

# PREVENTING ECOLOGICAL DECLINE IN THE BRAS d'OR BIOREGION: THE STATE VERSUS THE MI'KMAQ 'METAMORPHOSIS MACHINE'

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## **Abstract / Résumé**

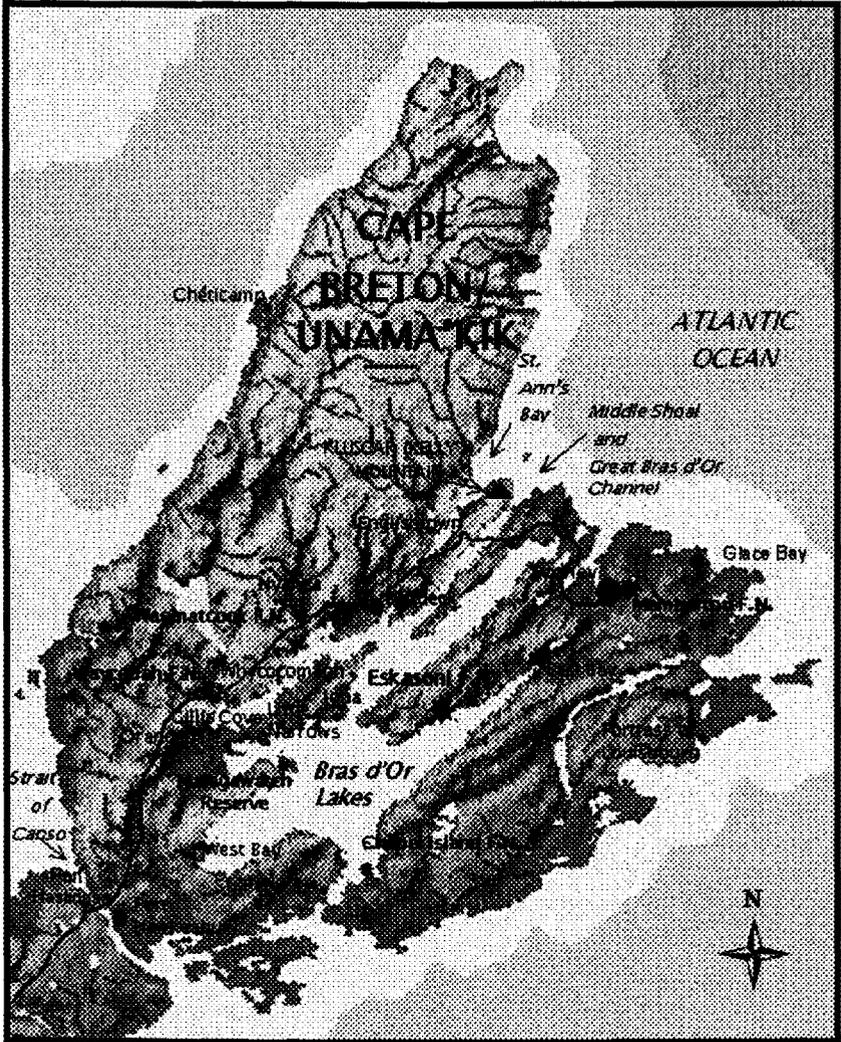
The central Bras d'Or Lakes watershed on the island of Unama'kik, Mi'kma'ki (Cape Breton Island, Atlantic Canada) is experiencing severe ecological degradation. Local communities have responded to ecological problems with a number of proposals and initiatives. The non-Aboriginal "Cape Bretoner" proposals have focused on lobbying the government to implement some form of integrated management. The Mi'kmaq have taken a more active stance, and have begun unilaterally to implement such an integrated management approach, utilising the jurisprudence of their underlying title to the land as a political lever.

Le bassin hydrographique central du lac Bras d'Or, situé sur l'île Unama'kik, Mi'kma'ki (île du Cap-Breton, Canada atlantique), fait face à une dégradation environnementale sérieuse. Les collectivités locales ont réagi aux problèmes écologiques en proposant un certain nombre de mesures. Les propositions des résidents non autochtones du Cap-Breton se concentraient sur l'exercice de pressions sur le gouvernement afin qu'il applique une forme de gestion intégrée. Les Mi'kmaq ont adopté une approche plus active et ont commencé à appliquer unilatéralement une approche de gestion intégrée en ayant recours à la jurisprudence entourant leur droit de propriété sous-jacent des terres comme un levier politique.

### Metamorphosis in the “Land of Fog”

The Mi'kmaq people, Aboriginal occupants of Atlantic Canada, call Cape Breton Island *Unama'kik*, which in English means “Land of Fog.” Though almost certainly a reference to the thick banks of Atlantic fog that regularly roll across this large island off the north-eastern tip of Nova Scotia, Canada, the name has metaphorical relevance for a discussion of the problems facing the island in general, and the watershed

Figure 1  
Map of Unama'kik / Cape Breton



of its central Bras d'Or Lakes in particular (see Figure 1 - Map of Cape Breton/Unama'kik).

Indeed, the behaviour of the almost two dozen responsible government agencies resembles at many times that of people blundering through a fog, only dimly aware of where they should be going, and constantly getting in one another's way. With overlapping and at times conflicting mandates for management of the Bras d'Or Lakes watershed, these agencies have accomplished little to mitigate the ecological impact of human activities in the region.

The recent history of the Bras d'Or watershed holds important lessons for the study of Aboriginal peoples and the environment. Although located in Canada, ostensibly one of the world's most "developed" states, Cape Breton/Unama'kik occupies a peripheral position in the Canadian economy. Unemployment, infant mortality, and disease rates are significantly greater than in the rest of the country. Moreover, the island's Mi'kmaq people, like most Aboriginal communities in Canada, experience even more profound poverty than their non-Aboriginal ("Cape Bretoner") neighbours. The experiences of local communities in their efforts to halt ecological decline in the Bras d'Or watershed and implement sustainable resource-use management policies and institutions, mirror those of communities in less-"developed" countries such as the Philippines (Broad and Cavanagh 1993; Fernandez Jr. et al. 2000; Hyndman 1991; Sunderlin and Gorospe 1997).

