Fisheries and First Nations

Report from research stay in Canada

March-July 2010

Fávllis – Sami fisheries research program
Camilla Brattland
PhD Candidate
Centre for Sami Studies/Fisheries College
University of Tromsø

Mi'kmaq lobster fishing boats at the Pictou Landing Reserve, Nova Scotia. Photo: Camilla Brattland.

Table of Contents

Introduction

In the period between March and July 2010, I was able to conduct a study trip to the east and west coast of Canada with the kind financial support from the Centre for Sami Studies at the University of Tromsø as part of my PhD program. Without their support, the travel would not have been possible and it has contributed to expanding knowledge and creating contacts in a growing field of study. Many people helped to make this trip come about as successfully as it did. Thank you to my supervisor Svein Jentoft and to Else Grete Broderstad and Stine Barlindhaug and others who kindly provided contacts in Canada. Most of all, I am grateful to Barbara Neis and Peter Armitage who hosted me in St. John's for almost two months, and also Tony Davis and his family who took me in for two weeks in Nova Scotia.

The goal of the trip was to learn more about methodologies[1] and methods for documenting fisheries in indigenous and small coastal communities and applying these to the coastal Sami context and my own research on coastal Sami fisheries. I was interested in both fisheries research methods in general and methods for documenting indigenous land use and occupancy, in addition to how the different research institutions and projects in Canada address indigenous fisheries issues. This report contains the background for the research trip, an overview of travels and activities during the stay, and a more detailed report from two of the places visited during the stay, focusing on Mi'kmaq fisheries in Atlantic Canada and salmon farming issues in British Columbia. The most central people and institutions have provided feedback to the report before it was submitted to the board at the Centre for Sami Studies.

Tromsø, 29.10.2010 .

[1] I was interested in concrete methods for the documentation of indigenous land and sea use and occupancy, with a focus on both traditional fisheries and indigenous participation in the larger commercial fisheries and marine industries. I was not going to conduct research on fisheries or indigenous peoples in Canada, even though the cases I encountered can be used for paralleling and contrasting the different contexts.

1. Background: Fávllis – Sami Fisheries Research Network

The Fávllis project is a Sami research network with its home base at the Center for Sami Studies, the University of Tromsø in northern Norway and is supported by two Norwegian Research Programs; the Sami research program and the Oceans and the Coast program. The Fávllis projects main goal is to "produce knowledge of relevance for management authorities about interactions between ecosystems, culture landscapes and local societies in northern fjords" (Fávllis wepage, see www.sami.uit.no/favllis). The research project is informed by socio-ecological changes and challenges for coastal communities and the coastal Sami culture relative to Norwegian fisheries. Following a downturn in the major cod fisheries, a number of worrisome ecological changes in northern Norwegian fjord systems, and increasing industrial and commercial fisheries activity and integration into fisheries economical systems, coastal Sami communities have a hard time keeping up traditional fisheries and continue local resource management regimes.

Research on Sami fisheries is a developing research field at the University of Tromsø, and started only recently as indigenous fishing rights increasingly is addressed in the Norwegian Sami policy discourse (see Coastal Fishing Commission, NOU 2008:5). The research conducted from the Center for Sami Studies has from the start been engaged with local Sami communities, and continuously builds relationships between coastal communities, cultural centres, and the university. Fisheries research conducted at among other institutions the Norwegian Fisheries College is part of the network of the Fávllis project, as are fishers and fisheries communities and cultural centres in central Sami areas in northern Norway. Drawing on contacts that were already with Canadian researchers, primarily Professor Barbara Neis at Memorial University, St. John's, the study trip to Canada was planned as part of my PhD studies. The topic for the forthcoming thesis is methods for documenting and mapping traditional and current use of marine resources in coastal Sami areas.

2. Overview of travels and activities

The following table gives a detailed overview of the sum of the institutions visited and main contacts during the stay. The presentations given about coastal Sami culture at the institutions mentioned included a short 15 min in-the-making video on traditional fjord fishing among the coastal Sami produced by Reni Wright at the Institute for Visual Cultural Anthropology, University of Tromsø.

Presentation at the Musqueam Reserve, Vancouver, BC. Photo: Camilla Brattland.

Overview of travel period acitivities

Date	Where	Main contact/Institution	Activity/project	Resource/website
15.03-				
28.03.2010	Nova Scotia	Professor Anthony Davis,	Social Research for Sustainable Fisheries (SRSF)	http://www.mystfx.ca/research/srsf/
		Mount Saint Vincent University, Halifax	LEK among Mi'kmaq and non-native fishers	
17.-				
22.03.2010	Antigonish, NS	Dr. Jane McMillan,	Mi'kmaq Studies, the Marshall Decision	http://www.mikmaqrights.com/governance.php
		Saint Francis Xavier University, Antigonish		http://circle.ubc.ca/handle/2429/14886
		Kerry Prosper, SRSF and	Mi'kmaq culture and participation in fisheries	http://www.halifaxnewsnet.ca/index.cfm?sid=28706
		Paq'tnkek Mi'kmaq First Nation, Antigonish		http://www.unsi.ns.ca/news-and-events/2/
19.03.2010	Antigonish, NS	St FX University, Interdisciplinary Aquatic Studies	Presentation and video: ”Coastal Sami Communities on the National Agenda. Indigenous Fishing Rights Processes in Norway”	
26.03.2010	Halifax, NS	Marine Affairs Program, Dalhousie University	Presentation and video: ”Indigenous Fishing Rights Processes in Norway. The Coastal Sami”	
28.03.-				
09.04.2010	Vancouver, BC	Faculty of Law and Fisheries Centre, UBC		
		Dr. Douglas Harris	First Nations legal and fisheries issues in BC	http://www.law.ubc.ca/faculty/Harris/index.html
		Dr. Rashid Shumaila	Fisheries research	http://www.fisheries.ubc.ca/
		Dr. David A. Close	Aboriginal Fisheries Research Unit	http://www2.fisheries.com/archive/projects/aborig_
		Dr. Tony Penikett	Simon Fraser University/Arctic Governance Project	http://www.arcticgovernance.org/
			Fraser River inquiry (Cohen commission)	http://www.cohencommission.ca/
				http://www.digitaljournal.com/article/289618
		Susan Rowley	Musqueam culture and Museum of Anthropology	http://www.moa.ubc.ca/
31.03.2010	Vancouver, BC	Fisheries Centre, UBC	Presentation and video: ”Indigenous Fishing Rights Processes in Norway. The Coastal Sami”	
07.04.2010	Vancouver, BC	Musqueam Nation	Presentation and video: ”Indigenous Fishing Rights Processes in Norway. The Coastal Sami”	

