# Chapter 5
# The Unfulfilled Promise of Integrated Management: How Policy Discourses Operate in Annapolis Basin, Canada

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## 5.1 Introduction

In the Canadian context, the principles of integrated management (IM) are "ecosystem-based management, sustainable development, the precautionary approach, conservation, shared responsibility, flexibility and inclusiveness" (DFO 2002). Barriers to implementing the *Oceans Act* include coordinating inter-departmental change in a siloed environment and making sense of terms such as 'sustainable development' and 'shared responsibility' in a heavily industrialised nation characterised by a turn towards market-based environmental governance. An additional barrier is the soured relationship between certain government and community actors as a result of developments like the collapse of groundfish stocks in the 1980s and 1990s and the implementation of aboriginal rights with regard to natural resources. The text of the *Oceans Act* champions sustainable coastal communities and coastal economies, yet, to date, post-*Oceans Act* changes in marine and coastal governance that are evident have had few meaningful improvements in resource sustainability or on the lives of those living in coastal communities.

Discourses, as a combination of words and action, structure political struggles and, when powerful, capture debates. For instance, the 'tragedy of the commons' is one of the most well-known and powerful discourses in fisheries and oceans governance, informing widely applied solutions to the fisheries 'tragedy' like privatization of access in the form of individual transferable quotas. This discourse still structures thought and practice of fisheries management, while the language of integrated management also reveals underlying assumptions in particular about coastal

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communities. This chapter examines discourses around, and the implementation of, integrated management in Canada's Bay of Fundy on the Atlantic coast. The context for this question is the resistance of a group of community research partners[1] to the term 'integrated management'. The project, called the Coastal CURA, was designed to support coastal communities as they engage with new models for integrated management. While integrated management appeared to answer certain critiques of current government practice, such as fragmentation, opacity, exclusive science, short-term time horizons and anti-democratic consultation processes, and even to resemble models of resource management that the community partners practice and promote, community partners resisted the terminology of integrated management.

This analysis of integrated management thus examines the underlying positions, epistemologies and assumptions behind the Canadian government's vision of integrated management, as compared with community critiques and visions of integrated management. These visions differ in imagining what sustainable communities look like and who ought to be involved in ensuring community sustainability. Which visions are captured in policy and in practice is in no small part due to power relations within communities and between communities and government resource managers. How different actors talk about problems and solutions both reflects and reinforces those power relations. A critical look at what discourses exist, how they are used and with what effects is one step in illuminating the power relations that help or hinder coastal community involvement in discussions which shape their futures.

This chapter has three components. First, the relationship between integrated management and community is explored. Next, a conceptual framework connecting political ecology, geography and policy studies is developed to focus attention on questions of space, power and discourse in integrated governance of coastal and marine space and resources. Third, this framework is applied to policy discourses around integrated management in the Annapolis Basin in Nova Scotia, Canada, to describe existing discourses and to demonstrate how their use privileges certain actors. The framework helps illustrate how the lack of attention to power relations in the shift to governance structures like integrated management further disempowered a coastal community in their attempts to wrest a measure of control over their livelihoods. The actors in this case study include clam harvesters, coastal NGOs, municipal, provincial and federal government departments and agencies and many others. A sustainable coastal community can and should include all of these actors, and integrated management can be a way to achieve this inclusion. Attention to the discursive power struggles in the Annapolis Basin provides one explanation for the failure of integrated management.

[1] Part of a Community-University Research Alliance funded by the Canadian Social Sciences and Humanities Research Council. For more information see www.coastalcura.ca.

## 5.2 Integrated Management[2]

Integrated management (IM) as a governance term typically refers to managing all human activity with an impact on marine or coastal ecosystems, such as tourism, shipping, oil and gas, recreation, industrial, residential, agricultural, energy production as well as fishing, by bringing representatives from those industries, and coastal citizens, called stakeholders, together with the state to coordinate management within a given area. Some of these are new industries, while some, like fishing, are usually long established. This, in principle, could alleviate stakeholder conflict and address the cumulative impact of traditional and new activities (Cicin-Sain and Knecht 1998). Other definitions of integrated management focus on citizen engagement in negotiating public policy (Bastien-Daigle et al. 2008), and/or scaling between local, regional and national levels of governance (GESAMP 1996). Most critiques of integrated management take its founding premises for granted and relate its challenges to 'implementation problems' (ICES 2007) inherent in 'scaling up' local initiatives to global problems (Agardy 2005), or to multiple governmental jurisdictional issues, including the rights of indigenous governments (Ricketts and Harrison 2007). However, the creation of new areas of management authority involves developing new governance bodies for that space, which creates new relationships within the territory, and defines what activities are permissible and not permitted. This involves creating, sustaining or altering power relations (Zimmerer 2006). The next section first outlines thinking on governance, then turns to how geographic thinking about space and scale are useful in attending to the oft-neglected political issues that exist in integrated management.