Philosopher Paul Patton (2000), building on the work of Gilles Deleuze and Félix Guattari (1983; 1987), has suggested that Aboriginal peoples can operate as "metamorphosis machines," bringing about, often in the face of determined resistance, rapid and profound changes to state structures. More specifically, Patton argues that the jurisprudence of Aboriginal title can, if leveraged properly, have a "deterritorialising" effect on the state. This idea is best understood in the context of colonisation. When European powers arrived in North America they actively "deterritorialised" Aboriginal peoples. That is to say, they ignored inherent Aboriginal territorial sovereignty, and took steps to erase evidence of Aboriginal occupation, for example by drawing maps in which Aboriginal settlements did not appear (Brealey 1995), or putting forth legal arguments such as the infamous *terra nullius* ("empty land") position (Mercer 1993). After deterritorialising the original occupants of North America, the Europeans then "reterritorialised" the continent by drawing political maps, establishing state, provincial, or international administrative boundaries, changing place names, and too frequently, by relocating entire Aboriginal communities, or at least, generations of Aboriginal children. As such, the advent of state territoriality in North America is historically identical

with the territorial disempowerment of Aboriginal peoples. Thus, when Patton argues that Aboriginal land claims and resource rights can have a deterritorialising effect on the state apparatus, he means implicitly that Aboriginal "metamorphosis machines" represent an anti-colonial force. Given Deleuze and Guattari's view that these state structures are inherently repressive (both socially and ecologically), Aboriginal metamorphosis machines can also be understood as forces of emancipation or liberation. In the following pages, it will be shown that

- 1) the *Unama'ki Mi'kmaq* have succeeded in ecological management where state management regimes have failed; and
- 2) that these successes have come about in large part due to the disruption of colonial and post-colonial structures of repression, and therefore the *Unama'ki Mi'kmaq* do indeed exemplify a "metamorphosis machine" in action.

This article, based on doctoral research conducted by the author, may be regarded as a kind of 'fog-light', attempting to illuminate the murky ecological politics of the Bras d'Or, while simultaneously signalling to communities in other areas of Canada that their struggles are not entirely unique. At the same time it calls attention to the significant political barriers that rural, natural resource-dependent (and especially Aboriginal) communities in Canada face in their efforts to effect some degree of local control over the management of the human use of their local environment. Finally, it suggests that Aboriginal communities that behave metamorphically, for example through the mobilization of the jurisprudence of land or resource title, or by engaging in blockades or the threat of armed militancy, may be able to succeed in disrupting state structures of repression, and thereby effectively resist the ongoing economic and political colonisation of rural areas by "Industria," the consolidating global network of large, urban centres (Hipwell, 2004).

Field research for this study involved four consecutive summers in Cape Breton/*Unama'kik*, during which the author lived with *Mi'kmaq* and Cape Bretoner families. Research included participation in cultural activities, including sweat lodge ceremonies, pow-wows, festivals, and fishing trips. Field research data was recorded in detailed field notes and the transcripts of interviews with 34 people identified either in the literature on the region or through snowball sampling (Babbie 1995), as either playing a key rôle in the ecological politics of the region, or possessing detailed knowledge of local ecology and history. Respondents were either Bras d'Or watershed residents, members of Bras d'Or watershed conservation groups, community leaders involved in efforts to protect the Bras d'Or such as those of various *Mi'kmaq* institutions or the Bras d'Or Watershed Working Group, or government officials famil-

lar with relevant issues. A significant amount of data about Mi'kmaq resource management was gathered in interviews with Charlie Dennis, Executive Director of the Mi'kmaq conservation agency the Eskasoni Fish and Wildlife Commission, widely acknowledged as being the foremost agency involved in the study and protection of the Bras d'Or Lakes. Almost half of the people interviewed identified themselves as members of the Mi'kmaq nation. These formal interviews were but the tip of the iceberg as far as qualitative data is concerned; they were augmented by hundreds of unrecorded conversations and encounters with people, and countless experiences of *place*.

These impressions and accounts are contextualised by extensive archival and bibliographic research undertaken at the University College of Cape Breton - Beaton Institute's Bras d'Or Archives, the Eskasoni Fish and Wildlife Commission Library, and the Paqtatek/Prism Project (PPP) web-site (Paqtatek - Prism Project 2000). Every effort was made to triangulate qualitative data from interviews and personal experiences with more formal academic or institutional accounts, in order to provide as detailed and complete a picture of the island and its eco-political processes as possible.

## Historical Context

Long before the arrival of European colonists, Cape Breton/Unama'kik was the most important district of the Aboriginal Mi'kmaq polity (*Mi'kma'ki*—see Figure 2).

Estimates of the pre-colonisation Mi'kmaq population range between 35,000 and 75,000 (Henderson 1997: 33; McMillan 1996). The admittedly sketchy historical record of the pre-colonisation period describes an advanced, ecologically sustainable Mi'kmaq culture (Coates 2000: 26) with representative political institutions, sophisticated technologies adapted to the unique ecology of the region, and standards of health and morality by many accounts more advanced than those of the Europeans whom the Mi'kmaq initially welcomed to the island (Bollan 1746; Paul 1993; Whitehead 1991). There is little question that the Mi'kmaq fully used and occupied all of Cape Breton/Unama'kik prior to colonisation, since there are Mi'kmaq place names for every river, lake and significant geographic feature of the island (Pacifique 1934; Rand 1919; Royal Commission on Aboriginal Peoples (RCAP) 1996: v.1, c.4, s.1). Until quite recently, the Mi'kmaq economy was predominantly based on the harvest of natural resources, especially from the sea. There is evidence that Mi'kmaq resource use included some forms ecological micro-management, such as the construction and maintenance of fishponds (Whitehead 1991:17) (this historical evidence was corroborated

Note that Mi'kmaq territoriality is inherently bioregional, conforming to river watersheds and coastlines. Adapted from Clarke et al. (1987), Native Council of Nova Scotia (1997) and Microsoft (2001).