09.04.-				
16.04.2010	Vancouver Island, BC			
09.04.2010	Victoria, BC	Dorothy Kennedy&Randy Bouchard Bouchard & Kennedy Research Consultants	Aboriginal TEK and anthropological research	
13.04.2010	Victoria, BC	University of Victoria, BC Dr. Rosemary Ommer Dr. Grant Murray ICOR, University of Victoria	Institute for Coastal and and Oceans Research Coasts Under Stress (CUS) project, etc. Vancouver Island University, CUS project Presentation and video: "Indigenous Fishing Rights Processes in Norway. The Coastal Sami"	http://icor.uvic.ca/
15.04.2010	Campbell River, BC	Marine Harvest Canada Ian Roberts, Marine Harvest Canada Richard Harry	Aquaculture issues in BC Tour of Marine Harvest Atlantic salmon farm Aboriginal Aquaculture Association	http://www.agf.gov.bc.ca/fisheries/bcsalmon_aqua http://www.marineharvestcanada.com/ http://aboriginalaquaculture.com/
17.-				
23.04.2010	New York, USA	UN Permanent Forum on Indigenous Issues United Nations, New York City, NY, U.S.A .		
21.04.2010	UN, NY, USA	UN Permanent Forum on Indigenous Issues Gáldu	Side event: “Sami Self-Determination in Education, Research and Culture" Presentation : “Indigenous Fishing Rights Processes in Norway"	
25.04.-				
15.07.2010	Newfoundland & Labrador (NL)	Professor Barbara Neis, Memorial University, St. John's The CURRA Initiative Peter Armitage, Wolverine and Associate Inc, St. John's	LEK research and methodology in Newfoundland fisheries Community-University Research for Recovery Alliance First Nations TEK research and methodology	http://www.curra.ca/
26.-				
27.04.2010	St. John's, NL	Terry Tobias Best Practices Workshop Terry Tobias	"Best practices for map biographies & the documentation of spatial knowledge" Tobias & Associates	http://terrytobiasassociates.com/
10.-				
18.05.2010	Norris Point, NL	Bonne Bay Marine Station, Norris Point, NL	Field stay at Memorial's Bonne Bay Marine Station	
16.05.2010	Norris Point, NL	Bonne Bay Marine Station, Norris Point, NL Trails, Tails and Tunes Festival	Presentation and video: “Finding Cod. Traditional Fjord Fisheries Among the Coastal Sami in Northern Norway”.	
26.05-04-06.2010	Conne River, NL	Miawpukek First Nation Shayne McDonald, Justice Dept.	Field stay at Conne River Mi'kmaq Reserve Fisheries, aquaculture and land use and	http://www.mfngov.ca/

			occupancy
		Ross Hinks, Natural Resources	Salmon river management, fisheries
		Louise Bennett	Housing, youth work
01.06.2010	Conne River, NL	Conne River Mi'kmaq School Director Rodd Jeddore	Lecture: “The Sami People – History and Culture”.
03.- 04.07.2010	Conne River, NL		Conne River Pow Wow
04.- 06.06.2010	Fogo Island, NL		Tour of Fogo Island
29.06.2010	St. John's NL	Department of Fisheries and Oceans Joan O'Brien and Tony Bowdring	Meeting concerning Community-based Coastal Resource Inventory
30.06.2010	St. John's, NL	CURRA Initiative, Memorial University	Presentation: “Making Fishermen’s Knowledge Usable. Integration of LEK in Science and Management in Newfoundland and Norway”.
06.- 11.07.2010	Nunavik, Quebec	Kangirsuk Inuit Community Maaki Putulik	Inuit Arctic Char subsistence fishing

3. Report from chosen contexts in Canada

3.1 Introduction

One of the greatest advantages of the research stay in Canada was to get an overview of literature and research on fisheries on both coasts. Especially through the Coasts Under Stress program, a wealth of research on the socio-ecological history of fisheries in Canada is collected. On the coast of Newfoundland and Nova Scotia, coastal communities experienced a tremendous blow when the previously abundant East Coast ground fishery collapsed in 1992 (see Hutchings 1996 for a discussion on the causes). The subsequent moratoria on fishing threw thousands of people out of work, a scary event compared to the crises in the Norwegian cod fisheries in the 1990s. Worrisome decreases in the British Columbia salmon stocks on Canada's east coast is also a major issue for native and non-native communities and the society at large. The changes and worrisome effects of the ecological changes on both these coasts are research topics for several projects at the universities in Canada through both natural and social sciences. Little research using cross-disciplinary methods have been carried through in Norwegian fisheries research, with the exception of the studies on disappearing spawning grounds carried out by Jan Sundet and Anita Maurstad in the 1990s (Maurstad and Sundet 1998). To the Fávllis project, the methods and approaches employed in among others the Coasts Under Stress program (Ommer et al) and by Barbara Neis, Grant Murray and Anthony Davis have already been influential in that they provide a larger context for community fisheries research in northern Norway and for our research on fisheries and current and traditional use of marine resources in coastal Sami fjords.

Regarding indigenous involvement in fisheries, I found especially two current cases in Canada similar to the coastal Sami context: Mi'kmaq participation in commercial fisheries, and salmon farming issues in British Columbia. These contexts are described in more detail in this part, through my meeting with the Mi'kmaq and their experiences with research and fisheries issues in Nova Scotia and Newfoundland, in addition to salmon farming issues in British Columbia. Coming from northern Norway, there are some comments related to similarities and differences to the Norwegian/Sami situation in the description.

3.2 Mi'kmaq Fisheries, Land Use and Occupancy

The Mi'kmaq are settled on and off reserves in New England and in Atlantic Canada in New Brunswick, Nova Scotia, Newfoundland, Prince Edward Island and on the Gaspé peninsula in Quebec. In Nova Scotia, two reserves were visited very briefly, and I spent approximately

two weeks on the Conne River reserve in Newfoundland. First Nations communities are as a rule organized through band councils, headed by a chief and his council (as set out in the Indian Act), and have a defined number of band members inhabiting the reserve lands. Mi'kmaq culture is, similar to the Sami and many other indigenous peoples, presently undergoing a period of revitalization of traditional culture and development of modern cultural expressions with an emphasis on teaching children and youth traditional culture and knowledge.

Map showing Mi'kmaq traditional territories in Atlantic Canada. Source: Wikipedia.

The two communities I visited in Nova Scotia were among the smallest reserves (Paq'tnkek and Pictou Landing) with limited lands and a few hundred inhabitants, while the Conne River reserve had quite extensive reserve lands and around 800 community members. As far as I could observe, research projects conducted at the nearby universities involved Mi'kmaq communities to a greater degree in Nova Scotia than in Newfoundland.

3.3 Nova Scotia

Through Professor Anthony Davis at the Mount Saint Vincent University, I became acquainted with the project Social Research for Sustainable Fisheries (SRSF), which was a multiple-year research project funded by, among others, the Canadian Research Council's CURA (Community-University Research Alliance) research program. The SRSF developed a number of research methods for documenting fish harvesters' local ecological knowledge among indigenous and non-indigenous fishermen (see for instance Davis and Wagner 2003). Using genealogy as an approach to identifying relationships with fisheries and ways of identifying LEK experts in communities are part of the methodology. The research methods and outputs are all collected and made public on the research project's webpage, and includes profiles of the research partners, reports and documentation on among other things the Mi'kmaq terminology and relationship with American Eel.

The Pomteq estuary, where Donald Marshall was caught fishing for Ka't, or American Eel, in 1993, thus initiating the Marshall Decision process. Photo: Camilla Brattland.

