

WHO IS GOVERNING FOOD SYSTEMS? POWER AND LEGAL PLURALISM IN LOBSTER TRACEABILITY

Courtenay E. Parlee and Melanie G. Wiber

Introduction

Lobster fishing has a long history in Atlantic Canada and lobster has an iconic status in the region, as it is one of the few healthy commercial stocks remaining and is the economic mainstay of the independent, owner-operated inshore fleet.¹ Without lobster, many of the coastal communities impacted by the collapse of the groundfish stock would have collapsed in their turn. While lobster landings have been high, however, this has not translated into secure livelihoods, as marketing lobster remains a challenge. Many consumers view it as a luxury item and in the aftermath of the market shocks in 2009, and despite falling prices, lobster sales have declined. Both federal and provincial regulators² as well as regional

¹ The Atlantic Canada inshore fleet is comprised of owner-operated boats of under 50 feet in length. They are quite distinct from the midshore and offshore fleets, which are corporately owned and managed. Most inshore fishermen own multiple licenses and fish some combination of lobster, scallop, herring, groundfish, crab, gaspereau, shad and shrimp. Canadian fisheries “fleet separation” policy requires that boats in the inshore fleet remain independent from corporate (processor) control.

² Fisheries and Oceans Canada (DFO) is the federal department responsible for managing marine fisheries. Due to the Canadian division of powers, coastal provinces also have fishery departments.

fishermen's organizations responded with efforts to improve both market share and price. One option was to pursue some kind of market certification. In September 2010, the regional fishermen's organization in the Scotia-Fundy region of Atlantic Canada convinced several lobstermen to undertake a pilot traceability project. While traceability in the literature is often associated with food safety concerns, lobstermen were interested in traceability for quite different reasons. They hoped to accomplish several linked objectives, including: building confidence in the sustainability of lobster fishing; demonstrating the social and cultural value of the small boat sector and associated labour practices; improving the market share of Canadian lobster in the seafood retail sector; and obtaining a premium price for fishermen. Thus, traceability in the case of the Atlantic Canada lobster fishery was designed to pursue several goals. As will be outlined below, the emphasis on these goals differed depending on the position of participants in the market chain.

Some of the fishermen involved in the pilot traceability project were members of the Coastal Community University Research Alliance (Coastal CURA). This six-year, participatory research project had brought fishermen's organizations from three Canadian provinces and social scientists from three universities together to investigate and improve the role of communities in integrated ocean management (see www.coastalcura.ca)³. Several social scientists from the Coastal CURA agreed with fishermen that the traceability project provided an opportunity to assess the way that new regulations in the lobster industry were evolving. We began a qualitative analysis of lobster traceability by interviewing a lobster fisherman who was an early adopter of the traceability program. Using snowball sampling to identify further informants, we followed up with semi-structured interviews with executive directors of both local and national fishermen's organizations; these individuals had advocated for traceability among their membership and had taken a lead in negotiating with government agents and with a supportive NGO to develop the program. We then interviewed past and present employees of the environmental NGO involved in developing the lobster traceability project. We were also invited to attend several meetings where fishermen and lobster buyers discussed the program, as well as a workshop where fishermen, bureaucrats, wholesalers, retailers and staff from the NGO evaluated

³ We gratefully acknowledge the contribution of several Coastal CURA students in the development of this paper, including D. Curtis, L. Wilson and K. Bigney. We also thank the Coastal CURA and the Canadian Social Sciences and Humanities Research Council for the funding support that enabled us to undertake this research.

POWER AND LEGAL PLURALISM IN LOBSTER TRACEABILITY
Courtenay E. Parlee and Melanie G. Wiber

the pilot project. Finally, we spoke to informants involved in several MSC certified fisheries, including the northern shrimp, Alaskan salmon and pollack fisheries. We report here on our case study findings.

This lobster traceability project proved a unique opportunity to investigate the assembly of people, organizations and regulatory approaches that are involved in lobster fisheries and marketing, as well as some of the consequences of that assembly. Live lobster, as a component of the fresh seafood industry offers a manageable case study, as there are no processing stages to track between ocean and plate. Nevertheless, even such a relatively simple case study illustrates the many “jurisgenerative institutions” (Anderson 1998) at various scales that are currently involved in governing food systems, and also traces some of the impacts of those multiple institutions on one industry. As a result, this project allows us to address several theoretical questions relating to governance and to legal pluralism.