### *5.2.1 Integrated Management as Governance*

The state—or the formal, elected, sovereign, centralised government—is no longer the single, or even the central, entity responsible for governance. Rather informal, decentralised and collective decision making structures are being recognised as sources of political power (Rhodes 1996). Integrated management thus acknowledges that the coasts and oceans are an arena valued by and requiring the input of all coastal stakeholders. The study of politics and policy now must consider the roles of state and of non-state actors and their interactions in, for example, new venues for stakeholder deliberation involving state and non-state actors, from private interests, to non-government civil society and environmental organisations, researchers and aboriginal groups (Griffin 2010). This is especially so because in practice, the promise of citizen engagement in the switch to governance has produced "a fuzzy terrain …, somewhere in-between, but articulating with, state and market,

[2] I use the term IM to represent integrated coastal and oceans management (ICOM) and integrated coastal zone management (ICZM). This chapter focuses on the human (rather than natural scientific) aspects of integrated management.

but irreducible to either; a terrain that was neither state nor private, yet expressing a diverse set of social activities and infused with all manner of social power relations, tensions, conflict and social struggles" (Swyngedouw 2005, p. 1996). Hajer and Wagenaar (2003) warn that these participatory spaces can exist in an 'institutional void' where there are few pre-given rules, which can bring loosened notions of responsibility, authority and accountability. This preponderance of uncodified space opens up terrain for conflict over access to decision-making and access to resources. As opposed to encoded democratic rules (when they are followed), "inclusion or exclusion, legitimacy … representation … accountability of [participatory] groups or individuals often take place in non-transparent ad hoc and context-dependent ways" (Swyngedouw 2005, p. 1999). For example, Griffin (2010) shows how regional fisheries bodies are places where powerful actors can maintain, manipulate and increase their power over less powerful actors within the governance regime. Alternately, market forces can dominate: competing with representation and democratic principles are "equally strong processes at work pointing in the direction of a greater autocratic governmentality … i.e. the democratic character of the political sphere is increasingly eroded by the encroaching imposition of market forces that set the 'rules of the game'" (Swyngedouw 2005, p. 1993). Government can also carry on as usual: Griffin (2010) finds from her study of the European Union that because regional committees are only intended to provide advice to the commission who makes policy, there is little evidence that stakeholders actually influence fishery decisions as a result. Decentralisation can allow the state to maintain its control over decision making, leaving intact the status quo (Griffin 2010).

This is, in part, because interactions within stakeholder bodies, between stakeholders and governments or stakeholders and experts are characterised by unequal power relationships: "to deny the existence of power struggles in a participatory approach like IM is unrealistic" (Bastien-Daigle et al. 2008, p. 120). Jentoft called the lack of attention to power relationships in fisheries management surprising (2007). A different facet of power is evidenced in governance arrangements characterised by decentralisation and "pluralisation of power and decision-making centres" (Abrahamsen 2004, p. 1459). This facet of power is not based on coercion, but on regulating the self: it "works through systems of knowledge and discursive practices to provide the meanings, norms, values and identities that not only constrain actors, but also constitute them" (Abrahamsen 2004, p. 1459). In this way integrated management is related to other neoliberal forms of governance, characterised by decentralisation, which establish a way in which the "conduct of conduct" is worked on at sites at a distance, literally and figuratively, from the state (Digeser 1992; Abrahamsen 2004). Technologies specific to integrated management include the use and alternation of space and scalar relations, such as through maps, as well as new governance institutions, and the supporting policies and programming that accompany legislative changes.

These technologies form the basis for new kinds of knowledge "that make some kinds of actions seem naturally more appropriate than others as an invaluable aid to the process of government" (Agrawal 2005, p. 224). These produce altered environmental subjectivities, i.e. how people think of the environment and their position

within it. These changes resonate with Jentoft's assertion that management tools and systems "express a political position on relations of power, conflict and social justice" by distributing power and altering power relations (Jentoft 2007, p. 428). For instance, "management systems change the very perception of what it means to be a fisher, such that management systems are now considered a fact of life" (Jentoft 2007, p. 428). Fishing communities, clam harvesters, even government employees are formed by the technologies and practices of government. So for example, small-scale fishing may be considered deviant under integrated management, and those pursuing that livelihood would be encouraged through practices of integrated management to regulate themselves back into the modern economy.

### *5.2.2 Joined up or Multi-level Governance*

Like other forms of "joined up" or decentralised governance, integrated management proposes a change in scalar relationships and responsibilities, moving local actors 'up' to larger arenas and national or transnational ones, e.g. shipping 'down' to engage with smaller scales. "Spatial regulation regimes are also social regulation regimes" that "reflect economic and political interests of proponents rather than some natural state in nature or society" (Nichols 1999, p. 390). For instance, Mansfield (2005) calls the declaration of the 200 mile exclusive economic zone an exercise of sovereignty—"asserting the ocean as national space"—therefore, a dimension of scalar politics (p. 469). Another example is the dominance of the global scale as an explanatory agent. The global scale has been naturalised as the place where certain environmental problems exist, such as climate change, or the fisheries crisis. This "serves to disembody the causes and consequences of such problems, and their construction as such, from practices and politics taking place at a multitude of sites and scales of governance" (Bulkeley 2005, p. 883). As a result, "there is little consideration of the possibilities that the governance of global environmental issues might emanate from the 'bottom up'" (Bulkeley 2005, p. 883). Preoccupation with the process and study of globalization also runs the risk of removing the state from critical attention in generating or ameliorating these global problems (Mansfield 2005).

### *5.2.3 Participation and community*

Participation—who participates and how—is another central thread in definitions of integrated management. Bastien-Daigle et al. (2008) envision integrated management as a collaborative negotiation of public policy for sustainable development: "IM's objective is to instigate a voluntary collaborative process where actors negotiate public policies based on multi-criteria and participatory decision-making process … This consultative, negotiative and cooperative forum will inform on the consequences of human activities, limit environmental degradation and build

consensus on how sustainable development should be achieved" (p. 97). By this definition, the ideal of regional actors negotiating public policy in a cooperative forum draws heavily from notions of community engagement as, in principle, these actors have an ongoing role in determining what and how activities are pursued in a given area, in relation to overarching ideas about what regional sustainable development looks like. In addition to the risk of generating an institutional void characterised by uneven power relations, or of the state redefining its power through decentralised governance, as discussed above, these definitions call attention to the need to consider how community is absorbed into thinking about integrated management.