Anthony Davis and his team placed great emphasis on the collaboration with both indigenous and non-indigenous fish harversters' organizations, and engaged community workers and

contact persons within the different communities they worked with. The research was conducted from 1999 until 2005, right after the decision in Canada's Supreme Court (SCC) known as the 'Marshall' decision (*R. v. Marshall* (1999)), which affirmed that the Mi'kmaq had a treaty right to participate in commercial fisheries for the purpose of realising a 'moderate livelihood'. From before, First Nations hold an Aboriginal right to fish for food, social and ceremonial purposes. The SCC on a later occasion confirmed that the federal government could infringe on the treaty right for a broad range of social policy objectives, such as conservation. Fisheries Canada initiated a program called the Marshall Response Initiative under which eligible First Nations were provided with communal commercial licences (aquired from commercial fishers under voluntary a voluntary retirement program), fishing vessels, and training. [2] Most of the Mi'kmaq communities participate in this initiative.

3.3.1 Post-Marshall Decision Mi'kmaq Fisheries

The 1999 Marshall fisheries decision in Canada's Supreme Court from thus resulted in the creation of a new group of commercial fishermen in the lobster fisheries on the Nova Scotia coast, since around 30 Mi'kmaq communities were admitted the right to fish for commercial purposes through the court case. After the decision, the federal government started a program where the federal government bought back licences from non-Natives in order to provide Mi'kmaq with fishing licences. It is easy to see how introducing new players in this lucrative fishery was fertile ground for conflicts such as the well-known violent crises played out in Burnt Church in New Brunswick in 2000. Especially the lobster fisheries are carried out using fixed spots or berths where the traps are set, making the berths subject to customary fishing practices that are individually "owned" and transmitted through the generations. The decision also incited conflict with non-native fishermen in Antigonish because of the introduction of the Mi'kmaq as new players in the commercial lobster fishery, thus disrupting the existing fisheries (Davis 2007, see also Davis and Jentoft 2001 for a parallel look to the coastal Sami situation).

In Antigonish, I was introduced to Dr. Jane McMillan at the Saint Francis Xavier University, and Kerry Prosper, former Chief of the Paq'tnkek Mi'kmaq band in Antigonish. While there, I learned about the history of the Marshall decisions (there were more than one case involving the same Marshall), Mi'kmaq culture, and I got the opportunity to visit two of the Mi'kmaq reserves near Antigonish, the Paq'tnkek reserve and the Pictou Landing reserve. Both of the communities participate in the commercial lobster fishery with community quotas

[2] Quoted from Harris and Millerd 2010:91

resulting from the Marshall decision, giving the communities an opportunity for a source of income for the bands. The Supreme Court case lead to profound changes in the communities I visited and in the rights situation for both Canadians and Mi'kmaq. Through the court case, the Mi'kmaq are the ones who have the right to fish and are allocated quotas from the federal government, while Canadians buy quotas into the fisheries they have participated in since colonization.

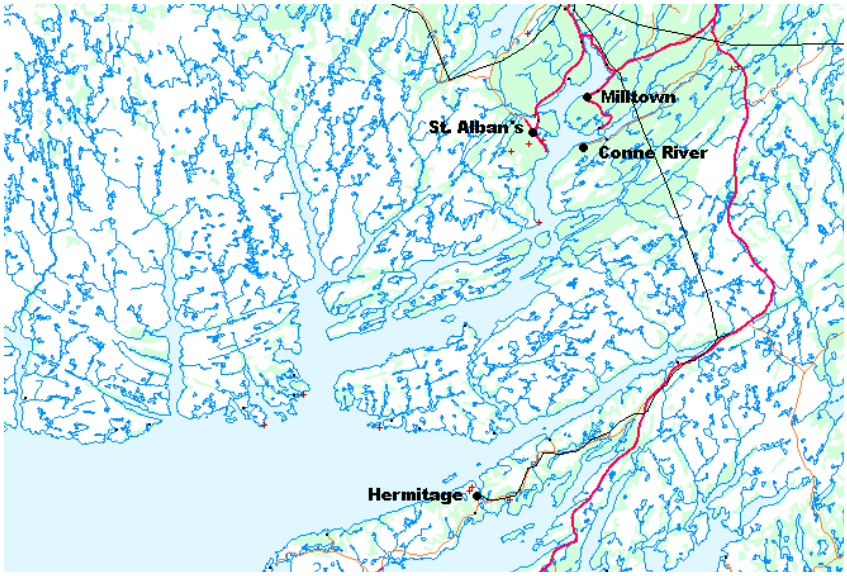
Kerry Prosper showing traditional eel fishing gear and salmon spears. Photo: Camilla Brattland.

In Pictou Landing which is a community close to the shore, the fishermen were quite successful at fishing and have gained a better relationship with the neighbouring communities and fishers (see front photo of Mi'kmaq lobster fishing boats in Pictou Landing). The Mi'kmaq were trained by experienced fishers from the neighbouring communities as they entered the fisheries after the Marshall Decision, and have since become adept fishers themselves. They also have some individually owned quotas. In the other community however, there are a number of challenges connected to managing the community quotas, the gear and the catch resulting from the fisheries. At the same time as the communities are participating in commercial fisheries, they are engaged in mapping projects covering their

traditional land use and occupancy. This includes sites where band members have fished for eel, caught fish and in other ways utilised marine and terrestrial resources as part of their culture or for livelihood purposes. The purpose of the mapping projects are for documenting the extent and content of indigenous land use in land claims processes.

The Bayfield wharf is shared by several communities, including the Paq'tnkek community. The boats are kept on land during the winter and brought to the harbour when the lobster season begins 1st of June. Photo: Camilla Brattland.

3.4 Conne River, Newfoundland



The Bay d'Espoir area. Source: Marine Infrastructure Study Report submitted to DFA, St. John's, march 2009.

The Miawpukek First Nation (MFN) is the only Mi'kmaq band with a reserve on Newfoundland, Conne River, with around 800 inhabitants on reserve in the Coast of Bays region in southern Newfoundland. The Federation of Newfoundland Indians estimate that there might be around 25 000 Indians living off-reserve on Newfoundland, most of them on the west coast of the island. Conne River is beautifully situated in the southern part of the island in Bay d'Espoir, close to the neighbour Newfoundland communities St. Alban's and Milltown. The community is organized with the band administration, health station, youth centre, and a Catholic church in the centre. Around 40 people have their daily jobs at the band office, which occupy a majority of women.