We are sensitive to Offe’s critique of the burgeoning use of the term governance, but here use the term in the sense he outlines, as:

...institutionalized, if often “informal” modes of interaction, in which the participants cooperate in a conscious and goal-oriented manner, while not exclusively pursuing their own interests, but also the common concerns of the members of a political community (or a large corporation). These, in turn, cannot be promoted (or at least not exclusively and in an efficient and effective way) through hierarchical sovereign action by the state... (Offe 2009: 553).

As Offe goes on to argue, the concept is attractive precisely because it acknowledges that neither state nor market are sufficient for some kinds of social coordination, but that “behind this voluntaristic façade, actual power relations and dependencies have all the more impact” (Offe 2009: 554). Following Foucault (1991) and Dean (1996), we are interested in the implications of the lobster traceability case study for understanding how governmentality⁴ is connected to governance – that is, how technologies of power and of agency can be understood within this larger ‘social coordination’ context - how does traceability empower

⁴ Following Foucault, government, as Dean notes, has been defined as “the conduct of conduct”. A related concept is governmentality or “ways of thinking about, calculating and responding to a problem” (Dean 2010: 24).

some actors and perhaps disempower others? How do fishermen become convinced that they must be active participants within such governance projects? What is the (remaining) role of the state given the many other actors and agencies involved?

Recent literature on food governance provided a framework to explore the “tangled hierarchies” that bring state, international and local players together in food regulation. Linking food governance literature to the legal pluralism literature allowed us to think about how new traceability requirements in some jurisdictions generated multiple regulatory reactions in other jurisdictions. We could then examine the complexity and dynamics of the interrelationships that arise from multiple regulatory systems and to trace out their social and political significance (F. von Benda-Beckmann 2002: 65). This ‘governance traceability’ is something that cannot be tracked well with legal centrist approaches, which presuppose that the only relevant law is state law (*sensu* Anderson 1998; see also Zips and Weilenmann 2011).

We argue that the lobster traceability project also raises questions about transparency, legitimacy and democracy (see also Offe 2009: 556). The scale of such a project has meant that different agendas can be furthered at the same time, such as ecological sustainability, informed consumer choice, support for the inshore fishery and risk management. The resulting process has distributed power widely as Foucault once argued (Foucault 1991), but also led to power struggles. Finally, we illustrate that one outcome of such projects is legal pluralism in food governance.

Traceability versus Sustainability Certification

There are some key areas of overlap but also some important differences between sustainability certification (often through eco-labels) and traceability, differences that are often obscured by the explosive growth of various kinds of food certification (Logan et al. 2008:1592; Jacquet and Pauly 2008; Foley n.d.). For purpose of clarification then, sustainability certification can be described as an environmental standard in which compliance to requirements are certified through various assessment methods. The requirements and assessments are typically issued by an independent certification organization (Global Development Research Center 2011). In fisheries, examples include the Marine Stewardship Council (MSC) and the FAO-Based Responsible Fisheries Management certification. From a public policy perspective, the objective of such certification is to inform

POWER AND LEGAL PLURALISM IN LOBSTER TRACEABILITY
Courtenay E. Parlee and Melanie G. Wiber

consumers about the environmental consequences of the production and consumption of a product, in order to influence their purchasing behaviour and diminish negative environmental impacts (Jacquet and Pauly 2007). The objective of food traceability, on the other hand, is to address the growing complexity in a food product ‘chain of custody’, which is increasingly affected by mass production, global distribution and consumption patterns and that may affect food safety (Coff et al. 2008). A seafood traceability system, for example, requires that a seafood component be traceable from ocean to plate and through all intermediate steps. Because traceability is not always linked to sustainability objectives, and because sustainability certification is not always linked to traceability from ocean to plate (see Goyert et al. 2010; Logan et al. 2008; Jacquet and Pauly 2008), we deal with them here as separate issues.⁵

