, and in annual reports. Social-science researchers will inevitably need to make contact with both federal and provincial fisheries department personnel to obtain up-to-date data, as well as unpublished information about specific fishery sectors.

Nova Scotia fishermen are an extremely diversified group in terms of location, effort, species fished, capital investment, income, organization and representation. The Kirby task force report, Navigating Troubled Waters (1982), suggests that the disparities among fishermen may be attributed to level of effort (i.e., full- versus part-time), species fished, and location of fishing enterprise. In recent years, considerable research effort has been exerted in southwest Nova Scotia in preparation for arguing Canada's position at the International Court of Justice to resolve a long-standing ocean boundary dispute with the U.S. in the Gulf of Maine/Georges Bank region. The Fish Feud: the U.S.-Canadian Boundary Dispute (VanderZwaag 1983), is a thorough analysis of the events leading up to submission of the case to the court. More than \$5 million was expended in the effort to prepare materials for the case and, collectively, the memorial and supporting documents comprise a substantial collection of resource material for subsequent research activity. Spin-off projects from the case should also be noted: researchers from Dalhousie University and the Gorsebrook Institute at St. Mary's University have continued to investigate specific fishery-related questions such as structure and dynamics of fishermen/fish-processor relations, international trade practices, and community-impact studies. Social scientists at the Université Sainte-Anne (Pointe-de-l'Eglise) and Acadia University (Wolfville) are also involved in fisheries research in southwest Nova Scotia, while faculty at the University College of Cape Breton (Sydney) and St. Francis Xavier University (Antigonish) have been involved with resource management and community development research in the Cape Breton, eastern shore and Northumberland Strait areas.

Other centres for information about fisheries in Nova Scotia and the northwest Atlantic region include the School of Resource and Environmental Studies, the Dalhousie Ocean Studies Programme and the Marine Environmental Law Programme at Dalhousie University (Halifax). The Dalhousie Law School produces a Marine Affairs Bibliography (1981-) that offers comprehensive coverage of legal and policy-related fisheries literature, but falls short with respect to sociological and anthropological fisheries literature. The Public Archives of Nova Scotia and the Maritime Museum of the Atlantic (Halifax), the Beaton Institute at the University College of Cape Breton (Sydney), and the Fisheries Museum of the Atlantic (Lunenburg), have valuable collections of historical source materials. Finally, fishermen's and fish-processing organizations such as the Eastern Fishermen's Federation (EFF), the Maritime Fishermen's Union (MFU), the Canadian Seafood Workers Union (CSWU), and the Seafood Producers Association of Nova Scotia (SPANS) have offices in the Halifax area and may be helpful points of contact for current fisheries information. CBC-Halifax produces a weekly television program, Land and Sea, providing an avenue for public dissemination of topical marine affairs information. The Sou'wester, a Yarmouth-based, monthly newspaper, is a good source for regional fisheries news.

## PRINCE EDWARD ISLAND

There are relatively few sources of information about the fisheries of Prince Edward Island. However, statistical data may be obtained from the federal Department of Fisheries and Oceans at the Gulf Region headquarters (Moncton, New Brunswick) or through the P.E.I. provincial Department of Fisheries' offices located in Charlottetown. Two brief histories of the development of P.E.I. fisheries are available: The Fishery of Prince Edward Island (Wells 1986) and Histoire de la Pêche Chez les Acadiens de l'Île-du-Prince-Édouard (Gallant and Arsenault 1980). In addition, a provincially sponsored study into marketing and other fishing problems was conducted from 1980 to 1981, and a 2-volume Report on the Commission of Enquiry into the P.E.I. Fishery - the Weeks' Commission (Prince Edward Island 1981) is available. The Atlantic Fisherman, a biweekly fisheries newspaper, began publishing from Charlottetown in 1984, superseding the Canadian Fishing Report (Ottawa). The paper is distributed to fishermen throughout Atlantic Canada.

## NEW BRUNSWICK

There are three general categories of fishermen in New Brunswick: native, Acadian or French-speaking, and English-speaking. The province is bilingual and information may be obtained in both official languages (French and English) from the provincial Department of Fisheries (Fredericton) or the federal Department of Fisheries and Oceans' Gulf Region headquarters in Moncton. The province publishes an occasional fisheries newsletter, Fisherman's Line, and the federal unit issues Sonar, a quarterly newsletter. The province produced a Fisheries Development Plan, 1980-1985 that provides an up-to-date assessment of fisheries operations and future requirements of various fleet sectors.