In natural resource management thinking and practice, communities have been represented as small in scale and conservation oriented (but see Smith and Wishnie 2000; Li 2002) or community is erased from fisheries and oceans management altogether and replaced by the individual rational actor, as understood through the 'tragedy of the commons' model (Hardin 1968). Communities are often seen as the site of impact (Olson 2005) and the smallest scale in the hierarchical nest (Bulkeley 2005). Yet, critical geographers and activists reject this notion, as "localities or local practices can constitute multi-scalar system operating across scales' (Bulkeley 2005, p. 897). Bulkeley calls our attention to these networks, as does Escobar: "people are not only 'local'; we are all indissolubly linked to both local and extralocal places through what might be called networks" (Escobar 2001, p. 44). In response to Hardin (1968) anthropologists and others provided illustrations of small scale, long-enduring institutions for managing access to and allocation of common property resources (see, for example, McCay 1995; Feeny et al. 1990; Ostrom 1990). Communities are thus more complex than perceived in fisheries and integrated management policy which represents them as small scale, lacking agency, land-based and needing integration into the market economy.

This review has touched on the human dimensions of dominant approaches to marine and coastal governance. Reorganisation of spatial and scalar relations are at the heart of integrated approaches; the case study of the Annapolis Basin explores how power relationships are negotiated in uncodified spaces, how scalar politics are employed to capture power or exclude livelihoods, and how scale can also be used for resistance. Integrated management is part of a shift away from state control to decentralised governance; but is that process complete in the Annapolis Basin? And how does the Canadian government maintain power at a distance, under these new arrangements? Whose knowledge dominates this shift? Finally, the concept of community has been edged out of modern marine and coastal governance. New governance can work by instilling a sense of responsibility and citizenship on individual and collectives of fishermen. The neocommunitarian argument in support of devolved governance can further marginalise and lock communities into prescribed notions of conflict (excluding access) and conservation. How are different visions of community included or excluded from integrated management processes in the Annapolis Basin? This chapter next details how a discursive approach to policy helps to address these questions.

## 5.3 Interdisciplinary Discourse Analysis

Jentoft argues that "we need to understand how power is expressed in fisheries and coastal management discourse—how management institutions frame, legalize and validate discourse—who argues what, from what positions of power and with what impact?" (2007, p. 433). Discursive, or narrative, forms of policy analysis aim to identify dominant policy narratives and uncover how policy narratives developed, by placing them in a broader social-political-economic framework. This type of analysis sets out to "identify the grounds for contentions that arise from theoretical assumptions, conceptual orientations, methodological commitments, disciplinary practices, and rhetorical approaches closely intertwined in policy disputes" (Fischer 2003, p. 14). Discursive approaches encourage a more democratic policy analysis by examining in particular the dominant perspectives that typically go unchallenged and by engaging communities that are often excluded (Fischer 2003).

To examine these processes in light of changes to marine and coastal governance, the next section considers how policy discourses are used by different actors to frame social/policy problems, to shape the range of possible solutions, and to permit or constrain participation of people and forms of knowledge in the policy process.

Dominant discourses close down "reference to questions they cannot address", specifically political-economic questions, or those "that might cast doubt upon the completeness of their diagnoses or the feasibility of their solutions" (Li 2007, p. 11). Among opportunities for resistance, like scale framing, or discursive deliberation (Dryzek 2001; Parkins and Mitchell 2005), are switch points, or "conditions under which expert discourse is punctured by a challenge it cannot contain; moments where the targets of expert schemes reveal, in word or deed, their own critical analysis of the problems that confront them" (Li 2007, p. 11). In light of these proposals, the next section also asks whether alternative discourses are successful in altering the distribution of discursive power by opening switch points.

### *5.3.1 Methods*

The texts for policy analysis are written policy documents and the like (authored texts) but also what policy makers do (constructed texts) (Yanow 2000). The institutional context in which things are said co-determines what can be said meaningfully (Hajer 1997). Therefore, data for the discourse analysis consist of policy texts relevant to fisheries and oceans governance in Canada, such as the Oceans Action Plan (DFO 2005) and Integrated Management Policy (DFO 2002), 45 interviews conducted in 2008–2010 with 36 key informants from Canadian government and community-based organisations in the Maritime region, and participant observation in multiple meetings over the study period. The discourse analysis consisted of organising and analysing this textual data. Using Atlas ti. (designed by Scientific Software Development), codes were developed based on a line of text, an individual word, or a part of an image in a document. Memos about codes track

emerging connections and theoretical insight about the codes (Braun and Clarke 2006). Models called networks illustrate linkages between codes and code families. In Atlas ti.'s network building tool, the researcher specifies the relationships between codes, to help uncover underlying ideas and assumptions connecting the policy vocabularies. In this way, the conceptual and theoretical frameworks guide coding and model development while codes, themes and patterns are simultaneously allowed to emerge from the data. These network diagrams were then used as the basis for describing the discourses found in the case study. Following Teräväinen (2010), Venn diagrams were used to represent discourses to signal the terms (drawn from codes) that make up each discourse, as well as to highlight where discourses overlap.

## 5.4 Application: Annapolis Basin, Nova Scotia, Canada

In the Bay of Fundy's Annapolis Basin, changes to the Canadian national shellfish sanitation programme protocol led to the closure to clam digging of much of the basin's beaches during the summer of 2008. Previously, harvest rights to several of the basin's most productive clam beaches were transitioned from one year leases to ten year leases, all held by the same leaseholder. These two events dramatically diminished access of independent clam harvesters to the clam resource. This case centres around attempts to collaboratively address issues in the Annapolis Basin's clam fishery, which hinge on different perceptions of the problems and of possible solutions, including the role of integrated management, and different relative powers of discourses used to negotiate solutions. The data presented here illuminate how terms like health and food safety, conservation and restoration, privatisation, and integration have affected policy and programme implementation, thereby altering conditions of access for one group of harvesters in the Annapolis Basin.