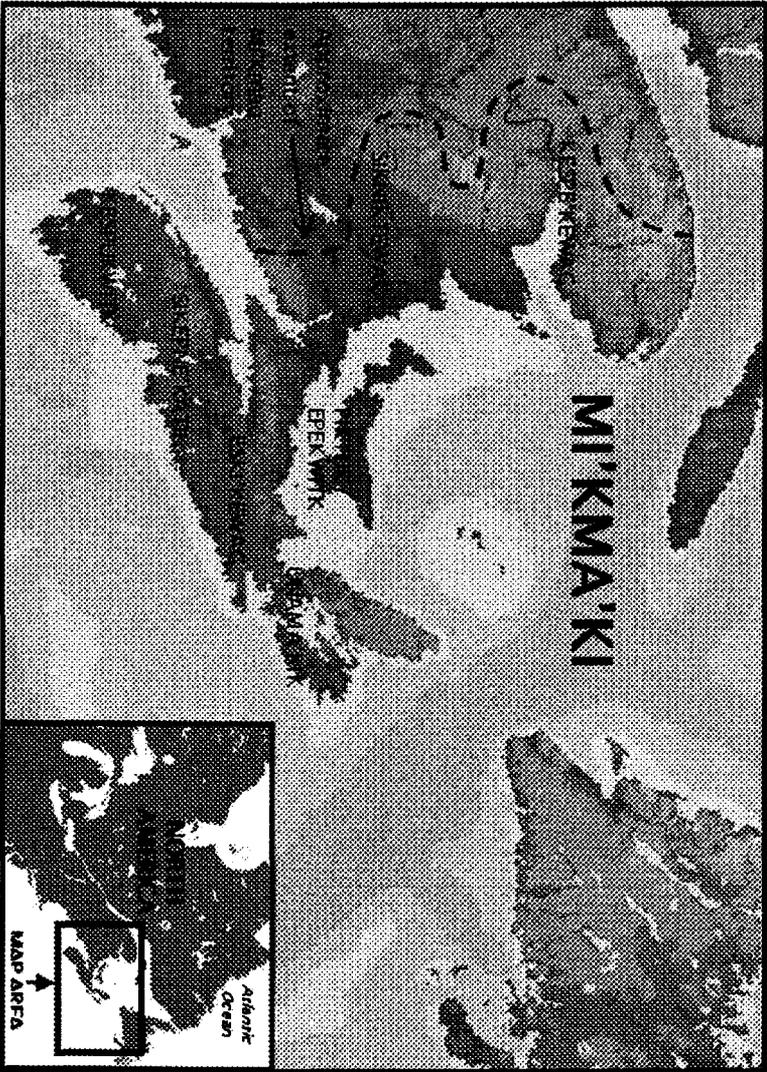


Figure 2: The Seven Districts of Mi'kma'ki

by the present author's field observations). Today a large number of Mi'kmaq continue to engage in resource harvesting for subsistence (Informants suggested figures as high as 80%; Mi'kmaq participation in the Canadian Census is too patchy to provide reliable data for triangulation).

The colonial history of the island is a case study of a "colony of exploitation" (Wallace 1990), which from the beginning was seen as a source of raw materials to feed the economies of European colonial

powers (deRoche and deRoche 1987; Hornsby 1989; Muise 1994), rather than as a "colony of settlement" intended to be eventually integrated into European culture and economy. Arguably, little had changed in this regard by the twentieth century. Forbes (1983) notes that federal troops were sent to the island seven times between 1876 and 1925 to quell labour unrest in the coalmines.

In the early colonial period European powers acknowledged Mi'kmaq territorial sovereignty, a fact reflected in the "Covenant Chain" of nation-to-nation treaties signed between European powers and the Grand Council of the Mi'kmaq (Clarke et al. 1987). It was only later that the British began to systematically disregard their treaties with the Mi'kmaq and proceed as though their own sovereignty over the Atlantic region was absolute and uncontested. This deterritorialization of the Mi'kmaq proceeded virtually uninterrupted from the 18<sup>th</sup> century until the early 1990s. Since then, the Federal and Nova Scotia governments have shown great reluctance to respect numerous Supreme Court of Canada decisions affirming collective Mi'kmaq rights to land and resources. Today, Canada's (and the world's) economic system siphons billions of dollars of resource-wealth (fish, timber, oil, gas, etc.) from *Mi'kma'ki* without returning adequate benefits or a share in decision-making to the Mi'kmaq. When the Mi'kmaq have attempted to assert their treaty-backed and court-affirmed rights to a measure of control over resources, governments have frequently responded with violent force and arrests. Nowhere has this been clearer in recent memory than during the 2000 and 2001 confrontations between the Mi'kmaq and the Canadian Department of Fisheries and Oceans (DFO) at Esgenoôpetitj (Burnt Church, New Brunswick) (see Coates 2000; Hipwell 2000a; b). Only since 2001 has this situation begun to change, with Court-ruled resource rights being to some degree acknowledged by the state.

## **Contemporary Cape Breton/Unama'kik - A Geographical Sketch The Bras d'Or Watershed**

On December 15, 1975, in a document urging government support for integrated management in the watershed, Dr. Donald Arseneau, Director of the College of Cape Breton's Bras d'Or Institute (1975: 6) wrote, "The Bras d'Or Lakes constitute an inland sea, and as such can serve as a microcosm of Canada." Chosen by the National Geographic's *Traveler* magazine as one of the world's fifty greatest places to visit, the Bras d'Or Lakes are renowned for their beauty and ecological diversity (Bruce 1999). Unfortunately, like many of the world's most significant ecosystems, the Bras d'Or Lakes and their watershed face numerous threats

— primarily from resource-extraction activities and poorly managed development. Arseneau was reacting to growing ecological problems, which he and others felt posed a significant threat to the region's future. From the human perspective, it was already apparent then that ecological deterioration was rapidly undermining both the sustainability of a local resource-based economy and the potential of tourism. The watershed is home to 18,000 people, one third of whom are Mi'kmaq people concentrated in five Indian Reserves around the Lakes. Most of these residents (and particularly the Mi'kmaq) are to some degree economically dependent upon the health of the Lakes and their drainage basin.

From the perspective of the rest of the biotic community the situation in 1975 was equally serious. Twenty-eight years later, the issues that first aroused Arseneau's concern have, by all accounts, worsened. The situation in the Bras d'Or may well be having wider impacts. Since the Lakes are—according to the local/traditional knowledge of the Mi'kmaq nation and other local residents—an important "hatchery and nursery" for the North Atlantic, ecological problems in the watershed may be playing a role in the decline of major North Atlantic fish stocks.

The Bras d'Or Lakes might be most accurately described as an inland sea. Tidal action brings in salt water from the ocean through the Great Bras d'Or and St. Andrew's Channel. The combination of freshwater and ocean water flows gives the entire system estuarine characteristics, with a salinity approximately 72% that of the adjacent Atlantic Ocean (Krauel cited in UMA Group 1989: 9). Like most estuaries, the Bras d'Or Lakes are therefore a key habitat for fish reproduction. The Jesuit Père Biard, writing in 1611, noted that

In the middle of March, fish begin to spawn, and to come up from the sea into certain streams, often so abundantly that everything swarms with them. Anyone who has not seen it could scarcely believe it. You cannot put your hand into the water, without encountering them. (Biard quoted in Whitehead 1991: 38)

Indigenous fish species include herring, smelt, gaspereau (alewyfe), cod, mackerel, sea trout, salmon, flounder and at least 38 others (Kenchington 1998).

In addition to being important fisheries habitat, the watershed is also the home to the largest concentration of breeding Bald Eagles in eastern North America (Erskine and Vienneau 1992: 51), at times serving as a source of breeding pairs for reintroduction programs elsewhere on the continent (UMA Group 1989). Resident mammals in the watershed include Moose, Black Bear, White Tailed Deer, Beaver, Otter, Mink, Muskrat, Grey Seal and Harkam Seal (Kenchington 1998; UMA Group 1989).

Timber Wolves were found in the area historically, but had been extirpated, along with Woodland Caribou and Moose (which were subsequently re-introduced), by the end of the nineteenth century.

