

Community Engagement in Integrated Management of the Southern Gulf of St Lawrence, Canada

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ABSTRACT

Recognized in the 1970's as the most diverse and biologically productive of Canada's marine areas, the Southern Gulf of St Lawrence has since suffered through serial depletions of commercial fish stocks and serious degradation of habitat. Although economically depressed in comparison to the wealthy central and western provinces of Canada, the Atlantic region nonetheless continues to play important political, economic and cultural roles in the country. The region is rich in social capital but the demographic is ageing and rural areas are emptying out. With the average age of fishing captains advancing and fewer young people interested in the dangerous and increasingly ill-rewarded work of fishing, the future of fishing villages seems to be as picturesque backdrops for tourism – a process that threatens the distinctive regional culture as well as the more tangible fabric of working community infrastructure. The unravelling of rural livelihoods is seen by some as an inevitable consequence of modernity and globalization, but for social economy organizations it is a call to arms. An important aspect of the fight for survival of coastal communities is played out in the offices and meeting rooms of the federal department, Fisheries and Oceans Canada (DFO). This agency's policies over many decades have been shaped more by a drive for economic development of fisheries than by protection and conservation of fish and fish habitat, or the survival of fisheries dependent communities. DFO has facilitated the consolidation of quotas and fishing power in the hands of politically powerful corporations, divested responsibility for small harbours, and transferred monitoring and management tasks to those elements of the fishing industry that can afford to undertake them. However, emerging concepts of integrated management, subsidiarity and sustainability have provoked the passing of an Oceans Act. Although underfunded, Oceans Branch staff have nevertheless managed to table plans for integrated coastal and ocean management that may open the door for involvement of small boat fishers and their wider communities in helping to shift the course of development. This paper will document current trends and explore issues of inclusion and empowerment in fisheries management. We must ask: what new forms of governance can be developed to deal equitably with small boat and industrial fisheries, tourism, coastal development, oil and gas exploration, shipping and other sectors that use this vulnerable and increasingly degraded marine environment that is now also subject to climate change? What form should public participation take? What is the role for social economy organizations in mobilizing community engagement? How can academic institutions help?

Impacts of industrial fisheries management in eastern Canada

On a global scale, catches of marine fishes are in decline (Pauly *et al.*, 2002; Myers & Worm, 2003), a trend attributed variously to overharvesting and habitat destruction by fishing fleets, other industrial forms of ocean development and impacts of land-based human activities. Such activities must be controlled to allow the recovery of ocean ecosystems that feed the majority of the world's coastal peoples (Berkes *et al.*, 2001) and support countless other species. What institutional form coastal and fisheries management should take, and the most legitimate and effective locus of power and control, is contested and negotiated at scales ranging from the domestic household to the United Nations. This paper will explore the issue of coastal and fisheries governance using the example of the Southern Gulf of St Lawrence, a unique marine ecosystem once described as the most biologically productive in Canada (Loutfi 1973).

The Canadian east coast groundfishery, including that of the Southern Gulf of St. Lawrence, was placed under moratorium in 1992, throwing 40,000 people engaged in fisheries and fish processing out of work. Stocks have failed to rebound as of 2007, and even though some fishers were able to redirect effort to

shrimp, lobster and crab to make a living, the community level costs in terms of family distress, outmigration, loss of rural assets and the impoverishment of local culture are incalculable (Martin, 1992; Kennedy, 2006). This situation came about despite a management system that was considered advanced, scientific and modern. Canada's fisheries management had followed a classic western, top-down, technology-heavy approach (Pauly *et al.*, 2002). The ever increasing destructive capacity of industrial dragger fleets, and industrial processing facilities, were subsidized by the national government in the interests of generating corporate profits, tax income and exportable products. Like other western management regimes (Nielsen *et al.*, 2004), Fisheries and Oceans Canada also focused overwhelmingly on biological science to inform management, having very little capacity for research into the human dimensions of fisheries, the knowledge base of multi-generational fishing families and the community impacts of fisheries policies. The approach has been severely critiqued for failing to conserve marine habitats and fish stocks, and by extension, failing to maintain the coastal communities whose economies and cultures are dependent upon fisheries (CEDF, 1994; Hutchings & Myers, 1995; Felt & Locke, 1995; Coward *et al.*, 2000; Sinclair & Ommer, 2006). Researchers in Newfoundland have concluded that, over several decades, both power and wealth have been transferred from traditional fishing communities to "distant corporations who own and control large, commercial fishing operations" (Brunk and Dunham 2006). Fisheries and Oceans Canada itself admits that its top-down, exclusive and non-transparent decision-making style has been a failure (DFO 2004:4).