Even though the Mi'kmaq on Newfoundland does not have a treaty and the Marshall Decision does not apply to Newfoundland, MFN holds the position that the Marshall Decision applies to them. Because MFN had little experience with commercial fisheries before 2001/2002 when they entered the fisheries, and because of the confusion and hostility experienced by other Mi'kmaq after the Marshall Decision, MFN initiated a Commercial Fisheries Strategy from 1999 onwards. Under the CFS the MFN have been able to negotiate the same conditions for commercial fisheries that apply to 34 Mi'kmaq bands under the Marshall Decision, they have a good working relationship with the Department of Fisheries and Oceans (DFO) and initiated their own company to manage the fishing licences as well as

a training and mentoring program (MFN information booklet). The training and mentoring program was developed with the support of DFO and the Marine Institute of Memorial University, St. John's. The community holds Aboriginal Communal Fishing Licences for 11 species (food fisheries only). The licence for cod, for instance, is limited to a catch of 20 codfish per day per individual (throughout the year), and the community is allowed to set 300 lobster traps. When the community first negotiated an aboriginal licence for fishing cod, DFO worried that the resource would be overfished. However, Ross Hinks, Director of Natural Resources, indicated that the first year there were indeed quite a lot of people that went out to fish for cod because the community had the licence, but the next year there were fewer, and the third year it was down to a group of core fishers that also fish for the whole community (for elders, disabled, and people in need). Out of nearly 900 band members, there are today less than 100 members fishing under the food fishery licence. One problem encountered was obtaining reliable catch statistics from these Fishers.

The community holds communal commercial licences under the Aboriginal Fisheries Strategy agreement for crab and groundfish species for 7 enterprises. The Netukumlik Fisheries Ltd. (an independent fishing corporation since 2002, owned by the band) operates five fishing vessels – four longliners (13,7 m) and one small boat (6,7 m). Netukumlik is a Mi'kmaq word, and *"to the Mi'kmaw means the use of the natural bounty provided by the creator for the self-support and well being of the individual and the community at large"* (MFN information booklet. MFN). The NFL employs a number of band members and contributes to the economic development and ultimately to MFN's self-government. In 2003, NFL employed 21 band members, and when I was there the NFL also employed fishers from the surrounding communities on MFN vessels. The vessels have fished over a range of licence-regulated fisheries mostly in the 3PS zone (NAFO area) and from west of 200 miles to the Northeast of St. John's to southern waters bordering the United States off of Nova Scotia and have been quite successful. In order for the community to hold commercial fisheries licences, however, DFO buys licences from non-native fishers in the area (for a good price), something which creates some envy from the surrounding communities, who do not have the same opportunities for holding communal commercial licences, but only privately owned fishing licences.

The inner part of Bay d'Espoir. At the community wharf, offices are set up for Gray Aqua Ltd. aquaculture and the Netukumlik Fisheries Ltd (in the background). Wharf and laydown area to the right. Photo: Marine Infrastructure Study Report submitted to DFA, St. John's, march 2009.

In the aquaculture industry, around 24 people (men) from the community are employed in Grey's aquaculture, who are producing farmed Atlantic salmon. On my first day in Conne River I was treated to a boat tour on the water by two of the divers working in the aquaculture industry. The area outside Conne River contained 9 aquaculture sites owned by either Grey's or Cooke's aquaculture. From driving around in the Coast of Bays region as well, both the number of fish cages and fishing boats, wharfs and other infrastructure connected to the fisheries industry gives the impression of a very lively marine industries environment in the southern parts of Newfoundland, involving all of the communities dotted along the shore.

My field notes describe the industry activities in the bay thus:

> The landscape is gorgeous – surrounded by low mountains and the fjord is broken up by many small islands, inlets and bays, making the waterways crooked and winding. Some of the bays are all filled up with aquaculture sites and they are located right next to shore. Most of them have some kind of land-based intstallations, and the one we are going to has a cabin situated on shore for the staff and as a service building. The one we are visiting in Butter Cove has 7 cages, all filled with around 100.000 small salmon growing up to big ones right now. None of the aquaculture sites are very close to any of the communities. On our way we spot at least two boats engaged in cod fishing, one of them very close to one of the fish farms, one lobster fisher, and one herring fisher. The people here do not seem very concerned with the effects of fish farming, and are

rather engaged in looking for good places to do salmon farming or being engaged in aquaculture in other ways.

On the boat ride, we also spotted a seal and eagles, and the drivers told me stories about the use of the land and seascape in the surrounding area, namely camp sites, hunting and fishing places, cabins, and so on.

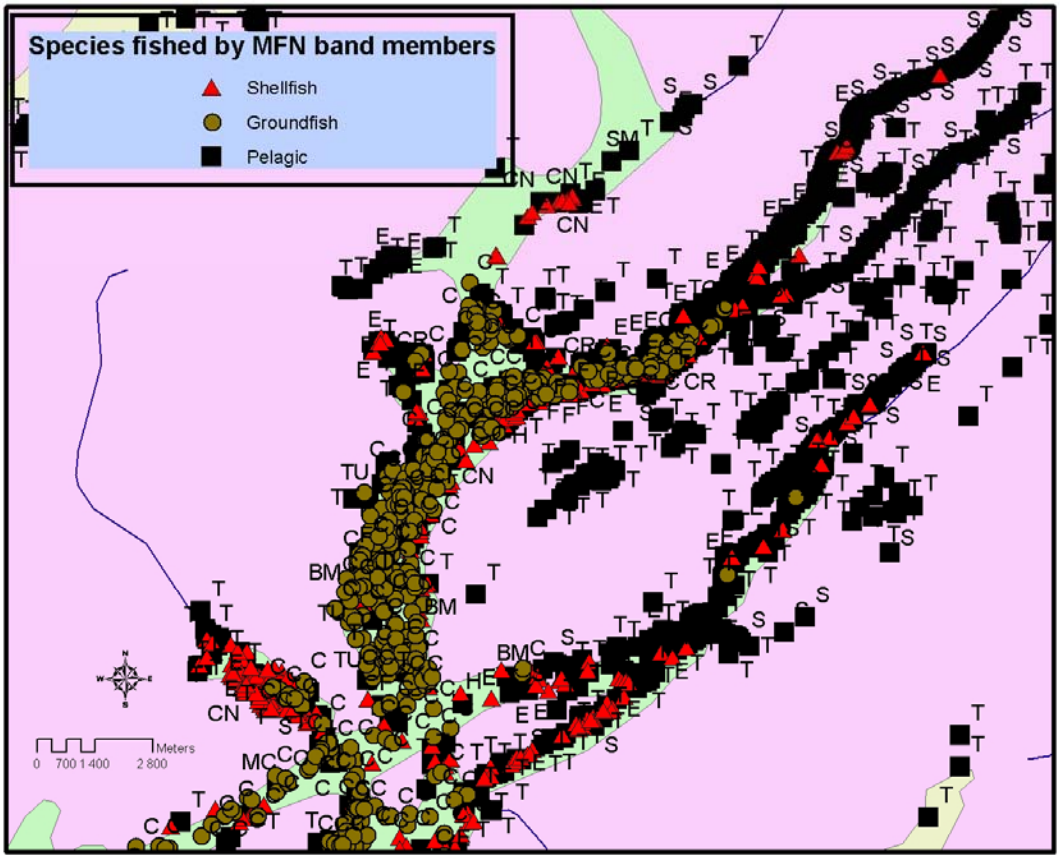
Grey's aquaculture fish cage outside Butter Cove. Photo: Camilla Brattland.