## **Four Centuries of Ecological Decline**

### **Early Problems**

The early ecological history of Cape Breton/Unama'kik is sketchy, and there has been no comprehensive environmental assessment of the island by conventional scientific methods. However, Whitehead provides extensive anecdotal documentary evidence from the seventeenth, eighteenth and nineteenth centuries that biodiversity on the island and more generally throughout *Mi'kma'ki* declined precipitously after colonisation. These accounts coincide with the oral history provided by present-day *Mi'kmaq* residents in numerous interviews. The cause for this ecological decline is clear from the following passage:

But your people had not land enough, they came and killed many of our tribe and took from us our country. You have taken from us our lands and trees and have destroyed our game. The Moose yards of our fathers, where are they? Whitemen [sic] kill the Moose and leave the meat in the woods. You have put ships and steamboats on the waters and they scare away the fish. You have made dams across the rivers so that the Salmon cannot go up, and your laws will not permit us to spear them. (1849 letter to the Lieutenant Governor of Nova Scotia by several Chiefs of the *Mi'kmaq*, quoted in Whitehead, 1991: 240)

According to one local (non-Aboriginal) resident interviewed for this study, as late as the mid-twentieth century, Cape Bretoners routinely dumped hundreds of tons of lobsters onto farm fields and ploughed them into the ground as fertilizer (Sander Taylor Interview). Since the *Mi'kmaq* have depended for millennia on lobster as a staple food source, it is not unreasonable to wonder whether this systematic destruction of the *Mi'kmaq* food supply may not have been a deliberate strategy to starve the *Mi'kmaq* out of their territory, as was the case with the extermination of the Plains Bison during the wars against Plains nations such as the Lakota (Weyler 1992).

### **Late Twentieth Century Forward**

Today, the watershed is continuing to experience significant ecological degradation. This is largely due to a lack of effective co-ordination among government agencies, local community groups, and the *Mi'kmaq* nation. Specific problems include siltation, faecal contamina-

tion, introduction of exotic species, and the decline of fish populations (due to over-fishing, pollution, and habitat loss). For a more thorough description of ecological degradation in the watershed, readers are encouraged to consult (Hipwell, 2001).

The Nova Scotia Department of the Environment and Labour appears to be unwilling or unable to enforce existing sewage regulations, which has led NSDEL employee Anna Steele to accuse her own Department of "regulatory negligence" (Anna Steele Interview). Senior officials in the Department, despite extensive correspondence, telephone calls and direct contact over a three-year period, declined to provide any information on what the Department is doing to address the problem of faecal contamination in the lakes. Archival and bibliographic research similarly failed to turn up any evidence of government action in this regard.

Charlie Dennis, Executive Director of the Eskasoni Fish and Wildlife Commission (a Mi'kmaq institution) has expressed a fear that the Bras d'Or Lakes are going to become "another Chesapeake Bay," a reference to the decline experienced in the ecologically similar estuary of the Potomac River on the eastern seaboard of the United States. He is particularly concerned about exotic species arriving in the Lakes via bulk carriers' ballast water:

Also, look at the green crab problem [one exotic species which has recently invaded the Bras d'Or Lakes]. We should have had a handle on the green crab before the population exploded. Before something else happens we should do something with the bulk carriers coming into the lakes: the gypsum boats. We shouldn't wait until something else like the zebra mussel comes in. I feel bad right now.

Dennis went on to express perplexity as to why the Coast Guard and the DFO have failed to take any concrete action to ensure that no ballast water is discharged in the lakes. Indeed, the discharge of ballast water into the Bras d'Or was not, as of 2001, prohibited by any statute or regulation.

Kenchington (1998: 78) suggests that "the major attack on marine ecosystem function in the lakes...comes from the fisheries." From the perspective of the Mi'kmaq, depletion of fish stocks is by far the most serious cause for concern. This decline has resulted from a confluence of management failures. Charlie Dennis stated in an interview that the DFO has permitted a number of destructive fishing practices. These include 1) the use of industrial trawl gear which has damaged habitat in the lakes; 2) a large-scale commercial herring fishery in a key migration route (Sector 4Vn) just outside the Bras d'Or Lakes; and 3) a large-scale

herring bait-fishery within the Bras d'Or lakes (Charlie Dennis Interview). More generally, the Federal and Nova Scotia governments have failed to adequately enforce Sections 35 and 36 of the *Fisheries Act* (Parliament of Canada 1985), resulting in ongoing pollution of the Bras d'Or Lakes and destruction of habitat by development. Miscellaneous other disruptions to habitat and migration routes include the construction of the Canso Causeway connecting Cape Breton/Unama'kik to the Nova Scotia mainland, which Mi'kmaq fishers interviewed claimed had been an important migration route for eels, and the more recent dredging of the Middle Shoal discussed below.

## **A Failure of Governance**

The state's reterritorialization of the Mi'kmaq policy has contributed to ecological problems in the Bras d'Or. Most importantly, the two levels of government responsible for environmental management (federal and provincial) are based in cities very distant from Cape Breton/Unama'kik. This concern is evident in the words of Sander Taylor, who co-ordinated the activities of the Bras d'Or Watershed Working Group, when he attempted to explain why the provincial government has failed to prevent ecological degradation in the Bras d'Or:

I think that...in some cases, the legislation to keep that watershed healthy was in place. [But] the staff to do the work to carry out that legislation was not there. Or the staff was there to carry out the legislation but the enforcement wasn't there. Or the staff and the enforcement was there but they sat in Halifax because they didn't have the funding and they didn't have gas to drive to Cape Breton.

His contention is supported by one senior provincial government employee interviewed in 2000, who admitted, "We don't have the ability to enforce. We don't have the staff or money to allocate for enforcement on the Bras d'Or Lakes themselves..." (Anonymous Interview Respondent). The same employee went on to suggest that a kind of anarchy reigns in resource-use management around the Bras d'Or:

Woodcutting operations, subdivisions, development, waterfront lots, things of that nature...everything's uncontrolled. [...] You can go down into the Baddeck River system or the Middle River system, there's all kinds of silt moving down [as a result of poor forestry practices]. (Ibid.)

This problem has resulted partly from government funding cutbacks, and in part from overlapping administrative units at the municipal, provincial and federal levels.