The main positions in this case study are articulated along the lines of three discourses. Food safety is used by government to ensure compliance with export agreements, therefore to preserve the export-oriented clam industry and its trade relationships. The food safety discourse taps into fears about risk of human illness, and achieves discursive dominance by presenting risk as objective, and manageable in certain prescribed ways. The second is a variant of the tragedy of the community concerned with clamming as a last resort, and property rights as a way to achieve stewardship, used to promote sole ownership of access rights. Finally, the discourse of moral economies is used by clam harvesters and their advocates to try to ensure access rights and to restore a livelihoods-centred approach to the clam industry. Certain individuals within, and policy documents produced by, the government of Nova Scotia also participate in this discourse; despite this, the subsistence and moral economies discourse is the least powerful of the three in the context of the Annapolis Basin.


**Fig. 5.1** The Bay of Fundy. (Chmura 2001)

### *5.4.1 Context*

The Bay of Fundy is intersected by two provincial jurisdictions (New Brunswick and Nova Scotia) and one international border (Canada/US) (See Fig. 5.1). Due to a confluence of geomorphic features, the Bay of Fundy has one of the highest tidal ranges in the world, up to 15 m in the upper reaches. The Bay of Fundy is home to a host of both rich and highly exploited marine and coastal ecosystems, and fisheries range from handline and herring weirs to industrial vessels in excess of 20 m. Current development concerns also include tidal energy, liquid natural gas exploration and production, marine tourism, international shipping and finfish and bivalve aquaculture, to name a few. The first peoples to inhabit the area were Mi'kmaq, Maliseet and Passamaquoddy peoples, followed by French and British colonists, and later American loyalists. Community-based natural resource management took early root in the bay in the form of fishing cooperatives, such as the herring marketing cooperative, and today community groundfish quotas remain, albeit in a small segment of an otherwise quasi-privatised fleet (Bigney 2005; Kearney 2005). The bay is also the site of multiple large and small scale integrated management initiatives, both formal such as Atlantic Coastal Action Program (ACAP) sites in New Brunswick (NB) and Nova Scotia (NS), and informal, as described below. While the Bay of Fundy is not currently a Large Ocean Management Area (LOMA), Fisheries

**Fig. 5.2** Clam harvesting in the Annapolis Basin. (Sullivan 2007)

and Oceans Canada (DFO) (Oceans Branch) had in 2009 assigned a staff member to explore how integrated management might be formally implemented in the region.

The Annapolis Basin is fed by the Annapolis, Bear and Moose Rivers, and measures approximately 24 km (south west to north east) by 6 km (south east to north west). The basin is bisected by the Digby-Annapolis county line with the two significant population centres, the towns of Digby (population 2,311) and of Annapolis Royal (population 411) in each county, respectively. While communities in the basin and along the Annapolis river, such as Granville Ferry, Bridgetown and Middleton, formerly boasted prosperous ship building industries, these diminished in importance and were definitively brought to a close by the construction of the Annapolis causeway in the 1960s. The region had close ties through trade and tourism with the Eastern Seaboard of the US and tourism remains a key industry. The provincial government is responsible for aquaculture, due to a Memorandum of Understanding with the federal government, which is formally responsible for activities at the high water mark and above.

### *5.4.2 Soft Shelled Clam*

The soft shelled clam (*Mya arenaria*) has been harvested in the Bay of Fundy by First Nations people for thousands of years, as evidenced by shell middens found near aboriginal settlements (BoFEP 2003). Harvest is demanding and physically challenging work (Fig. 5.2). The harvest was plentiful and unregulated until a two inch size limit was established in the 1940s. The tidal barrage built in the 1960s is widely blamed for altering sediment flow and blanketing clam beaches. Nevertheless, after the tidal station was built, the clam industry's heyday resumed with processing plants opening through the 1970s. Soft shelled clams are susceptible to contamination, whether in the form of faecal matter from sewage, agricultural runoff, or other sources. Shellfish from contaminated waters are able to be processed via depuration, in which clean sea water is used to flush the contaminated animal. Faecal contamination first closed some of the basin's beaches in 1973 and at the

time, an economic analysis was conducted to determine whether a depuration plant would be feasible. The first depuration facility was opened in 1991/92 and today there remains one depuration plant in the area.

In 1993, the first licences were required to harvest clams, and shellfish harvesting areas were designated in 1996. Today there are 279 clam harvesting licences in harvest area II, which includes the Annapolis basin, fewer than one hundred of which are being used to harvest clams. The Area II Clam Harvesters' Association (A2CA) represents clam harvesters on local industry-government groups like the Southwest NS Soft-Shell Clam Advisory Committee, and the NS Shellfish Working Group.

### *5.4.3 Beach Leases*

In 1997, the depuration company was granted ten year licences to sites in nearby St. Mary's Bay (where quahog, or cherry stone clam, *Mercenaria mercenaria,* are harvested) and to most of the beaches in the Annapolis Basin that are closed to public, or non-depuration, clam harvesting. These licences were granted as part of a Memorandum of Understanding (MOU) between the NS DFA and the DFO that turned yearly DFO depuration licences into ten year aquaculture licences.[3] To secure these ten-year leases, the depuration company agreed to collaboratively fund research into the clam stocks.[4] The leaseholder was also granted the first right of refusal for beaches that would be subsequently closed to harvest and was delegated responsibility for water quality testing. Formerly a government responsibility, this also meant that previously accessible water quality data is now protected under Canadian privacy legislation.