In addition to the aquaculture and the commercial fisheries, salmon fishing in the Conne River is very important to the community, and in the Little River there is a salmon conservation project going on to try to restore the Atlantic salmon stock in the river system to its former conditions. The band conducts catch statistics, monitoring and reporting to the DFO, and carries through the river conservation project and management plans for the fjord outside Conne River in collaboration with DFO. Compared to the concern raised in Norway and in British Columbia about interactions between wild and farmed salmon, the conflict and concern level is surprisingly low in Conne River. Atlantic salmon are generally in decline, and this development started long before the introduction of aquaculture to the area. The community seems determined to make good use of their commercial fishing licences and developing the aquaculture, at the same time as there is engagement with the wild salmon stocks in the rivers. There is little or no sea salmon fishing, as the community has decided not

to fish salmon on its way to the rivers for conservation reasons (personal communications, Ross Hinks, Natural Resources Director). The river fishery is also heavily regulated, but created quite a lot of excitement when the licences were given out while I was at the band council.

3.4.5 The Conne River Traditional Use Study

While at the band office I was able to have a look at the report and the database behind the maps published in Terry Tobias' book "Living Proof", or "the Miawpukek Mi'kamawey Mawi'omi Land Use and Occupancy Mapping Project", commonly referred to as the Traditional Use Study. The main purpose of the study was to produce maps that meet the requirements of the Federal government's comprehensive land claims process. Another main object was to produce maps, with attendant database, that serve Conne River as a baseline inventory for purposes of self-government and long-term management of resources (Tobias, project report #1). The database covers several themes, including groundfish and what is called pelagic fish, which included anadromous fish as well. The database shows, for instance, that pelagic fish were fished in the sea in the respondents' lifetimes, and that pelagics are by far the largest group of fish traditionally caught in the investigated area (4661 items against 668 shellfish and 1548 groundfish items). Today's importance of shellfish (lobster) as the most lucrative commercial fishery might indicate a socio-ecological shift in First Nations fisheries from salmon and trout to shellfish, and a weaker emphasis on cod. This is unlike other communities in Newfoundland that participated in the Grand Banks cod fisheries. Below is an expert from the database showing where interviewed band members caught a range of marine species in their lifetimes.



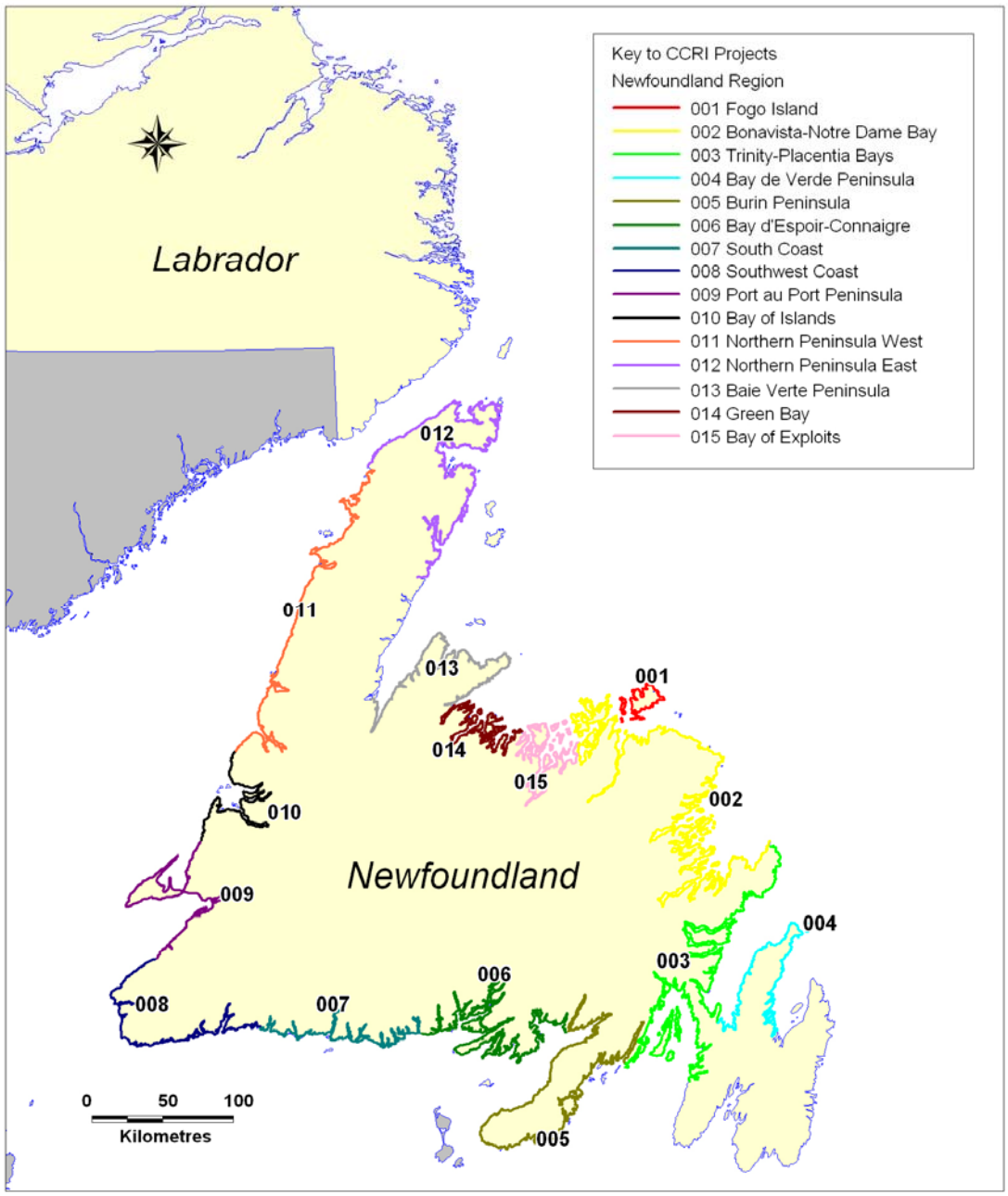
Excerpt from the Conne River TUS Study. Map produced with permission of the MFN. By Camilla Brattland.