Since the groundfish moratorium and despite talk of the need to support coastal communities, the DFO's management actions have continued to favour politically powerful corporations over the inshore, small-boat fleets. In addition, over the past decade, the political will to invest in the management and protection of fisheries has waned. Federal funding for marine biological research within Fisheries and Oceans has been repeatedly cut and the number of fisheries enforcement officers has declined despite ongoing problems with compliance. Citing a need for further fiscal restraint, and to "promote the independence of inshore fishers" (DFO 2004:2) the federal government in the 1990s divested responsibility for wharves and harbours to local harbour authorities. In the name of ensuring that fishing enterprises are competitive in a global market place, access to income supports such as employment insurance was tightened and "professionalization" (often involving costly training and new equipment) has been encouraged or imposed. The monitoring of fish catches was contracted out to private companies whose services would be paid for by fishers, not government. The DFO focused on a new policy direction based on objectives of "conservation and sustainable use"; "self-reliance" meaning that marginal fishers would be pushed out of the industry; "shared stewardship" meaning that management tasks would be devolved to those corporations wealthy enough to carry the burden of cost; and "a stable and transparent access and allocation approach" (DFO 2004:8). The intent is to remove DFO from "day-to-day management of fleets and fishing activities to one concerned primarily with developing policy, setting strategic direction and evaluating performance" (ibid:7).

The small boat (under 45 foot), inshore sector which employs the majority of fishers is, as a result, increasingly overwhelmed by escalating operational costs – not only fuel and equipment but also costs linked to more complex regulatory requirements, costs of monitoring catches, and the responsibilities for wharf and harbour maintenance. Fishers have also been encouraged to focus full time on one or a few licensed activities, and abandon past habits of holding many licenses, which allows one to move from one fishery to another according to stock availability and market demands. Always a dangerous job, small-boat fishing now also requires a higher level of education and offers diminishing economic returns. The response at the community level, especially where collapsing stocks make returns precarious, is for fishing families to sell out (where possible), migrate away, and/or encourage their children to pursue other forms of work (GTA 2006). Consequently, the labour force is ageing, with the average Gulf boat captain being age 48 in 2005 (Paula Foley & Assoc. 2006). As the inshore fleet shrinks, the fishery is open to consolidation by larger corporate entities. The independent, often fractious small boat fishers remain poorly organized and relatively powerless in decision-making processes. Government rhetoric supports the maintenance of inshore fisheries and rural communities. Yet, as pointed out by the Fisheries Resource Conservation Council - a government appointed advisory body – although harvesters "want to fully participate in conservation and management decisions", the available DFO fora "do not provide for meaningful participatory management" (FRCC 2007:47). Meanwhile, corporate sector lobbyists in the nation's capital

ensure that their clients continue to have a say in decisions and policies that might affect their profit margins.

The emerging paradigm : fisheries co-management

Around the world, there is active research into alternative models of fisheries management that allow for some degree of local input or control over fisheries (Berkes 1994; Sen & Nielsen 1996; Pomeroy & Berkes, 1997; Novaczek *et al.*, 2001; Berkes *et al.*, 2001; Wiber *et al.*, 2004; Graham *et al.*, 2006). This is an effort to develop more effective, equitable and democratic institutions to ensure local food security and long term survival for coastal communities. As pointed out by Nielsen *et al.* (2004) the popularity of the concept of co-management has led to a proliferation of pilot projects, revealing that co-management has been ill-defined and poorly understood; the term means very different things to different people. Indeed, co-management institutions may occupy any station along a broad continuum of potential community-government collaborative arrangements. Governments may favour arrangements under which management responsibility is shared only with particular sectors of a fishery. Governments may also, in the name of co-management, simply download costs and responsibilities without devolving decision-making authority. This is much different from arrangements at the other end of the spectrum, under which communities take responsibility for local fisheries management, with some government involvement (Wiber *et al.*, 2004).