The licences were granted without any apparent consultation, contrary to the requirements of fisheries and aquaculture legislation. Regional Aquaculture Development Advisory Committees (RADACs) are meant to work with communities on site selection, but none was formed in this case. It was only when community groups such as the MRC (Marine Resource Centre) heard of the proposal that public meetings were called. First Nations were not consulted about the leases, which, according to Frank Muese, then-Chief of Bear River First Nation, is in violation of their treaty rights[5]. Other locals also reacted vehemently. Other concerns included the length of the lease, first right of refusal, and that decisions about who can harvest clams now rest with the company.

[3] While aquaculture licences are typically 25 m from the mean low water level, the provincial Minister may issue licences up to the high water mark (Wiber and Bull 2009).

[4] This resulted in a 3-year project funded at almost CAN$ 200,000 in federal funding (Wiber and Bull 2009).

[5] All 13 Chiefs and Councils supported the letter. In it, Muese argued that the DFO must consult with the First Nations due to treaty rights including land title. The letter outlines the details of this process.

The rhetoric used to justify the length and security of the leases was that of stewardship, job security, security of business investment, and of particular interest, food safety. A DFO representative "confirmed that depuration licences are issued to a company to ensure a higher level of public safety and to maintain accountability and continuity."[6] Regulators argued the licences were simply 'migrating' from one year federal fisheries licences to provincial aquaculture licences for identical parcels of contaminated land, and that increased landings at the leaseholder's depuration beaches were a sign of good stewardship. DFO representatives also argued that the ten-year length was essential for long term planning into a costly venture and were, therefore, granted out of "fairness and assurance to the business community."[7] One interview participant described the several year-long process of acquiring the leases, which included the refusal of several reluctant Ministers, until one finally assented and the leases were granted. This Ministerial reluctance complicates claims about leases leading to stewardship, durable investment, and food security.

During the 2008 clamming season, only two beaches remained open to public clamming, meaning that most if not all licensed clam harvesters would harvest closed beaches for the leaseholder. The leaseholder's labour practices were a central topic of discussion during many interviews. The leaseholder is said to set lower prices than other buyers, which some feel forces pressure on open beaches (Wiber and Bull 2009). According to several interview participants, the company requires clam diggers to have harvested 2,500 kg from open beaches before they are employed for the season. One harvester complained that clams are sorted and weighed by the company, not in the presence of diggers. Clam diggers remain technically self-employed, yet the leaseholder controls the distribution of fishing licences. A clam harvester of more than 30 years was cited as saying, "you are telling me, as an independent self-employed clam licence holder that I have to dig for one company and one company alone in order to make living."[8]

Finally, there is a widespread belief that though the leaseholder is meant to be reseeding soft shelled clam (and indeed, the company's licences are for aquaculture, rather than for harvest and depuration of closed beaches), the company is not. The leaseholder's data for cherry stone clams in adjacent Saint Mary's Bay—landings and results of bacteriological testing of meat—have not been released due to data privacy. When asked for evidence of reseeding, or other signs of stewardship (as opposed to simple harvest), federal and provincial officials said they relied primarily on the landed value as an indicator of stewardship undertaken under this lease. According the MRC, "landed value could just as easily be an indicator of increased effort, as any kind of stewardship."[9] Many interview participants reflected that

[6] http://www.novanewsnow.com/article-72579-Stakeholders-question-10year-aquacultureleases, p. 2.

[7] Meeting minutes, Yarmouth NS, January 30 2007, recorded by DFO.

[8] Press release, MRC, April 2008.

[9] Press release, MRC, April 2008. See Wiber and Bull (2009) for more on research into quahog population dynamics post-privatisation in St. Mary's bay.

the long term nature of the leases actually removed incentives for environmental remediation or restoration: Digby-Annapolis politician, Harold Theriault, is quoted to have said that the proposed changes could remove any incentive to eliminate contamination on the beaches.

### *5.4.4 Wastewater Treatment and Food Safety*

In the summer of 2008, beaches were closed for the better part of the summer (128 of 251 possible days) due to successive failures of the Digby town waste water treatment plant (WWTP). In this case, food safety, a well-known and well-justified concern with respect to seafood, was again cited as the rationale for increased closures of clam beaches to harvesting.

Canada exports most of its shellfish to the United States and since 1948 has agreed to harmonise its approach to 'sanitary practices'. This relationship allows the US Food and Drug Administration (FDA) to audit its suppliers of seafood. In 2004, the Canadian Shellfish Sanitation Program (CSSP, a joint programme administered by the Canadian Food Inspection Agency, Environment Canada and Fisheries and Oceans Canada) was audited by the US FDA and found to be lacking. The audit results were released in 2005, and the 2008 clam season saw the closure of multiple beaches for much of the season. Country-specific audit results are not available, nor is the Canadian response. It can be surmised that waste water treatment plant provisions and the overall risk management programmes were deficient. The intervening years presumably saw the Canadian regulators prepare their response to the FDA audit; indeed, a WWTP addition to the CSSP programme was officially added in March 2009, a few months before the FDA was due to revisit the Annapolis-Digby area. As part of these additions, a new risk based Hazard Analysis and Critical Control Points (HACCP) process was also put into place[10], in addition to area-specific management plans.