3.5 Community- Based Coastal Resource Inventory in Newfoundland and Labrador

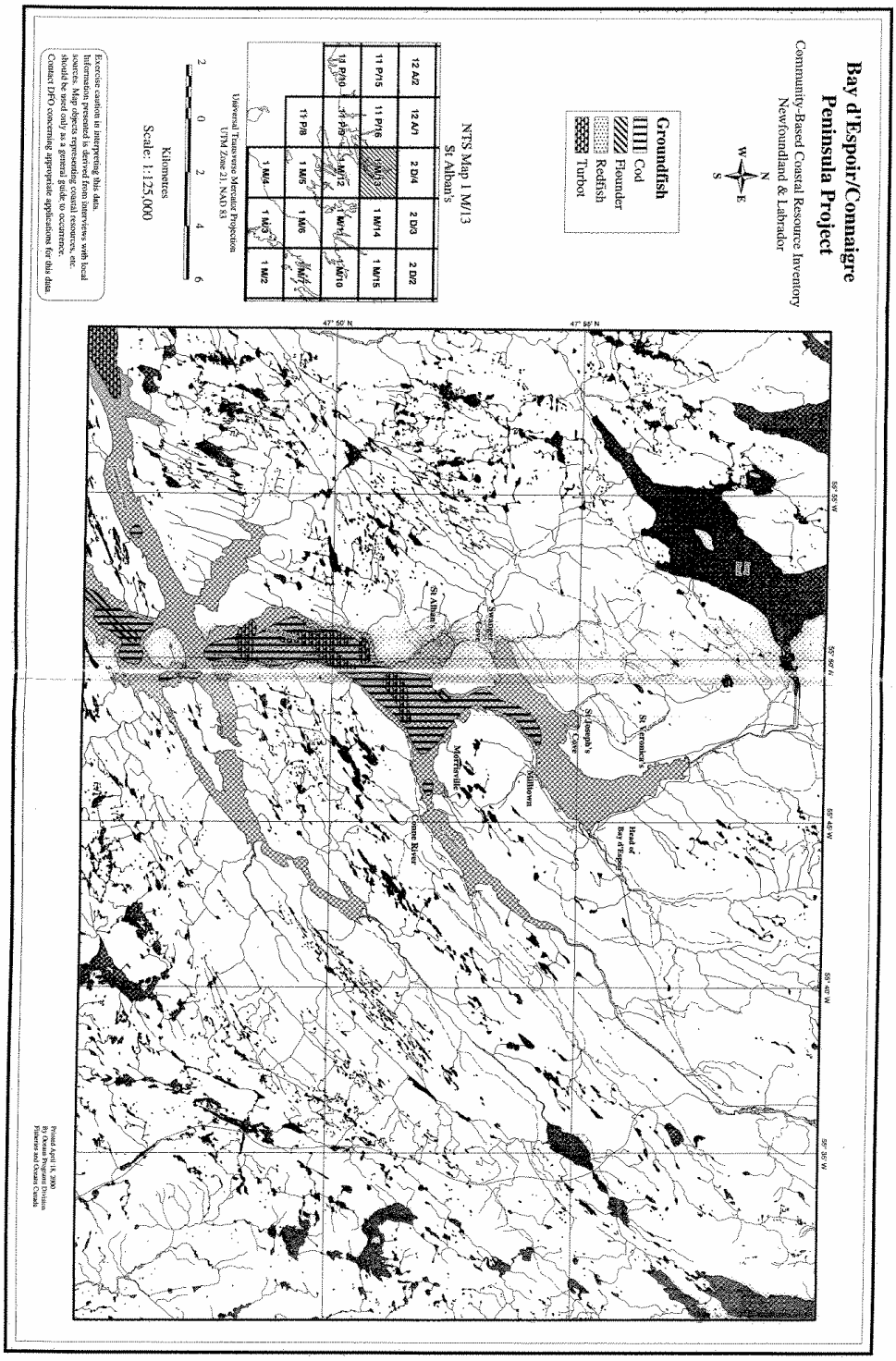
On the regional and provincial level, a similar kind of mapping of coastal resources is also being carried through. Since the late 1990s, the Marine Environment and Habitat Management Division of DFO encouraged and supported groups to undertake Coastal Resource Inventory projects in order to provide information for promoting economic development, conservation and management within the coastal zone (Coastal Resource Inventory Manual, DFO 1998:2,3). DFO provided strategic plans, handbooks and methods manuals containing procedures for collecting and verifying coastal resource information, organizing the information in a computerized database, and presenting information in coastal inventory maps and reports (DFO 1998:2). The categories for which data was usually collected were groundfish, pelagics, shellfish, marine mammals, aquatic plants, birds, aquaculture, infrastructure, culture, tourism and recreation, and shoreline classification (ibid p. 11). The information collected was organized in databases and digitized to be presented on a set of paper maps, serving as the main visual outcomes from the coastal resource inventory projects. An index describing which areas have been mapped is to be found on DFOs webpages,[3] and the databases themselves are available upon request from DFO.

I visited the regional development boards in Red Ochre and in St. Alban's, which were the lead agencies for the coastal resource inventories conducted for the Northern Peninsula West region (area 011) and the Coast of Bays region (area 006). The Coast of Bays Regional Economic Development Board is now involved in a larger community-based coastal zone management initiative involving sector and public interests, levels of government and community (including MFN), as well as science and management, where the Coastal Resource Inventory is considered a basic part. [4] I also met with Tony Bowdring and Joan O'Brien at DFO in St. John's who provided a wealth of information about the process of collecting and digitizing the data in what is a huge mapping effort of coastal resources in Newfoundland. Below are two maps showing the different areas where CCRI are undertaken and an excerpt from the Coast of Bays region.

[3] See http://aczisc.dal.ca/czmproj.htm
[4] Coast of Bays Regional Economic Development Board. http://www.coastofbays.nl.ca/Coastal%20Planning/pages/backinfo.html [read 22nd of June 2010].