Jurisdictional overlap ensures that no one agency or administrative

**Figure 3**  
**Agencies Mandated with "Managing" the Bras d'Or**

**Agencies "Managing" the Bras d'Or Watershed Environment\***

**Canadian Federal Departments and Agencies**

1. Department of Fisheries and Oceans
2. Canadian Coast Guard
3. Environment Canada
4. Department of Indian and Northern Affairs
5. Atlantic Canada Opportunities Agency/Enterprise Cape Breton Corporation

**Nova Scotia Provincial Departments and Agencies**

6. Department of Environment and Labour
7. Department of Natural Resources
8. Department of Agriculture and Fisheries
9. Department of Health (water quality)
10. Department of Transport and Public Works
11. Department of Municipal Relations
12. Office of Aboriginal Affairs

**Municipalities**

13. Municipality of Victoria
14. Municipality of Inverness
15. Municipality of Richmond
16. Cape Breton Regional Affairs

**First Nations Reserves**

17. Waycobah First Nation
18. Wagmatcook First Nation
19. Eskasoni First Nation
20. Chapel Island First Nation
21. Membertou First Nation (interest in Malagawatch)

**Mi'kmaq Government and Agencies**

22. Grand Council of the Mi'kmaq
23. Union of Nova Scotia Indians
24. Eskasoni Fish and Wildlife Commission
25. Unama'ki Institute of Natural Resources

\* The above agencies and institutions are all mandated to oversee human activities which are likely to have an impact on the ecology of the Bras d'Or watershed. This profusion of authorities has resulted in jurisdictional overlap, conflicting mandates, inefficiency, and ecological decline.

body is responsible for the overall well-being of the watershed and its inhabitants. Although there has been some minor restructuring of government departments over the past decade, the jurisdictional situation is much the same as it was when Arseneau (1989) identified 11 federal and provincial departments or agencies with overlapping or conflicting mandates for managing some aspect of human interaction with the rest of the environment in the Bras d'Or watershed. A more comprehensive accounting undertaken by the present author identified 25 agencies with overlapping and at times conflicting mandates for activities relevant to environmental or resource-use management in the Bras d'Or watershed (see Figure 3).

For example, in Nova Scotia the Department of Natural Resources governs logging and mining, the Department of Environment and Labour is responsible for regulating sewage treatment and other sources of pollution, the Department of Fisheries and Aquaculture has obvious, but narrow responsibilities given that all salt water fisheries are the domain of the federal government, and the Department of Transport and Public Works is supposed to ensure that roads and other infrastructure are built to both maximize quality of life (including economic well-being) while minimising ecological impacts. The list becomes even more complex when one factors in the often-conflicting sectoral and geographical mandates of the DFO, Environment Canada, and the federal Department of Indian and Northern Affairs. Furthermore, zoning for residential development is mostly under the control of the four Cape Breton/Unama'kik municipalities, while five *Unama'ki* Mi'kmaq bands each have a certain degree of regulatory autonomy on Reserve lands, and the Union of Nova Scotia Indians through various agencies enacts pan-Mi'kmaq policies and programs. This situation has frequently resulted in "turf wars" which hinder inter-agency co-ordination.

## **Community Efforts to Establish Local Environmental Governance**

Whereas it is of primary importance that the leadership and control of any co-management strategies rest first with the Native and Non-Native communities that are adjacent to the lakes, and that all levels of government as well as the technical resources of the University College of Cape Breton must play a secondary and supportive rôle. (*Unama'ki* Mi'kmaq Chiefs quoted in BOWWG, 1995: Foreword)

Cape Bretoners and Mi'kmaq alike have repeatedly echoed the protests of other Atlantic Canadian communities over the Canadian federal government's management of natural resources, including the commer-

cial fisheries, which many view as ecologically unsustainable and inherently inequitable (see for example Harris 1995; or Rogers 1995). A persistent concern is the allocation of resource quotas to large corporations whose equipment and harvest volumes cause ecological damage, at the expense of resource shares for small-scale harvesters using more ecologically benign technologies. For example, Sandberg and Clancy (1996) and May (1998) discuss in detail the ways in which Nova Scotia forest policies favour large corporations. In Cape Breton/Unama'kik, communities have protested the exploitation of "public" forest resources, under near exclusive control by Stora Enso Ltd. The Swedish pulp and paper giant's "iron-clad" (Anonymous Interview Respondent) Crown Forest license and management agreement with the provincial government, which grants the company rights to virtually all Crown-owned forest on the island outside protected areas, is covered by its own provincial Act of Parliament, the *Nova Scotia Pulp Act* (Sandberg 1991). Allocation of mineral resources such as gypsum follows a similar pattern, with most extraction being undertaken under provincial license by U.S.-based multinationals such as Georgia-Pacific. It is almost trite to add to this discussion mention of the coal industry, which is by far the best-known example of Cape Breton/Unama'kik resources being exploited by off-island companies while local residents remain impoverished. In this latter case, Canada's most hazardous waste site, the Sydney Tar Ponds, has been left behind to poison local residents who were never consulted about how industrial wastes should be managed (Gordon 1997).

This context of resource-use management from afar resulting ecological decline has provoked a number of major initiatives for local "management" or "governance," and efforts toward public education about problems facing the Bras d'Or Lakes watershed. These efforts are categorised as "Cape Bretoner" and "Mi'kmaq" initiatives, since there has been relatively little co-operation between these two groups to date.

## **Non-Aboriginal Community Efforts to Protect the Environment**

Cape Bretoners have worked for more than a quarter-century to implement some form of integrated management regime. Yet bureaucratic inefficiency, scientific scepticism, and vested economic interests have conspired to limit government response to twenty-five years of foot-dragging. Key work began with the Bras d'Or Institute proposals calling for integrated management (Arseneau 1975; 1977). These reports evoked no response from the Nova Scotia government until 1986, when the Bras d'Or Institute received a small grant to host a "Bras d'Or Lakes Coastal Zone Management Program Exploratory Workshop."

This was followed by an offer in January 1987 from Environment Canada to fund a research report on a planning process and structure for an "Integrated Resource Management Plan" for the Bras d'Or watershed. A few months later, the report's author argued that long-term planning and an integrated management process were necessary to prevent existing socio-economic and ecological problems from worsening (Cressman 1987). Overall, the report urged extensive public participation, yet Cressman interviewed only one Mi'kmaq person, and as Berneshawi (1993) notes, discussion in the report of the importance of the area to the Mi'kmaq Nation consisted of a single, brief sentence. As with the earlier Bras d'Or Institute proposals, the recommended process did not materialise, and the issue of developing some form of integrated watershed management was left to further study.

The Bras d'Or Institute then contracted the consulting firm Underwood McLellan Associates (UMA Group) to write a detailed inventory of the watershed as background for a management plan. In 1989, the UMA Group presented their major report on integrated resource management for the Bras d'Or (UMA Group 1989). Though sketchy on some details, and once again marred by inadequate attention to the Mi'kmaq Nation, the UMA Group's report provided for the first time a detailed overview of the mandates and responsibilities of the federal and provincial agencies responsible for various human activities within the Bras d'Or watershed, a preliminary inventory of human and natural resources in the watershed, and an overview of economic potential, along with recommendations on an integrated resource-use management planning framework. Significantly, the report does not describe the Mi'kmaq Nation as a single political entity or even by name, making reference only to "Indian Bands." Nor does the report in any way acknowledge a Mi'kmaq cultural or historical connection to the ecology of the Bras d'Or, nor any collective legal or cultural interest the Mi'kmaq might have in helping to manage human use of natural resources in the watershed.