The MSC seafood label was developed in 1997 through a partnership between Unilever (one of the largest vertically-integrated food conglomerates in the world) and the World Wildlife Fund (Jacquet and Pauly 2007). It is an international private contractual standard that is often sought by producers and celebrated by food retailers and consumers. The credibility of an MSC label rests on adherence to agreed-upon standards (Kaiser and Edwards-Jones 2004). However, the connection between these standards and sustainability has been questioned (Foley 2012, n.d.), and one of the problems relates to traceability. The lobster industry provides an excellent example. As Foley notes, MSC assessment is done on behalf of ‘clients’, but those clients may not exclusively ‘own’ or engage with the entire fish stock upon which they rely (Foley 2012: 436-437). A case in point is the lobster industry. Fishermen’s organizations in both Canada and the US have applied for separate MSC certification for the lobster fishery; whichever one achieves it first will have a significant market advantage. Those in the Scotia-Fundy region of Canada underwent a third party pre-assessment in 2009-2010. During this pre-assessment, problems were identified in all three of the principal areas assessed by MSC performance indicators, and fishermen were advised that MSC certification would fail (Park 2010: 87-88; MSC Review Committee 2010). Meanwhile, lobster fishermen in the adjacent US state of Maine are still pursuing certification, with the financial assistance of “a private organization” (Goyert et al. 2010: 1104). But as Canadian lobster fishermen know, lobster trace a tangled path on the way from ocean waters to consumer plate (ibid.). Given colder waters and

⁵ Recent literature on MSC Certification, for example, identifies these as two separate but linked processes (Foley 2012: 439; Gale and Howard 2011). From the consumer point of view, both need to be in place to make informed choices.

harder shells, lobsters sourced from Canadian waters are often higher quality. They can be and often are marketed under brand names that represent them as having been caught in US waters. Further, many soft shell lobster sourced from US waters are processed in Canadian canneries (Goyert et al. 2010: 1104). As a result, it would be difficult to tell if all lobsters retailed through Walmart⁶ were sourced only from US waters.

From the fishermen's perspective, the realities of the seafood industry have created some disenchantment with MSC certification, for several reasons, including: inability of fishermen to address ecological and governance problems assessed under MSC; the high cost of initial assessment and follow-up annual auditing (on both points see Goyert et al. 2010); and the political struggles between separate fishing organizations who fish the same stocks and compete for the advantages of MSC certification (see Foley 2012). Foley has also drawn attention to how the role of the Canadian government in meeting conditions of certification has actually strengthened state mechanisms of control (Foley n.d.). Even fisheries that have received certification have become disenchanted with MSC as is obvious from the salmon and pollack fisheries in Alaska.⁷

As many consumers have become aware, the difficulty of tracking seafood from sea to plate given the realities of wholesale practises has resulted in criticism for the certification approach. For example, there is room for 'counter marketing strategies' whereby exporters and domestic suppliers are able to re-label fish and sell them as eco-friendlier or higher quality versions (Jacquet and Pauly 2008; Logan et al. 2008). One result is a loss of confidence in the environmental regulations and consumer awareness campaigns upon which eco-labels rely (Jacquet and Pauly 2007). This may be one reason why Canadian lobster

⁶ Walmart made a highly publicized commitment to sell only MSC certified seafood by the end of 2011, quickly followed by other major retailers. See <http://www.msc.org/newsroom/news/kroger-costco-supervalu-and-walmart-include-msc-in-seafood-sustainability-commitments>, last accessed February 8, 2012.

⁷ Mark Buckley, personal communication May 22, 2012. Processors in the Alaskan salmon fishery have promoted the FAO-Based Responsible Fishing Standards as an alternative to MSC, see <http://www.scribd.com/doc/78700313/ASMI-press-release-on-MS-C>, last accessed May 23, 2012, and <http://www.scribd.com/doc/94253370/Alaska-salmon-processors-clarify-MS-C-position>, last accessed May 23, 2012.

POWER AND LEGAL PLURALISM IN LOBSTER TRACEABILITY
Courtenay E. Parlee and Melanie G. Wiber

fishermen we spoke to view food traceability systems as an alternative to MSC as we will explain further below.