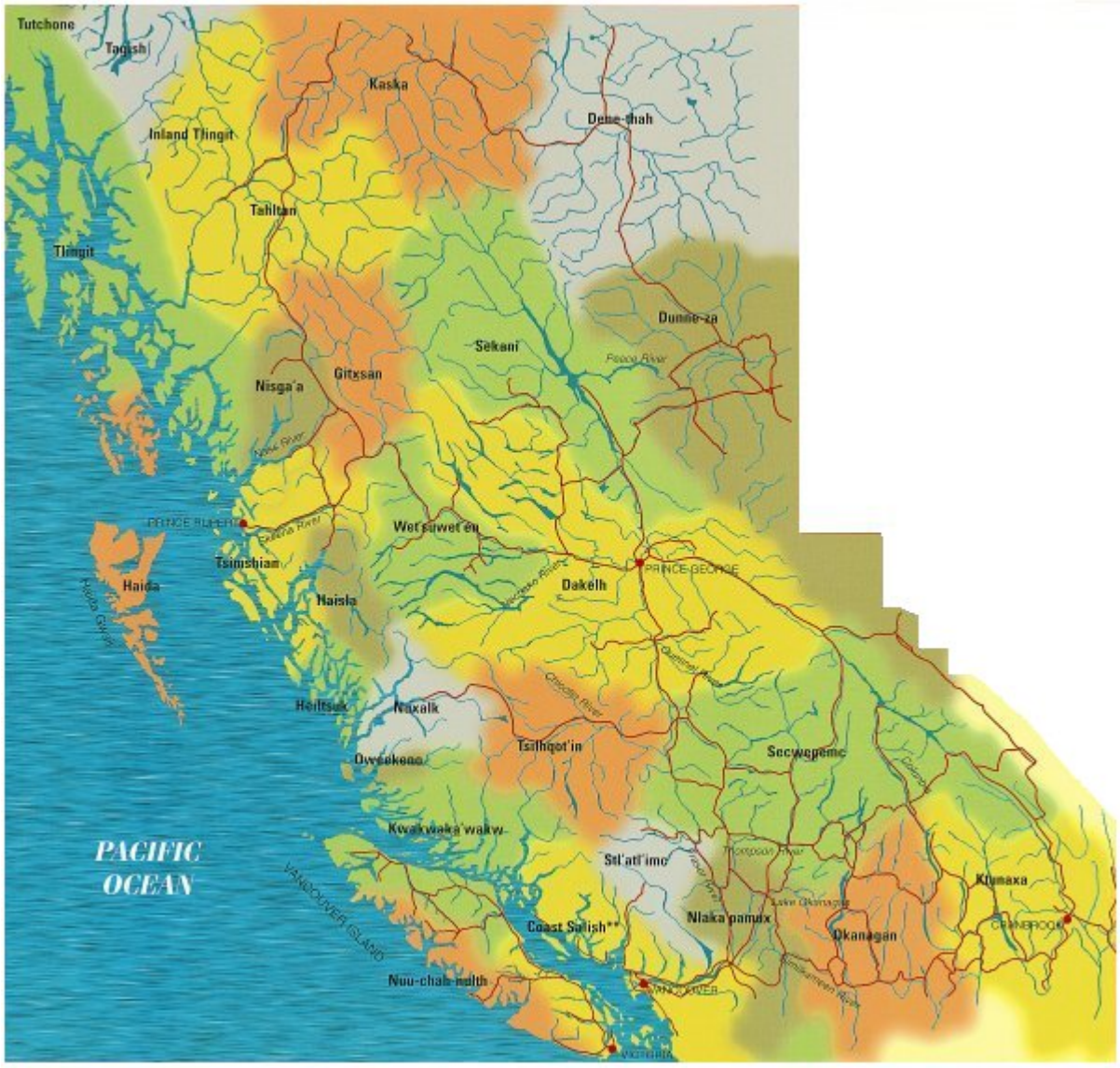


Map indicating coverage of coastal resource inventory projects. Source: DFO



Map sheet showing LEK about the whereabouts of groundfish in the Bay d'Espoir. Source: the Community-Based Coastal Resource Inventory, Newfoundland and Labrador.

3.6 Atlantic Salmon Farming and First Nations in British Columbia



Map of British Columbia with First Nations. Source: BC Ministry of Education
http://www.bced.gov.bc.ca/abed/map.htm

In British Columbia, aboriginal communities' involvement in and resistance against Norwegian salmon farming companies attracted the interest of the Norwegian public during the Vancouver 2010 winter Olympics. Atlantic salmon farming in open net cages are accused of exterminating the wild salmon due to transfer of sea lice and diseases from the fish farms to wild salmon, as well as polluting the environment. The NRK Sámi Radio produced several reportages from Vancouver Island and Vancouver during the hunger strikes organized by Chief Bob Chamberlin and the Pure Salmon Campaign, demonstrating against the practices of

farmed salmon and its impact on the Pacific salmon (Coho, Chinook, Sockeye, Pink and Chum) in the region. Sea lice scientist Alexandra Morton also organized several campaigns against fish farming as one of the primary reasons for sea lice infestations among wild salmon, and letters were sent to the Norwegian king to get support for the First Nations' and the protesters' plea for saving the wild salmon. Marine Harvest is currently the largest Norwegian-owned salmon farming company in British Columbia, and produces Atlantic Salmon in open net cages. As I learned during my stay in BC, because Pacific salmon is the favoured fish in restaurants and on dinner tables, a majority of the farmed Atlantic Salmon are exported to the western states in the US. The background for the major protests against fish farming is the dramatic downturn in the salmon returns to the main salmon river in BC, the Fraser River. The DFO predicted a return of 10 million sockeye salmon to the Fraser River in 2009, but barely a million salmon actually returned.

The collapse initiated an inquiry, and the Cohen Commission was appointed to investigate the collapse. In Vancouver, the talk of the town was the standing commission and the open hearings that had just been conducted. First Nations, salmon fishers, environmental groups and the aquaculture industry were all going to be heard by the commission. The passion with which Canadians defended their wild salmon is fierce, and the arguments and debates surrounding the issue and directed against the fish farming industry were harsh. Tony Penikett in the Arctic Governance Project kindly introduced me to Vancouver culture and people who knew a lot about fisheries issues and salmon fishing in BC. "It's like a foreign country coming and killing your wild salmon, imagine that", member of the city council in Vancouver and author of the book *Salmon. The Decline of the British Columbia Fishery* told me. I also talked to a lawyer representing the aquaculture companies in BC and to other researchers who knew about or were connected to the salmon "war" in some way. The Faculty of Law at UBC by Dr. Douglas Harris provided ample legal and historical background for studying aboriginal legal fisheries in BC. I learned that salmon was the material basis that made the thriving indigenous culture before colonization in BC possible, and which also supported a massive fisheries industry for the new colony in modern times through salmon canneries. Everyone were passionately involved with the Pacific salmon to an even greater degree than I knew from our passion for salmon or for cod in Norway. However, with the overwhelming amount of information, political discourse and campaigns form indigenous advocacy groups, environmentalist groups and scientists /see, for instance, www.salmonaresacred.org), it was hard to get a grip on the real issues underlying the passion.

The Musqueam emblem with salmon.
Source: http://www.musqueam.bc.ca/

The Musqueam are one of the many aboriginal groups belonging to the Coast Salish First Nations in British Columbia, located on the banks of the Fraser River. They were one of the four host nations during the Vancouver 2010 Olympics, and one of their reserves are close to the UBC, where I had the opportunity to visit and attend a seminar. The Musqueam have a long-standing relationship with salmon and marine resources as their way of life, and were in the lead in attaining an aboriginal right to fish for social and ceremonial purposes through the Sparrow decision (*R v. Sparrow, 1990*). A member of the Musqueam band was caught fishing in traditional waters with a gill net which was longer than allowed under the federal Fisheries Act. Sparrow argued that he had an existing aboriginal right to fish, and that the regulations did not apply to him[5]. The court agreed, thus recognising First Nations' aboriginal fishing right, but only for social and ceremonial purposes. The Musqueam also owned commercial fishing vessels (privately owned by status or non-status Indians) licensed for salmon and herring (from Musqueam comprehensive lands claim, 1984). Today, fishing for salmon in the Fraser River and managing salmon habitats continues to be important for the Musqueam, as I was told by Leona Sparrow on my visit to the band.

On my visit in the capital of BC on Vancouver Island, I got the chance to see a fish farm in BC for myself through anthropologists Randy Bouchard and Dorothy Kennedy, whom I had contacted through one of my colleagues in Tromsø. Driving to Campbell River from Victoria, I was able to attend a tour organised by Marine Harvest for the local Rotary Club. Marine Harvest is involved with First Nations as employees through contracts and obligatory legal consultations (see www.marineharvestcanada.com), and celebrated in 2010

[5] Imai, Logan and Stein 1993:10

ten years of partnership with the Kitasoo First Nation in Klemtu, where about 40 % of the population is employed by Marine Harvest. Ian Roberts, communications manager at Marine Harvest Canada, led the boat tour starting from Campbell River, which lasted a few hours. The landscape in BC is beautiful, green, and vast, with a few settlements spread out with large distances between them. The area we drove through with the boat is lucrative for recreational properties and cabins, and we saw a few along the way. Mr. Roberts was well aware of the criticism from among others Alexandra Morton about the negative impacts of farmed salmon on the wild salmon stocks, and answered all our questions and explained about a range of issues from escapes and sea lice to how much feed the salmon get, to the amount of salmon in each fish cage. The industry is under strict regulations and stringent standards, and is constantly working to improve their methods for minimizing pollution and escapes, managing sea lice and conducting sustainable farming practices. An important factor is that Atlantic salmon does not breed with Pacific salmon and have little success for survival in the same environment and spawning in the rivers that the more aggressive Pacific salmon belong in. The crew at Marine Harvest Canada are also receiving courses from the Norwegian Marine Harvest, and in some respects seem to be under a stricter regulation regime in BC because of the attention and high demands for environmentally sustainable fish farming. Below is a picture of the salmon farm where we landed, on a location about 1,5 hours from Campbell River. This locality was situated far from nearby communities, but nonetheless quite protruding in the landscape.