The CSSP revisions make no mention of an FDA audit or of export requirements in general; but a CSSP notice says that "it is critical that effective response measures are put in place to prevent affected shellfish from reaching domestic and international markets."[11] According to the CSSP 2009 Business plan, "any misalignment of Canadian inspection systems with international demands and standards could increase the risks associated with trade related delays and diminished market access for the Canadian agri-food industry" (CFIA n.d) These documents convey a message of concern about trade relationships first, while later messaging prioritise food safety. Depuration is also cited as a way to ensure food safety.

[10] The new approach adopted by the US FDA and required of its suppliers controls risk by identifying and managing 'critical control points', which is a shift from test-based (for some pathogen at some point in the system) or command and control to a mostly process-based assessment (Unnevehr and Jensen 1999).

[11] Ibid

### *5.4.5 Institutional Improvisation: WWTP Meetings*

Clam harvesters, processors, First Nations representatives, and local government officials were angered when beaches were closed after WWTP failures. Many saw the post-rainfall closures as the result of American interference, and questioned why the WWTP in Digby was targeted when rainfall amounts had not been excessive and no structural change to the plant itself could be readily identified. No explanation about the FDA audit and subsequent changes to the CSSP was offered. In fact, regulators insisted the new response to the WWTP failures were internally driven. The Marine Resource Centre convened an ad hoc group of all parties with responsibility for or an interest in the clam fishery. The meetings were public and due to the urgency of the situation drew many clam harvesters, citizens, local politicians and media.

The conservation harvest plan was presented at these meetings and contained several changes. As these changes had already been implemented, the meetings were informational rather than consultative. Some reclassification of beaches post-overflow events meant that access to both open and closed beaches was altered. The new CHP presented changes to the terminology and to the boundaries of the areas. The changed harvest areas were presented, along with the previous harvest areas, as part of the new CHP. The scales, colouring and shading of the two maps (pre and post changes) were different, so that the maps were difficult to compare, and the slight changes in terminology also appeared to be confusing.

No data were presented in the CHP or at the meetings in support of the seven day closure period. One interview participant speculated that earlier testing would be prohibitively expensive. A CFIA representative insisted that such decisions were "based on science"; DFO representatives at the meeting made reference to hydrological studies, hypotheses and parameters, though these terms were not explained and no data were ever presented. Meanwhile non-government interview participants argued that the basin flushes every two to three days, which led them to question the scientific rationale for the seven day closure altogether.

Other than the timing of the closures, and the mandatory seven day closure post WWTP failure, controversies included: (i) the lack of willingness of Environment Canada to share results from water quality testing; (ii) communication of closures (one processor reported having heard of a recent closure on the radio); (iii) consultation around the development of the CHP (there had been none before the meeting) and; (iv) compensation for lost wages.

## 5.5 Discourses Operating in the Annapolis Basin

The allocation of clam leases and the closure of beaches are part of different yet inter-related policy processes. In both situations, key discourses are used, subtly or openly, as part of a process of altering power relations to grant one party increased access to and control of natural resource governance. These discourses


**Fig. 5.3** Venn diagram displaying key components, relationships between the areas of overlap of dominant and counter-discourses identified in the Annapolis Basin case study

are represented in Fig. 5.3. The first is a variant of the economic prosperity discourse that is concerned with food safety. The second is a variant of the tragedy of the community concerned with clamming as a last resort, and property rights as a way to achieve stewardship. Finally, the discourse of moral economies is used by clam harvesters and their advocates to try to ensure access rights and to restore a livelihoods-centred approach to the clam industry.

### *5.5.1 Food Safety Discourse*

The food safety discourse construes clams as risky, and prioritises consumer and trade relationships. Within this discourse, data are corporately owned or government controlled. Combined with changes to the CHP, poor labour relations and differential access to capital and other resources serve to maintain or even narrow access to clam grounds. The shellfish sanitation programme sees globalisation, health and changing markets as interrelated risks, and the switch to HACCP as the best way to address those risks. Depuration and risk management are both modern solutions. Food safety as a way to look at risk justifies withholding data and keeping harvesters out of clam beaches and of policy mechanisms. Food safety also allows the problem to be rendered technical by attribution to the WWTP, which removes a multi-stakeholder approach from the list of possible solutions.

This discourse hinges on an approach to risk that treats risk as real, objective and measurable. The new approach adopted by the US FDA and required of its suppliers controls risk from a command and control to a mostly process-based assessment

(Unnevehr and Jensen 1999). Both process and command and control approaches consider clams to be risky objects. Other risks include scarce resources, globalisation, loss of markets and public relations.

The rationale for the shift to HACCP was not explained by the Canadian regulators to the clam harvesters and their supporters, nor is there space within this discourse for other perspectives of risk. For example, harvesters and some managers asked were not clear on what was specifically unsafe about the previous system of inspections. Yet, the previous command and control system itself was inaccessible to clam harvesters as it was based on science in which they did not participate and data to which they did not have access to. Indeed, little epidemiological evidence of illness is presented in the policy documents, which seems at odds with the heavy focus on food safety and risk to public health. This is not to suggest that food-based illness does not exist, but rather that those illnesses are taken for granted rather than evidenced in the policy documents. In addition, control of raw data ensured the government and depuration company could maintain control of the narrative told through data interpretation. The power of the risk and food safety discourse is to make itself so dominant as to be unassailable when the clam harvest is, to paraphrase, made to be about safety, by decision-makers insisting on risk and science.

Omissions were central to this discourse, namely the role of the US FDA and the absence of water quality data. These omissions became central when other discourse coalitions focused their attention on them. Those espousing the risk discourse were then forced to explain these absences, in particular the missing data, explanations which were unsatisfying because clam harvesters and their allies suspected they were covers for the 'real' explanations—that the US FDA standards were in fact the real drivers for change and not new test results.