Establishing a legitimate co-management institution with norms and rules and a formal framework for community decision-making is a daunting challenge. New forms of governance are needed that can help fishing communities survive pressures of globalization that would otherwise lead to their exclusion from access to fish resources. The institution must also be equipped to resolve conflicts among fishers and between them and other users of the marine environment. Most critically, it must control fishing power and reverse ecological damage caused by overfishing and habitat destruction while accommodating the survival needs of fishing families. Typically, the accepted fundamentals of fisheries governance involve setting management objectives, defining the knowledge base for management and implementing management decisions (Nielsen *et al.*, 2004). This is fraught with difficulty because any decision made for the purpose of conserving marine resources ultimately involves allocations of access and quotas that benefit some fishers or sectors and have negative impacts on others. At some point, judgements must be made for which biological science can provide no guidance; thus, establishing common values and ethical standards that consciously seek to establish both ecological and social justice is also essential, so as to avoid decisions being made purely for political gain or to dispense favours to the relatively rich and powerful (Brunk and Dunham, 2006).

Enabling legislation for a paradigm shift : the Oceans Act

In Canada, the beginnings of a paradigm shift in federal fisheries management could be seen in the early 1980s (Kearney 1984). The movement gained international support from the UN Conference on Environment and Development in 1992, which brought focus to concepts of integrated management for sustainability. These concepts gained substance in Canada with the enactment of the federal Oceans Act in 1997. Key principles promoted in this Act include a precautionary approach; integration of science and traditional ecological knowledge; integrated ecosystem management; and the promotion of public involvement, education and stewardship.

Although consistently underfunded by the federal government, the fisheries staff entrusted with bringing the Oceans Act to life managed to table an Oceans Strategy in 2002, followed by an Oceans Action Plan in 2005. The Oceans Strategy provided policy direction that encouraged research into ecosystem function; reduction of marine pollution; establishment of marine protected areas; establishment of integrated management institutions; public education and awareness; and international cooperation. The Oceans Action Plan proposed partnerships across governments and agencies to establish Large Ocean Management Areas including one for Gulf of St Lawrence Integrated Management (DFO 2005). By 2007, the Oceans Branch of DFO had commissioned research on specific estuarine ecosystems in the southern Gulf, and had undertaken consultations with “stakeholders” concerning how disparate government agencies, private

industries, educational institutions, fishers organisations and community based groups might engage in future, integrated management institutions.

The case of the Southern Gulf of St Lawrence

The Southern Gulf of St Lawrence in Atlantic Canada has suffered through serial depletions of commercial fish stocks and serious degradation of habitat. Although economically depressed in comparison to the wealthy central and western provinces of Canada, the Atlantic region nonetheless continues to play important political, economic and cultural roles in the country (Kearney 2006). The region is rich in social capital but the demographic is ageing and rural areas are emptying out. With fewer young people interested in the increasingly uncertain and ill-rewarded work of fishing, the future of fishing villages seems to be as picturesque backdrops for tourism. The unravelling of communities, involving the loss of rural culture, social capital and infrastructure, is seen by some as an inevitable consequence of modernity and globalization, but for social economy organisations including fishers' unions, watershed groups, environmental NGOs and community development organizations, it is a source of distress that spurs efforts to educate and mobilize coastal citizens.

Management of the coasts and marine waters of the Southern Gulf of St Lawrence is complex, involving various federal departments; agencies of four provincial governments; First Nations and aboriginal councils; municipalities; and rural governance units that vary from province to province. Policies and regulations are enacted through diverse federal and provincial legislative instruments but the key agency is Fisheries and Oceans Canada (DFO), meaning that the fight for survival of coastal communities is often played out in their offices and meeting rooms.