The Task Force which received the UMA Group's report organized a "Bras d'Or Lakes Conference," held in December 1993. Of 49 invitees, only one was Mi'kmaq (he chose not to attend). Conference participants repeatedly discussed the need for a governance structure, but lamented the lack of funding for a credible management initiative and the evident unwillingness of any one government department to take on the role of a lead agency (Bras d'Or Institute 1993).

In February 1994, the Canadian government granted \$50,000 to the University College of Cape Breton to develop a governance structure for the Bras d'Or Lakes watershed (Stewart 1994). The Bras d'Or Lakes Working Group (BOLWG) was formed, largely based upon the earlier

Task Force, and it immediately set about organizing public consultations. The Group's Terms of Reference read "To develop a community based management structure which will have continuing responsibility for guiding and monitoring sustainable development in the Bras d'Or Lakes Watershed Area." The Group's mandate was to "develop a comprehensive management and governance system" and to "develop a five-year management plan which can be carried out through one unified organisation" (Bras d'Or Lakes Working Group 1994: 5). Once again, the Mi'kmaq interest in the watershed was overlooked.

In January 1995 the Working Group finished the "Final Draft" of its report and distributed it internally. The Final Draft formally called for the creation of a "Bras d'Or Stewardship Commission" to take over ecological management in the watershed. The Mi'kmaq responded by demanding changes that would:

- 1) acknowledge their historical and present use and occupation of the watershed,
- 2) mandate involvement of the Mi'kmaq in the Secretariat running the commission,
- 3) add references to the central rôle played by different First Nations in the various community management models discussed in the report,
- 4) add references to ongoing Mi'kmaq efforts towards stewardship of the watershed,
- 5) increase in Mi'kmaq representation from five to eight members, including the position of Chair,
- 6) outline the development of a training program for the Mi'kmaq to assume a rôle as "Native Guardians" of the watershed, and
- 7) remove some language felt to be prejudicial to Mi'kmaq legal rights to resources. After some debate, the Mi'kmaq changes were implemented, and the five Mi'kmaq Band Chiefs and the Grand Chief of the Grand Council of the Mi'kmaq formally endorsed the report.

The report was revised to satisfy Mi'kmaq concerns, and a preface by the Cape Breton/Unama'kik Chiefs was added. The final report, *Taking Care of the Bras d'Or: A New Approach to Stewardship of the Bras d'Or Watershed*, was published in April 1995 and distributed to government agencies. It proposed a politically empowered Bras d'Or Stewardship Commission. The Commission would be responsible for a) the development of action plans to address "high priority issues" such as sewage contamination, b) drafting a "Charter for the Bras d'Or Lakes watershed," c) long term planning for development of land and water resources, d) promotion of education, and e) management for sustainable development including overseeing activities such as sewage treatment, docks,

logging, boating, aquaculture, aggregate extraction, fisheries, solid waste management and (fresh) water supply development (Bras d'Or Watershed Working Group 1995: 19).

The report was completely ignored by the Nova Scotia government for more than two years. Finally, in the spring of 1997, senior representatives of the Nova Scotia Department of the Environment met with the Working Group and other Bras d'Or community representatives in Sydney. The government representatives indicated that the devolution or delegation of authority called for by the report was unlikely to be granted, and that the most that could be hoped for by local residents would be participation in a watershed advisory board without any regulatory power. Six years later, this watershed advisory board has not materialised. James Crawford, a Board Member of the local conservation group the Bras d'Or Stewardship Society, capsulated the disappointment felt by many involved in the process at that time: "I thought it was well done. I thought that all parties of interest were included. I thought that it was a workable management program. But once again there was no political will."

The level of devolution of democratic power envisaged by the Bras d'Or Watershed Working Group had proven unacceptable to government decision-makers. In the eight years that have elapsed between the *Taking Care of the Bras d'Or* report's publication and the writing of this article, nothing but further study has taken place. No integrated management structure has been created. No watershed (or sub-watershed) advisory board pilot projects have been undertaken (despite verbal commitments by representatives of the Nova Scotia Department of the Environment made at a meeting attended by this author). Nor has enforcement of existing laws and regulations been stepped up. This long chain of events highlights the difficulties that will be faced by communities as they struggle to regain local control over development and implement watershed-based or "bioregional" resource-use management. Chief among these difficulties is the strong resistance of politicians, bureaucrats, and corporate executives to any devolution of regulatory authority to the community level.

## **Enter the Mi'kmaq: Re-Asserting Environmental Sovereignty**

While increasingly frustrated Cape Bretoners worked to build the popular support and bureaucratic will for a watershed-based governance structure in the Bras d'Or Lakes watershed, the Mi'kmaq were busy creating one of their own. While politicians and bureaucrats evaded and obfuscated, the Mi'kmaq were winning or helping to win a string of sig-

nificant environmental victories. The Mi'kmaq are now a hair's breadth away from achieving the local authority over the watershed long dreamt of by Cape Bretoners, and advocated by a twenty-five year long string of local residents, consultants and other "experts."

Official Mi'kmaq positions on environmental management range from cautiously optimistic to openly angry. As Charlie Dennis remarked in 2000, "I always envisioned, before the Aboriginal Fisheries Strategy program, I always envisioned that some day [the Mi'kmaq] would control the management of the total watershed. As the years go by I am noticing that we are getting there." Alek Denny, Grand Keptin on the Grand Council of the Mi'kmaq and former President of the Union of Nova Scotia Indians, is less patient. As he stated in an address to the 1994 Conference on Challenge and Change: Rural Communities Preparing for the 21st Century, "For hundreds of years, Mi'kmaq input into resource and environmental management has been ignored. That will no longer be tolerated by our Nation" (Denny 1994). Over the past decade, the Mi'kmaq have protested their exclusion from decision-making processes in a variety of situations, including the spraying of highland forests with pesticides and herbicides in the late 1970s and early 1980s, a proposed granite "super-quarry" on Kluscap (Kelly's) Mountain in the early 1990s, and the dredging of the Middle Shoal in 1996.

Not long after the first Bras d'Or Institute proposal in 1975, the Mi'kmaq began mobilizing to confront a serious ecological threat to the watershed: spraying of the herbicides 2,4-D and 2,4,5-T over the forests in the highlands above Waycobah First Nation and Whycomomagh in the early 1980s. The media carried footage of Mi'kmaq people uprooting monoculture tree seedlings and refusing to move from the spray area, in a bid to prevent the toxic chemicals from being sprayed in the source of their community's fresh water supply by the multi-national forestry corporation Stora. Interview respondents noted that the Mi'kmaq employed the tactic of circumventing the Royal Canadian Mounted Police roadblocks, by utilizing old trails in what Deleuze and Guattari (1987) would call the "smooth space" of the forest. It is worth noting that it is precisely such "nomadic" transportation networks that Paul Patton, as well as Deleuze and Guattari, would argue enable Aboriginal metamorphosis machines to operate effectively against the "striated" tactics of the state.