Data collection and dissemination nearly became switch points (Li 2007). But privacy laws protecting the private company along with the dominance of the scientific knowledge paradigm combined to make that point of entry impossible. The debate was shut down and became technical instead of political (Li 2007). The clammers and their allies were not able to harness their discursive power to rephrase the debate.

### *5.5.2 Tragedy of the Community Discourse*

The government CSSP programme is confusing even to those involved and many meetings featured frustration at the perception of unwillingness of government participants to take responsibilities by statements such as "I'm not Environment" (meaning in this case an employee of the Province's Department of the Environment) or "I don't have the test results". The CSSP programme may function within government (though as internal documents indicate, there are coordination and leadership problems) but as a liaison to harvesters, communication and integration failed. The programme complexities and risk orientation (as well as a paucity of resources) served to reinforce a lack of integration and maintain solutions at the

technical level. Internally, DFO Fisheries and Oceans branches were also at odds with regard to the Annapolis basin, one perceived to be working "in the weeds" on practical day-to-day matters of fisheries management (Fisheries) and one at "thirty thousand feet" of the policy world (Oceans).

The motivation for the depuration company to assist in ameliorating the conditions of the Annapolis Basin beaches is questionable when the leaseholder's profit depends on beaches being closed. With the number of open beaches declining, combined with difficult labour practices, clam diggers are squeezed into working for a company that many of them resent. In response to the suggestion that the depurator had a monopolistic control over the industry, government officials argued that another group could invest in a depuration facility and also apply for the leases. While regulators claim that any application for a depuration licence will be considered, according to Wiber and Bull (2009), "closed beaches are a resource … only for those with the capital to invest in depuration plants and other infrastructure that meet federal inspection guidelines for accessing, transporting, processing and marketing clams from contaminated areas" (p. 160). In fact, interview participants stated that the clam harvesters did not want to enter the depuration industry, nor did they wish to consider an aquaculture licence as neither conforms with their values, and due to concerns that they would lose the lease to the current depurator. By granting exclusive access to closed clam harvest beaches, the federal and provincial governments altered power relations such that harvesters are forced to work for an employer that has little apparent incentive to remediate a polluted ecosystem. It is unclear how overall food safety standards are improved without this long-term incentive. In addition to an apparent lack of interest in reseeding or other programmes that might ameliorate the clam stocks, the company does not facilitate clam harvesters to do this work independently by, for example, providing spat or under-sized clams.

As is highlighted by Wiber and Bull (2009), aquaculture is associated with progress, while clam digging with low-technology manual labour; this helps to "privilege a corporate actor over pre-existing resource users" (p. 160). In the policy imagination, communities can be construed as less integrated in the market or less industrialised, distant both geographically and temporally. Further, in a northern context, community can be seen by the dominant paradigm as part of culture and, therefore, not intrinsic to the economy or the policy sector (Olson 2005; St Martin 2006). In this way, resource-based communities can be construed as under-developed and policy interventions are designed to increase modernisation (aquaculture, integration with markets and professional specialisation). In this case the depuration company is the more modern of the local players, with capacity to navigate complex regulatory environments and engage in the political system. Enacted through meeting dynamics and in discussions around poverty, crime, migration and requests for compensation, the clamming community is constructed and understood to be less modern than other players, and less sophisticated, and possessing less agency in negotiating policy change. While the clam industry was encouraged to adopt the "industry restructuring" perspective in order to gain favour for their proposals, this shift was either insufficient by itself, in light of the dominance of other discourses, or was insufficiently completed, maintaining too much of the social and moral

economies discourse. Here, integrated management alters scalar relationships and practices within government: the scalar politics related to complicated jurisdictional issues at the coast allowed questions of responsibility and authority to either drive action or excuse inaction.

### *5.5.3 Social and Moral Economies Discourse*

Finally the subsistence and moral economies discourse connects place, ecology and people through the concepts of restoration, subsistence and livelihoods. From within this discourse come video, song and concepts like *Nutukulimk*—a Mi'kmaq concept for the connection of people and the natural world that includes rights, responsibilities, inter-generational equity, sustainability and spirituality[12]—as alternative ways to communicate and think about natural resource management. This discourse also links scales, defying the perception that communities operate only locally. Within this discourse, there can be a strategic benefit of opting out of governance processes, in particular when integrated management or multi-stakeholder processes are seen as a way to neutralise community practices and resistance by bringing parties together on an unequal playing field. Integrated management is, however, recognised as an essential part of coastal development planning and strategy. Certain policies and branches of government make use of this discourse, namely within the NS government, such as the community development strategy and the NS Voluntary Planning Agency. The clam harvesters and their advocates attempted to expand this discourse, or to 'hitch on' to the dominant discourses (Hajer 2003, p. 107) by including 'industry restructuring' as one of their goals.

This discourse is expressed by clam harvesters and their supporters (local NGOs such as the MRC) at meetings and other public fora; one poignant expression is through the songs of clam harvester Terry Wilkinson who sings of poverty that accompanies the hard physical labour of clam harvesting: "Pocket fashion dictates Frenchy's[13] Clothes, cause a poor man's life the only one I've known/ With calloused hands and the sweat upon my brow, I work the salty water earthen plow."[14] Prosperity is a reward from "salt water earth" for demanding physical labour. His identity as a fisherman is tied to working for himself: "Much more than a lifestyle to me/I stand in the life that is free"[15] These lyrics display a tension between pride

[12] According to the website of the Unama'ki Institute of Natural Resources, in Cape Breton, Nova Scotia, "Netukulimk is the use of the natural bounty provided by the Creator for the self-support and well-being of the individual and the community. Netukulimk is achieving adequate standards of community nutrition and economic well-being without jeopardizing the integrity, diversity, or productivity of our environment. As Mi'kmaq we have an inherent right to access and use our resources and we have have a responsibility to use those resources in a sustainable way. The Mi'kmaq way of resource management includes a spiritual element that ties together people, plants, animals, and the environment." Accessible at http://www.uinr.ca/2009/01/netukulimk/

[13] A regional chain of second hand clothing stores.