Marine Harvest fish farm and facility in BC. Photo: Camilla Brattland.

I was unfortunately not able to go to the Klemtu community or any other First Nations community on Vancouver Island, nor did I visit the Aboriginal Aquaculture Association in Campbell River, headed by Richard Harry, although we tried to meet each other. I learned later that representatives from some of the First Nations in BC have been attending tours with Marine Harvest to the west part of Norway where salmon farming have been going on for a few decades, to learn about aquaculture issues in a Norwegian setting[6]. A closer look at how First Nations interact with the aquaculture industry in Canada with a look to the same issues in northern Norway would have been instructive for all parties and could contribute to greater awareness and better relationships between the industry and indigenous communities.

[6] http://www.marineharvestcanada.com/video/marine-harvest-in-norway/norwegian-aquaculture---a-canadian-tour

References

Brattland, Camilla (2010): ”Mapping Rights in Coastal Sami Seascapes” in Ravna, Øyvind: *Arctic Review on Law and Politics* 1/2010, vol. 1, pp. 28-53, Gyldendal Akademisk, Oslo

Davis, Anthony 2007: “Where’s the Fisk in the Fiskbollen?” Community University Research Alliances: the case of social research for sustainable fisheries and empowerment. Pages 128–143. *in* Nyseth, T., S. Jentoft, A. Forde, and J. O. Baerenholdt. editors. I Disiplinenes Grenseland: Tverrfaglighet I teori og praksis. Fagbokforlaget. Oslo, Norway

Davis, Anthony and Wagner, John (2003): “*Who* Knows? On the Importance of Identifying “Experts” When Researching Local Ecological Knowledge” in *Human Ecology*, Vol. 31, No. 3, September 2003.

Davis, Anthony and Wagner, John (2006): “A right to fish for a living? The case for coastal fishing people’s determination of access and participation” in *Ocean and Coastal Management* 49 (2006) pp. 476-497.

Davis, Anthony and Svein Jentoft 2003: The Challenge and the Promise of Indigenous Peoples’ Fishing Rights. In Jentoft, S, H. Minde, & R. Nilsen (eds) 2003: *Indigenous Peoples. Resource Managent and Global Rights*. Eburon, Delft (185–209, 24 pages).

Denzin, Norman, Lincoln, Yvonna S. and Smith, Linda Tuhiwai (2008): *Handbook of Critical and Indigenous Methodologies*, SAGE Publications.

Eythorsson, Einar 2003: “The Coastal Sami: a ‘Pariah Caste’ of the Norwegian Fisheries? A Reflection on Ethnicity and Power in Norwegian Resource Management,” In Jentoft, S, H. Minde, & R. Nilsen (eds.): *Indigenous Peoples. Resource Management and Global Rights*. Eburon, Delft (149–162, 13 pages).

Fávllis research project 2009: “Fávllis – a research network on Saami fisheries” http://www.sami.uit.no/favllis/indexen.html [last visited 2009–12–06].

Harris, Douglas C. and Millerd, Peter (2010): “Food Fish, Ceremonial Fish and Fish to Support a Moderate Livelihood: Characterizing Aboriginal and Treaty Rights to Canadian Fisheries” in Ravna, Øyvind: *Arctic Review on Law and Politics* 1/2010, vol. 1, pp. 82-107, Gyldendal Akademisk, Oslo

Hutchings, J. (1996): “Spatial and Temporal Variation in the Density of Northern Cod and a Review of Hypotheses for the Stock’s Collapse” in *Canadian Journal of Fisheries and Aquatic Sciences* 53: 943-62.

Imai, Shin et al. (1993): *Aboriginal Law Handbook*, Carswell, Ontario.

Marine infrastructure study for the salmonoid aquaculture industry Bay d’Espoir/Connaigre Peninsula/Fortune Bay region, Final report. Submitted to Department of Fisheries and Aquaculture, St. John’s. Rutter Hinz Inc. Consulting Engineering Group, Clarenville, NL. 2009.

Maurstad, Anita and Sundet, Jan (1998): "The invisible cod: fishermen's and scientists' knowledge" in S. Jentoft: *Commons in a Cold Climate: Reindeer Pastoralism and Coastal Fisheries*, Parthenon, Casterton Hall, pp- 167-185.

Meggs, Geoff (1991): *Salmon. The Decline of the British Columbia Fishery*. Douglas & McIntyre, Vancouver/Toronto, Canada.

Miawpukek First Nation (2003): "Commercial Fisheries Mentoring Program". Report prepared to Miawpukek Human Resources. Netukumlik Fisheries Ltd, Conne River, Newfoundland.

Musqueam Comprehensive Land Claim. Preliminary report on Musqueam Land Use and Occupancy. Presented to the Office of Native Claims by the Musqueam Band Council, Vancouver, Canada,1984.

Musqueam Indian Band (2006): *Musqueam – A Living Culture*, Vancouver, BC.
O'Brien, J. et al (1998): Community-Based Coastal Resource Inventories in Newfoundland and Labrador. Procedures Manual, Department of Fisheries and Oceans, St. John's, NL, Canada

Neis, Barbara and Felt, Lawrence (eds.) 2000: Finding Our Sea Legs. Linking fishery people and their knowledge with science and management. St.John's: ISER

NOU 2008: 5 *Retten til fiske i havet utenfor Finnmark*. Kystfiskeutvalgets utredning. Kyst- og Fiskeridepartementet [Finnmark Coastal Fishery Commission].

Ommer, Rosemary et al (2007): *Coasts Under Stress. Restructuring and Social-Ecological Health*, McGill-Queen's University Press, Canada.

Tobias, Terry and Jeddore, Philip (2000): Miawpukek Mi'kamawey Mawi'omi
Land Use And Occupancy Mapping Project Report #1: Data collection, transcription, and data review methodologies. Prepared for the Council of the Conne River Mi'kmaq, Conne River, Mi'kmaw Territory, Newfoundland.

Tobias, Terry (2009): *Living Proof. The Essential Data-Collection Guide for Indigenous Use-and-Occupancy Map Surveys*, Ecotrust Canada and UBCIC, Vancouver, BC.

Wright, Reni and Brattland, Camilla (forthcoming) short film: "Coastal Sami Fjord Fishery Spring 2009" (15 min.) , Centre for Northern Peoples, University of Tromsø, Norway.