The objective of food traceability is to address the growing complexity in a food product “chain of custody”, which is increasingly affected by mass production, global distribution and consumption patterns (Coff et al. 2008). Martinez and Poole maintain that a secure food traceability system is based on four pillars that include: product identification (such as weight, volume, date of capture); data (including numbers, typologies and data storage requirements); product routing (the production cycle and equipment involved); and traceability tools that ensure data accuracy and data reliability (Martinez and Poole 2004: 350). Not all four of these are present in the lobster case, as the routing aspect remains underdeveloped to date. Despite this, the lobster traceability system as recently introduced in Atlantic Canada meets most regulatory requirements of food traceability as will become evident in this paper.

Food traceability is typically introduced for three reasons, including: risk management, to increase consumer trust and confidence, and to help in the search for efficiency gains (Hall 2010: 827). In this paper, we are concerned with the first two reasons, risk management and consumer choice. Arienzo et al. define risk management as “a device for the attribution for responsibility and reduction of risk” (Arienzo et al. 2008: 34). From this perspective, the primary beneficiary of traceability is thought to be any level of government that has the mandate to prevent and/or punish food safety failures. In this sense, traceability can serve as a ‘technology of power’ in Foucault’s terms. A problem has been identified (food safety), defined as technical (linked to failures of sourcing, handling, processing, storage or distribution), a technical solution is devised (regulation, inspections, fines) and this in turn empowers government actors. We argue that traceability is a technical solution with regulatory and normative effects, and there are two reasons for this. First, the processes involved in the traceability project have created self-governing individuals who fit into new schemes of “order socialities” (see Edwards 2003). Second, this particular kind of assemblage has resulted in individuals agreeing to a range of normalizing measures and practices designed to empower fishermen and optimize their skills and entrepreneurship (see Dean 1996). These points will be illustrated in the following discussion.

Food traceability is also seen as enhancing informed choice for consumers, especially consumers who want to “capture and map the ethical dimensions of values and processes in the food production chain” (Coff et al. 2007: 4). For example, Coff et al. define traceability by reference to the highly public and

visible “means of recorded identification” (Coff et al. 2007: 4), so that consumers can make choices based on more information than the market usually provides. This information can refer to labour practices, ecological sustainability, poverty reduction or other values that are normally hidden in price-driven mechanisms of the marketplace. The market visibility of labour practises was explicitly raised by the Executive Director of the Canadian Council of Professional Fish Harvesters⁸, for example, when he spoke about the difference between the inshore fishery, with local, kin-based employment and remuneration through catch shares, and the large offshore factory trawlers that often exploit foreign workers⁹. He noted:

These traceability tags are changing the face of marketing in the fishery. They knit together community - owner operator - and consumer preference. They are key to the decommodification of fish. For most commodities in the marketplace, the labor costs or community impact of how the commodity is produced is invisible. The customer only gets to choose on the basis of price. But these tags make the fishery visible to the buyer. Customers want to know the fishermen. Big corporate boats don't like [the tags] because consumers don't want to see factory trawlers as the source of their food. They want to feel they are supporting coastal communities and sustainable fisheries with their purchase.

This quote illustrates two other benefits for traceability that are cited in the literature. First, whether it is being pursued for risk management or consumer choice, traceability can enable consumers to participate in democratic processes that influence the current food supply. Second, it can provide food producers such as the lobster fishers in Atlantic Canada with the ability to promote the ethical aspects of their production practices and to communicate the ethical values of their products to consumers (Coff et al. 2008: 1). In Dean's terms, this may make traceability a ‘technology of agency’ in that subjects of the state are convinced that to engage with certain kinds of technology will help them to obtain their own ends, but often with unforeseen consequences that may also empower others (Dean

⁸ This non-profit organization was founded in 1995 and promotes the health of the Canadian fishing industry by ensuring that harvesters have the knowledge and skills to meet present and future human resource needs in the fishery (see <http://www.fishharvesterspecheurs.ca/about>, last accessed May 2012).

⁹ For an example of the problematic labor practices sometimes found associated with the international corporate fleets, see Stringer et al. 2011.

1996).

We were curious about these two somewhat contradictory views about traceability (technology of power versus technology of agency) and hoped that an analysis of one traceability project could shed some light on the question of who is empowered by traceability projects and how. The project also illustrates how new governance processes generate situations of legal pluralism, the issue that we next address.