Fisheries have a lower profile in New Brunswick as compared with forest and agricultural resource sectors; however, a number of scholars at the University of New Brunswick and the University of Moncton are involved with the social aspects of fisheries management and development. In 1983, the federally supported marine biology research center was opened at the University of Moncton. In addition, the headquarters of both the Maritime Fishermen's Union and the United Maritime Fishermen (UMF) are located in Moncton.

## CONCLUSION: INFORMATION NEEDS

The challenge confronting social scientists in eastern Canada is trying to locate all sources of potentially relevant fisheries information. In addition to consulting with federal and provincial fisheries department personnel, faculty at academic institutions, and industry representatives, several other agencies should be tapped as potential data sources. For example, as a consequence of offshore hydrocarbon exploration activities, social-science research has been undertaken to identify potential conflicts among regional fishing, shipping, and oil and gas industries. Assessment studies of the proposed Venture and Hibernia fields (offshore Nova Scotia and Newfoundland) have generated a wealth of information in reports such as A Study of the Potential Socio-Economic Effects on the Newfoundland Fishing Industry from Offshore Petroleum Development (NORDCO 1982) and A Study of the Potential Socio-Economic Effects upon the Nova Scotia Fishery from Offshore Petroleum Development (NORDCO 1983). Potential environmental and social impacts of offshore development are evaluated in summary form in the Venture and Hibernia environmental assessment and review panel reports (Nova Scotia Department of the Environment 1983; Canada-Nova Scotia 1984; Newfoundland 1985).

In summary, the diversity of potential information sources is one of the major stumbling blocks for those studying the fishery from the social-science perspective. So many institutions have concerned themselves with the fishery at one time or another - universities, museums, federal and provincial governments, political organizations, unions, major corporations - that there is always the lurking suspicion that some useful, but unknown, source remains to be exploited, if only its existence could be uncovered. The problem is compounded because materials exist in a variety of formats, ranging from academic monographs to popularized corner-store productions. Relevant information may be found in scholarly journals, daily newspapers, institutional newsletters, technical reports, and in government documents. Another difficulty confronting researchers and librarians alike is that subject matter and source materials may be classified under a variety of subject headings. Information about the Atlantic fishery may be classified as political science, economics, ocean management, fisheries biology, sociology, anthropology, etc. Assigning meaningful subject headings to source materials is a dilemma for librarians, and finding appropriate headings in library collection catalogues is a challenge for even the most resourceful researcher.

In view of both the wealth and diversity of fisheries-related social-science research materials, there is a pressing need to establish (or designate) a regional depository for all marine-related documents. Such an institution should be staffed by career-oriented professionals who are charged with responsibility for keeping up-to-date in certain topical areas, e.g., community studies, technology development or resource policy. The recent Georges Bank boundary dispute and the Kirby task force review of the Atlantic fishing industry are but two examples of occasions when access to comprehensive collections in a centralized depository could have facilitated the research phase of report preparation. However, in both instances a vast array of interdisciplinary materials was collected independently, and eventually deposited with the two federal government agencies responsible for the undertakings (Department of External Affairs and Department of Fisheries and Oceans in Ottawa). If a centralized, regional depository existed, it would likely assume a major stewardship role for housing and disseminating information from such collections.

Once a central information bureau is established, an informational exchange network should be formalized, and a continuously updating bibliographic reference service established. Such visions are not beyond the scope of reality, and we may look to initiatives by arctic specialists such as the Northern Science Network (secretariat located at the Boreal Institute for Northern Studies, University of Alberta) and the Arctic Science and Technology Information System (ASTIS), a literature abstracting and indexing system produced by the Arctic Institute of North America at Calgary. The libraries of the Department of Fisheries and Oceans have set up WAVES, a national fisheries and marine science bibliographic database for the use of departmental staff. In the United States, a "Fisheries Social-Science Network" has been established by Peter Fricke, the fisheries anthropologist of the National Oceanic and Atmospheric Administration (NOAA), Department of Commerce. Membership in the network is open to Canadian researchers and, somewhat ironically, the quarterly newsletter produced in Washington, D.C., is the most comprehensive vehicle for communications about fisheries social-science activities in Canada.

If Canada is committed to achieving international excellence in fisheries management, maintaining comprehensive information services must be a primary national goal. Social scientists and librarians may contribute to the fisheries management enterprise by helping fishermen and the industry at large to identify their information needs and by filling gaps where they exist. Providing competent and useful informational assistance may be, in the end, the most positive contribution fisheries information professionals could aspire to achieve.

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