Management challenges faced by Fisheries and Oceans Canada come from within and outside the fisheries and aquaculture sectors. Internally, conflicts frequently arise between mobile and fixed gear sectors, with the mobile fleets that deploy bottom dragging gears accused of habitat destruction, indiscriminate fishing, and high levels of bycatch. Inshore boats fight larger corporate vessels for access to fishing grounds. Aquaculturists face resistance from wild stock harvesters. A superficial appearance of compliance often masks a culture where fisheries officers are too often seen as the enemy, rather than as partners in conserving fish stocks for the future well-being of fishing families. In spite of some efforts by fisheries scientists to work in collaboration with fishers, meetings between inshore fishers and government agencies are often fractious. A lack of trust is evident on all sides (Novaczek pers obs).

Meanwhile, other industrial forces compete for space on the fishing grounds. Since the collapse of the east coast groundfishery in 1992, exploration and drilling for oil and gas has increased rapidly. In the southern Gulf, this incursion into inshore fishing grounds is hotly contested by a coalition of fishermen's unions, aboriginal people, environmentalists, tourism operators, priests and some municipalities. A public review commission in 2002 documented serious public concerns and gaps in scientific understanding of the Southern Gulf (CNSOPB 2002).

Shipping through the Gulf has posed persistent problems, especially in terms of seabird mortalities from oily bilgewater disposal (WWF 2002) and introduction of foreign invasive species that threaten both aquaculture and wild fisheries. Recent increases in the numbers and size of cruise ships whose dumping of sewage, greywater and bilge is largely unregulated, is another flash point for public concern and has been contested by the PEI Fishermen's Association. A downturn in the lobster fishery of the Northumberland Strait followed losses of other commercial fisheries (including cod, hake and halibut) and was accompanied by declines in non-commercial species (GTA 2006, AMEC 2007). These trends as well as fish kills in rivers and estuaries have prompted fishers and other coastal residents to become more vocal, expressing concerns over impacts of overfishing, efficient fishing technologies, industrial agriculture, forestry and road building practices, factory, mine and urban releases, pesticides and excess nutrients, sewage and other effluents released into the nearshore marine environment (GTA 2006). Climate change, involving changes in seasonal water temperature patterns, storm surges and increased coastal erosion, is also affecting the inshore marine environment, although impacts on fisheries *per se* are as yet poorly understood and unquantified (AMEC 2007).

Frequent letters to the editors of local newspapers in the Southern Gulf region reflect the public's concern as well as cynicism regarding the effectiveness of federal and provincial agencies responsible for resource management and environmental protection. There also appears to be an appetite for positive change and a willingness to engage in seeking solutions. The question is, how to harness this concern and energy to build alternative, more effective institutions for governance? Past rates and patterns of development have resulted in serious ecological damage that now affects livelihoods and threatens the future existence of communities. Our modes of development must therefore change and people will have to adjust lifestyles and expectations to be within the capacity of supporting ecosystems. This is not something that governments can regulate into existence, nor can individuals be expected to change without some form of guidance and institutional support. It will require long term, dedicated efforts by fishers' unions, watershed and environmental groups, and community development organizations, with support from both private industry and governments, to mobilize communities and facilitate necessary change. Part of this process will be the definition and negotiation of the role that coastal citizens and communities can and should play in coastal and fisheries management.

It is fortunate that the Southern Gulf region has a long history of progressive social organizations and movements. Recently there has been a flourishing of community based organizations, particularly in the area of watershed management and conservation. Some of these are already collaborating with federal agencies to monitor conditions in estuaries under CAMP (Community Aquatic Monitoring Program). Several umbrella organizations have also arisen, with partial government funding. The Southern Gulf of St Lawrence Coalition for Sustainability was established in 1999 as a watershed-wide umbrella within which environmental and community development organizations could collaborate with municipal, provincial and federal governments, aboriginal peoples' organisations, academics, the private sector and primary industry organizations. More recently, the Social Economy and Sustainability Research Network funded by the Social Sciences and Humanities Research Council of Canada has arisen for the purpose of supporting collaborations between university researchers and social economy organizations. Both networks have academics and community groups in common and this has led to broader collaborations and synergies. In the province of Prince Edward Island, the SES network supports research by the University of PEI and a fisherwomen's group named Women for Environmental Sustainability, which will document women's efforts to influence fisheries management policy in the face of gender-based exclusion from both fishers' organizations and government processes. In New Brunswick, University of Moncton researchers are working with coastal communities to develop proactive strategies for coping with climate change driven flooding and coastal erosion (Chouinard *et al.* 2007). These types of initiatives will help ensure that future management institutions are inclusive and take into consideration perspectives, values and knowledge bases that were previously ignored.