Legal Orders of Food Traceability

The rise of industrialization, globalization of food production and the increasing number of intermediaries involved in the process of food distribution has resulted in new regulatory standards for food that have begun to have global reach (Arienzo et al. 2008). As early as 1963, global standards for food safety were being introduced through the Codex Alimentarius initiative, a joint effort between the Food and Agriculture Organization (FAO) and the World Health Organization (WHO) (WHO and FAO 2006). While these guidelines emphasized quality issues, they also explicitly referred to ensuring that consumers receive products that were “safe”, in that they did not pose any health threat (Regattieri et al. 2007). The Codex Alimentarius standards influenced many jurisdictions to adopt food safety measures, especially following the outbreaks of Bovine spongiform encephalopathy (BSE), commonly known as mad cow disease.

The European Union (EU) for example, began introducing food governance legislation and has expanded these after every subsequent food crises. The EU approach has been mandatory state regulated traceability for many food industries, perhaps as a result of public concerns about the ability of the existing institutions and their processes to manage risk in the food supply (Arienzo et al 2008). In 2002, the EU required that all seafood entering EU markets be traceable, with the legislation to come into effect in 2005 (EU 2002; Schroder 2008; Arienzo et al. 2008). In contrast to the EU mandatory approach, the US has developed a voluntary approach. In 2002, the US Department of Agriculture published a paper wherein they set out the case for voluntary traceability within the food system. Their argument was that government responsibility was to ensure that private sector organizations involved in traceability systems met performance targets for food safety, and that the government would not set out prescriptions, but rather make informed suggestions on how the goal of traceability should be achieved (Regattieri et al. 2007). EU mandatory standards have been criticized for making

formally legal foods illegal in countries that have recently joined the EU (Knudsen 2011). Whether voluntary or legislated, standards have also been criticized for excluding producers who are either small-scale or from developing nations and who can be forced out of the market if they are unable to meet the expensive and stringent quality management standards (Hanak et al. 2002; Martinez and Poole 2004; Fulponi 2006). In fact, all producers have felt the impact of these standards, as we discuss further in this case study.

Given the number of Canadian food products that go to international markets, it is not surprising that legislative changes in the EU, and corresponding voluntary changes in the US, had a rapid impact in Canada. The Canadian seafood traceability system is a direct response to these changes, but as Martinez and Poole note, food traceability programs are mixed and contradictory, and this has been the case in Canada as well (Martinez and Poole 2004).

In response to the EU deadline, the federal Fisheries and Oceans Department in Canada first suggested state legislation to require traceability, but argued that this could not be in place before 2010. In preparation for this, a Traceability Task Group was formed in 2008, involving federal, provincial and industry representatives (Fisheries and Oceans Canada 2009). However, our informants from both national fisheries organizations and from the NGO Ecotrust reported that seafood processors quickly mobilized to reject mandatory traceability and pushed instead for the US model of voluntary, private traceability programs. The government then agreed to let the seafood industry in Canada attempt to create a traceability program that would satisfy both EU and US standards. It is clear from our interviews that the result was a power struggle in Canada over which private sector actors would control traceability systems.

In 2009, the independent, owner-operator sector of the Canadian fisheries began to organize in order to have an influence on the shape and nature of any seafood traceability system in Canada, with the intention to highlight the relative sustainability of the fleets that they represented as opposed to the larger, corporate sector fleets. As a result, the Canadian Council of Professional Fish Harvesters (CCPFH), which largely represents owner-operator fleets, approached the Canadian environmental NGO Ecotrust¹⁰ to partner on various traceability pilot

¹⁰ Ecotrust, a non-profit institution founded in 1991, is a conservation organization that promotes what they call a “conservation economy”. They link conservation with community development (see <http://www.ecotrust.org/> last accessed May 2012).