Less than a decade later, just before the 1989 release of the UMA report on integrated management, the Mi'kmaq again mobilized, this time fighting alongside Cape Bretoners from St. Ann's Bay to prevent the development of a granite "super-quarry" on Kelly's Mountain. The Mi'kmaq were concerned that 1) blasting in the quarry would disturb "Kluscap's Cave," a sacred site on the seaward side of the mountain

reputed to be the final resting place of the Mi'kmaq deity Kluscap; and 2) that the quarry would negatively affect wildlife in the area. Mi'kmaq Warriors in military clothing attended public consultation meetings, threatening armed resistance and personal sacrifice in order to prevent the quarry from being developed (Dalby and Mackenzie 1997; Hornborg 1994). Informants closely involved in the process told this author in interviews that this threat of militant action by the Mi'kmaq had a significant deterrent effect on the project's proponent, Kelly Rock Aggregates (KRA). KRA eventually abandoned the scheme in 1993, after failing to meet environmental impact assessment guidelines.

Around the same time, Mi'kmaq fisheries officials were gathering the local/traditional ecological knowledge (Lo/TEK) of Elders and fishers, in order to convince the DFO to halt a destructive trawler fishery within the Bras d'Or Lakes. In late 1993 the Mi'kmaq eventually succeeded, and the DFO agreed to discontinue the trawler fishery in the Bras d'Or.

Two years later when the EFWC warned the DFO that the herring fishery in the Lakes was collapsing, as a result of over-fishing, and siltation from resource extraction and shoreline development. Mi'kmaq concerns about the herring fishery, which DFO scientists had argued was sustainable, were once again based upon Lo/TEK. Specifically, Elders had noted that in Crane Cove, an area to them to be an important herring breeding area, the water no longer turned milky (an indication of spawning activity) in the spring:

With the herring we told the DFO five years ago [in 1995] what our Elders were saying: "there's no milky water in the herring spawning grounds." We wrote letters to [DFO Maritime Regional Director-General] Neil Bellefontaine, [but] DFO dragged their feet for five years. They gave us money to study the problem first. Finally this year they said, "Charlie, you guys were right. The fishery has collapsed." Yeah. We told them five years ago there was something wrong because of our Elders telling us [there was] no more spawning in Crave Cove, no more milky water. That tells you something. (Charlie Dennis Interview).

It was not until 2000 that DFO closed the herring fishery in the lakes (though little or nothing has been done about the siltation problems). This latest success by the Mi'kmaq in getting their environmental concerns addressed came on the heels of a string of others, including the Middle Shoal dredging case, and a major environmental monitoring agreement with Georgia-Pacific concerning its gypsum mine at Melford.

The Middle Shoals Dredging case arose when the Little Narrows

Gypsum Company (LNG) began dredging the Middle Shoal at the entrance to the Bras d'Or Lakes. The shallowness of the water above the Middle Shoal, outside the Great Bras d'Or entrance to the lakes, had meant that bulk carriers transporting gypsum out of the lakes from the LNG mine near Iona could only be loaded to 75% capacity. Increasing the draught would allow bigger bulk carriers to pass in and out of the lakes, as well as allowing ships already in use to be more fully loaded.

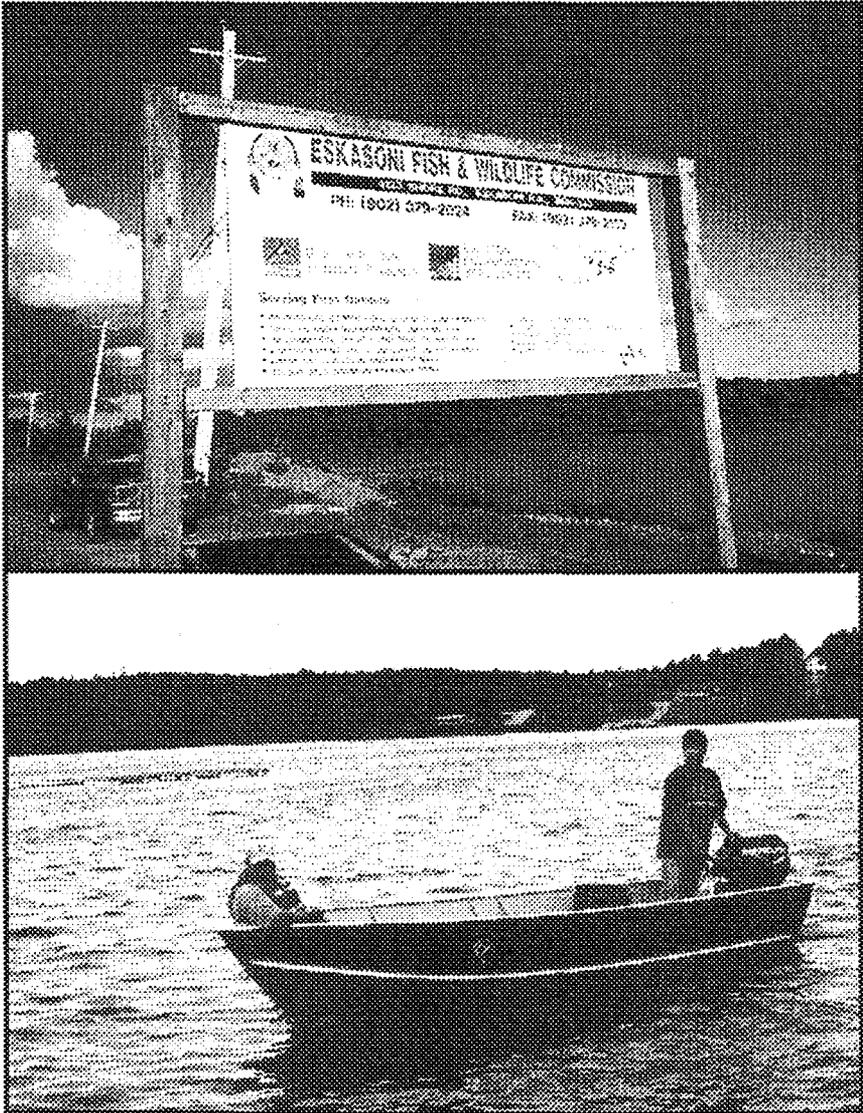
The Union of Nova Scotia Indians (UNSI), a Mi'kmaq quasi-governmental body representing the five Mi'kmaq Bands of Cape Breton/Unama'ki, immediately raised environmental concerns about the project. First of all, it was concerned that increasing the depth at the entrance to the lakes would alter the flow of water and thereby affect the salinity. Secondly, the UNSI was concerned that bigger bulk carrier ships would bring more ballast water into the lakes, increasing the likelihood of invasion by exotic species and disease. Utilising the jurisprudence of their Aboriginal title, and citing the federal government's fiduciary responsibility to safeguard resources upon which the Mi'kmaq depend, the UNSI challenged the project at the Federal Court of Canada. The UNSI eventually won the case (Federal Court of Canada Trial Division 1996), and the government was forced to order a halt to the dredging, but only after it had been 90% completed.