The tentative initiatives to initiate Gulf of St Lawrence Integrated Management under the Oceans Act promise to open the door for involvement of not just small boat fishers but also their wider communities in the process of coastal and fisheries management. Significant hurdles to change still remain but, in response to persistent crises and concerns, coastal communities have already been developing capacity and intent to engage in fisheries and coastal management processes, and regional universities are actively facilitating and assisting this process.

Piloting Collaborative Process: the Northumberland Strait Ecosystem Initiative

An attempt by the Oceans Branch of DFO to pilot collaborative decision-making was initiated in response to failing fisheries and public concern over ecosystem health in the Northumberland Strait that divides Prince Edward Island from New Brunswick and Nova Scotia. Under the Northumberland Strait Ecosystem Initiative, representatives of fishers, aboriginals, environmental groups, universities and the provincial and federal agencies responsible for fisheries met repeatedly, undertook public consultations (GTA 2006), commissioned an ecosystem overview (AMEC 2007) and negotiated recommendations over a period of 18 months, culminating in a report published in March 2007 (DFO 2007). The process was difficult, as there was no foundation of trust among the fishers, government staff, environmentalists and academics. Eventually, through long negotiations, the working group reached consensus on scientific research that

needed to be pursued, as well as immediate actions to stop marine pollution, regulate fisheries, educate and mobilize the public and plan for climate change. They recognized that science is only a tool and cannot be the final arbiter for complex decision-making around coastal and fisheries management and conservation. They recommended immediate action to eliminate known toxics from effluents and runoffs entering the sea, even in the absence of conclusive scientific proof of harm in the environment. They also counseled immediate action to institutionalize holistic, transparent and inclusive management processes that respect both local and traditional knowledge bases and values. The immediate response of provincial deputy ministers and federal agencies to the recommendations was that they lacked financial capacity to move forward. As of September 2007 working group members are still waiting for signs of progress. Although the working group expressed their commitment to continued involvement in development of integrated management, and were prepared to take their recommendations back to the communities of the Strait for debate and affirmation, they have not yet been called in to meet or discuss next steps. It seems that the Oceans Branch is still considered by the fisheries establishment as little more than a potentially expensive irritant whose mandate can be safely ignored.

Conclusions

Through the NSEI, we have learned that evidence from other jurisdictions concerning the benefits and necessity of legitimate community involvement in co-management is not yet being taken seriously by DFO policymakers. This despite the fact that Canadian social scientists are researching and publishing in this field, and federally funded international development agents promote co-management in developing countries. Fisheries scientists and policymakers inside Canada focus on the “hard” sciences such as biology and chemistry, resisting participation of social scientists and community development practitioners in development of management strategies.

We are left with many questions. Given the current climate within federal bureaucracies, is integrated coastal and fisheries co-management possible? What roles are communities able to assume in management and governance, e.g. fisheries and habitat monitoring and restoration; prioritization of research and action plans; development of regulations, enforcement and strategic incentives to compliance; vehicles for public education; and other aspects of governance? Can integrated co-management be implemented soon enough to reverse negative trends evident in marine ecosystems and dependent coastal communities? What is the proper role of science, and how can we establish common grounds for precautionary, ethical decision-making in cases where science is unable to provide definitive guidance? And how can social economy organizations and academic institutions best facilitate progress?

In the Southern Gulf region we are well endowed with concerned citizens who lead Canada in terms of volunteerism and community action. Many capable and committed organizations are in place, from the community and watershed levels to the provincial and regional levels, and these are networked nationally and globally. The regional academic institutions have already begun to assist communities with their research needs. On the other hand, government bureaucracies are notoriously resistant to change, transparency and power sharing, and fishers themselves often harbour suspicions that are directed towards one another as well as to fisheries officers, environmentalists, and academics. It will take unprecedented leadership to bring all sectors to the table and facilitate the necessary negotiations. Hopefully it will not require a more dramatic collapse in marine ecosystems before people decide that collaboration is in their best interests.

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