[14] From T. Wilkinson, "Blue Fishin'".

[15] From T. Wilkinson, "Clear Waters".

in one's livelihood, including sharing in a family occupation, and relative powerlessness that can accompany being poorly compensated for one's labour. Still, clam harvesting is portrayed as a choice, and importantly, as a fishery, albeit unique, but linked with the traditions and some of the privilege of more powerful fishing actors. Dignified employment (conceived of as decently compensated and independent) connects people to the natural system and forges a sense of place.

Within this discourse, communities are tied to use of and connection with a specific place. They are connected to nearby communities, those in other provinces and nationally and also internationally through the work of community leaders who represent their communities at fora such as the World Forum of Fisher Peoples. This counter-discourse construes place as multi-scale and as essential to livelihood. While regulators up-scale or down-scale problems, rendering them accidental as opposed to systemic, to justify a limited state response, local actors up-scale by connecting to state policies or actions, to insist on state responsibility, thus intervention (Harrison 2006).

Participants operating within this discourse are suspicious of 'integrated management' and with many other government interventions. They either participate in integrated management strategically, due to fear of being left out of a discussion that will impact them, instead of commitment to the process, or choose to opt out altogether. If and when clam harvesters do participate in integrated management fora, including the ad hoc meetings in the Annapolis Basin, the tools they use, including video and song, and the language they use do not correspond to what is expected in the settings of integrated management. Torgerson (2003) relates similar findings from the MacKenzie Valley pipeline public process. There, aboriginal people, invited to testify, "did so in a way that was not limited to rational argument, but included their own stories, poetry and songs. These bore witness to an experience of the north not as a frontier to conquer, but as a loved place shaping the lives and identities of people who called it home" (Torgerson 2003, p. 119).

Government agencies and departments do have policies that draw on features of this discourse. The Canadian Food Inspection Agency (CFIA) for its part recognises "that traditional industries such as agriculture and forestry have long been anchors of our nation's economic, environmental and social well-being. The vigour of these industries depends, in part, on the health and sustainability of the resource base on which these industries rely."(CFIA n.d) The Nova Scotia government has also written policies, which if enacted more thoroughly would enable citizen participation. Yet, this discourse is not heard, in part because there is no space for it, and it in part because those using it seem to speak another language. This results in fishers' practical knowledge, and the connection between policy interventions like privatising access and poverty, being ignored. In coastal and marine governance, certain spaces and scales are categorised, or framed, as capitalist and part of the modern economy while others are excluded (St Martin 2001, 2005). So for example, pre-existing management regimes are displaced: "socially important non-modern livelihoods (e.g. artisanal fishing) may be regulated out of existence to create space for state and internationally sponsored projects such as aquaculture development" (Nichols 1999, p. 390). The more modern partner is favoured, and the less modern clam harvest is construed as needing to restructure itself.

## 5.6 Conclusion

It is clear that competing models of integrated management operate in the Annapolis Basin. The model represented in the counter discourse is driven by concerns over conditions of access to and health of the clam resources, preservation of local livelihoods and indigenous rights. This model is open to multiple participants, to shifting institutional structures, and to dialogue between harvesters, regulators, the broader local and international communities. The principles of integrated management espoused in the *Oceans Act* would appear to be embodied in this process, which would also support coastal communities as they struggle to sustain their ways of life. Yet, in this case, the more powerful actors, via dominant discourses, frame the problems in the clam harvest as technical rather than political. Knowledge relevant to solve these problems comes from experts and scientists and is about risk, while relevant problem-solving tools and technologies include Hazard Analysis and Critical Control Point (HACCP) audits, conservation harvest plans and adversarial meetings. Food safety also scaled the discussion away from being a local problem with local solutions, albeit in a clandestine manner, as the international context of clam exports to the United States was downplayed by decision-makers yet understood by all to be the critical one. Within the state scale, despite the inter-department and agency CSSP, blame was shifted due to the complexity of regulation surrounding shellfish harvest, further undermining integrated solutions. Dominant discourses also help form identities or subjectivities for clam harvesters, oriented around poverty and migration (Agrawal 2005). These notions are taken up by clam harvesters as well, albeit in different discursive ways. Ultimately, the dominant discourses determine that the modern, industrial fishery is the depuration fishery with secure property rights, orderly business model, control of its workforce, and addresses risk in a way that is responsive to the dominant discourse and institutional needs. Fishers and the broader community are expected to benefit from employment, though fishers dispute the dignity of that employment.

Integrated management, while proposing to encompass a host of approaches that hold promise for community empowerment and sustainability, is vulnerable. The communities in the Coastal Community-University Research Alliance knew this, which in part explains their resistance to the language of the policy. The literature on integrated management as a governance concept hints at power dynamics behind these vulnerabilities, such as the possibility of creating an institutional void if new stakeholder bodies are not constructed with attention to the power relations between those in charge and those at the receiving end of policy changes, and the danger of flattening scalar relationships without attending to how certain livelihoods and communities become vulnerable in this new context. As the case study presented here demonstrates, instead of advancing collaborative management of a fishery essential for the sustainability of community livelihoods, institutional improvisation for integrated management was undermined by long-established relationships whereby government rather than governance dominates.

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