Despite this victory, LNG remained reluctant to address the exotic species issue. As Dennis describes the situation,

We won the court case on the Middle Shoal dredging. And I am trying so hard to get Little Narrows Gypsum to come back to the table. We had two meetings with them but this guy, that [LNG manager], he's an American. He's just in there to mine. He doesn't give a [\*\*\*\*] about the lake—that's the way I read him. I'm usually a good judge of character. This guy is strictly all business and something needs to be done before something explodes in the lake. (Charlie Dennis Interview)

In recent years, strengthened by a number of Supreme Court decisions, the Mi'kmaq have increased their role in resource-use management. In some cases the federal government has provided monies to the Mi'kmaq in exchange for temporary suspensions or reductions in court-affirmed shares of natural resources. The most significant of these decisions was the Supreme Court of Canada's decision in the Marshall case (1999), in which the Court affirmed, on the basis of the Peace and Friendship Treaty of 1760, that the Mi'kmaq had a right to harvest and sell natural resources. The federal government, anxious to prevent conflicts like the one it was facing in Burnt Church (Esgenoôpetitj), New

Figure 4



**The Eskasoni Fish and Wildlife Commission.** Top: EFWC sign lists activities of the Commission. Bottom: EFWC patrol boat: floating oyster cultivation trays are visible at top left. Photographs by the author.

Brunswick, offered the Mi'kmaq of Cape Breton/Unama'kik almost \$18 million to refrain from fishing lobster. Using these monies, and earlier disbursements received under the Aboriginal Fisheries Strategy (itself an involuntary government response to developments in the jurisprudence of Aboriginal title), the Mi'kmaq have developed institutions including the Eskasoni Fish and Wildlife Commission (EFWC) (see Figure 4) and the Unama'ki Institute of Natural Resources (UINR).

The EFWC has developed an extensive GIS database of the species in and around the Lakes, developed through both Lo/TEK and conventional scientific methods. In addition, they are actively interviewing their Elders and combining traditional accounts with conventional biology to reconstruct Mi'kmaq pharmacology and knowledge of foods and ecological relationships (Union of Nova Scotia Indians n.d. (probably 1999)). The EFWC also manages an oyster hatchery, which allows them to seed public oyster beds (this is a charitable community act), as well as to sell small oysters to commercial growers. Perhaps most significantly, the EFWC, working with the University College of Cape Breton, has established a training program for Aboriginal conservation officers called "Native Guardians," who it is envisaged will one day take over all conservation enforcement activities in the watershed.

The UINR is similarly combining Lo/TEK and conventional science to assess the impacts of exotic species, to develop regulations for the subsistence moose harvest, and to implement a sustainable forest-harvesting regime. Hundreds of Mi'kmaq youth have been hired over the past several years to contribute to these and other environmental protection work.

The Mi'kmaq worldview sees all organisms as relatives within a single, living global system towards which humans have ethical obligations. This is expressed by the Mi'kmaq word *no'kmaq*. As Mi'kmaq Elder Albert Marshall explains it,

...the term "community" is much more encompassing as far as the Mi'kmaq are concerned. First of all, we don't just consider ourselves as being a part of the human members of our natural world. And the word that we use quite often, which I think fits, is *no'kmaq* which literally translates into English to mean "all my kin"...["Kin" includes] all living beings, be it rock, be it animals, plant life, and of course the human kind.... I have an inherent responsibility, and then I have to put myself in the forefront in some cases to represent the species that cannot represent themselves in human form. (Albert Marshall Interview)

In keeping with this cultural ethic, Mi'kmaq resource-use manage-

ment practices work from an assumption of ontological continuity in the ecosystem, and include active enhancement of ecological parameters such as spawning habitat, community censure of potentially destructive practices, seeding of public oyster beds, and the active incorporation of Lo/TEK of the region through interviews with Elders and resource harvesters.

Recently, the UNSI, independently (i.e., without government involvement or consent) signed a resource-use management agreement with U.S.-based mining giant Georgia-Pacific governing a gypsum mine at Melford near the River Denys Basin. The agreement stipulates that G-P pay the cost of watershed-based ecological monitoring and mitigation measures to be undertaken by trained Mi'kmaq "Native Guardians," and that royalties from mining be paid to the Mi'kmaq to support the development of their environmental institutions, and provide scholarships to Mi'kmaq youth (Eskasoni Fish and Wildlife Commission 1999; Georgia-Pacific Canada and the Unama'ki Mi'kmaq Communities 1998). The agreement was signed by Georgia-Pacific in acknowledgement of underlying Mi'kmaq title to the region, in order to forestall future conflicts, and will likely serve as a precedent for future resource-extraction projects in the watershed. Indeed, several other agreements (embargoed at the request of UNSI) are currently being negotiated with resource corporations operating in Cape Breton/Unama'ki.

### **Conclusion: Metamorphosis in the Bras d'Or**

Mi'kmaq successes in outflanking police blockades, dissuading, through militant posturing, threats to their sacred sites such as Kluscap's Cave, forcing government action on the environment, and developing independent agreements with corporations such as Georgia-Pacific, suggest that the *Unama'ki* Mi'kmaq are indeed a metamorphosis machine which is having the effect of deterritorialising state structures—especially those which traditionally reserved the right of resource allocation to governments alone. Mi'kmaq conservation efforts focus on the Bras d'Or watershed as a fundamental geographical unit, and have included work on mapping and creating an ecological inventory of the watershed. Simultaneously, the Mi'kmaq are successfully demanding a *de facto* devolution of political power and responsibility from distant, centralized political bodies to the local level. This emerging resource-management regime is profoundly different from state structures, not just geographically, but ethically as well: Mi'kmaq attitudes include an explicit acknowledgement of human obligations to the non-human members of the biotic community.

Given the failures of conventional "democratic" approaches by Cape

Bretoner organisations, and the comparative success of the Mi'kmaq—who have used the powerful weapons of either armed militancy, or the jurisprudence of Aboriginal title, to force changes in resource-use management—it is clear that the development of sustainability in the Bras d'Or watershed will not take place without Mi'kmaq support.

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