projects on both the west and east coasts of Canada. According to the program officer who began development of the traceability project for Ecotrust, they at first proposed contractually enforceable traceability agreements that involved all the steps from fishermen to final consumer; this idea was supported by the owner-operator fishermen but was rejected by the processing sector. As a result, Ecotrust instead designed a program called ThisFish that involves voluntary relationships and agreements between fishermen, processors, wholesalers and retailers. In partnership with the CCPFH, Ecotrust began to develop and test prototypes for an internet-based system that relied on numbered tags that would be attached to individual fish and would allow consumers to trace the source of their purchase. In collaboration with fishermen, they developed tags, websites and formats for providing information about the fishing enterprise. In the final version of the program, none of the participants in the market chain (fishermen, wholesalers, processors, or retailers) is required to participate; they may choose to do so voluntarily. Thus, as the ThisFish website¹¹ explains, the resulting traceability system attempts to serve several agendas. First, it aims to make the supply chain more transparent, especially as relates to labour practices, environmental impact of gear used and benefits to fishing communities. Second, it aims to attract participants and create a viable network of like-minded people who all agree to further sustainable seafood systems. Finally, it aims to build consumer confidence and trust in the quality and sustainability of seafood (Ecotrust 2011)¹².

The Introduction of the ‘ThisFish’ Program in Atlantic Canada: the Launch in Southwest Nova Scotia

The lobster traceability project was launched in September of 2010 in Lobster Fishing Areas¹³ 34 and 35, with the support of both federal and provincial fisheries regulators. A government funding-agency, the Atlantic Canadian Opportunities Agency (ACOA), provided funds for the lobster project. Thus, Canadian public funding supported the development and spread of private governance systems (see

¹¹ See <http://thisfish.info/> last accessed May 2012.

¹² To find out the species currently traced using ThisFish on the both coasts of Canada visit: <http://thisfish.info/fishery/species/> last accessed May 2012.

¹³ Lobster fishing is regulated under geographic areas known as Lobster Fishing Areas or LFAs. Regulation is broadly the same across LFAs but there are differences in season openings and closures, and some differences in gear.

Hall 2010). Currently, the only information that Fisheries and Oceans Canada asks the participating fishermen to document is the tag numbers attached to individual lobsters, which are to be recorded in their logbooks¹⁴. Initially, eight lobster fishermen signed on to the project. More fishermen joined as the program quickly became viewed as a way to promote both the product and the lobster industry as a sustainable fishery. The early participants were heavily involved in developing a working system, particularly with respect to tags that could be efficiently and effectively attached as part of the normal catch operation. Ecotrust also used fishermen's feedback to adapt the ThisFish website so that tag numbers could be uploaded efficiently and effectively.

The final version of the system is very simple. When a participating fisherman opens a lobster trap and finds a market size lobster within, he grades it for the fresh market or the cannery. Fresh market lobster will have an individual tag attached to one claw. These tagged lobsters are then directed to a wholesaler or retailer who may or may not agree to distribute the tagged lobster to their retail customers. If a tagged lobster ultimately reaches a customer, the tag instructs them on how to enter the ThisFish website and where to type in the number found on the tag. Once they do this, they receive information about the fisherman and the fishing enterprise that landed the lobster. This information is based on a standardized information form which fishermen fill out, including their years of fishing experience, their crew members, and their home port. In addition, fishermen have the choice to upload pictures of themselves, their boats and their harbours and in some cases, video lessons on how to cook and eat a lobster¹⁵. Fishers use the website not only to upload tag numbers, but also to communicate with consumers and to get a geographical snap shot of where their tags end up via another web-based service called GeoCommons. As of May 2011, of the 1700 lobsters tagged in Lobster Fishing Area (LFA) 34 800 had been traced back to the GeoCommons website, and from places as far away as Japan and Europe.

Both Ecotrust representatives and the fishermen we interviewed spoke of promoting the program among middlemen, but reported that not all middlemen

¹⁴ In the fishing industry, a logbook is an official record required under fisheries regulations in order to document data on catch location and volume. It can be submitted when and as required by fishing authorities.

¹⁵ As one reviewer of this paper noted, the identity construct of these fishermen is often linked to a deep local history, including indigeneity, which has value in the 'alternative market' that Ecotrust endorses.

POWER AND LEGAL PLURALISM IN LOBSTER TRACEABILITY
Courtenay E. Parlee and Melanie G. Wiber

were interested in tagged lobsters. The support or lack of support among seafood middlemen has turned out to be crucial. One lobster buyer told us that some middlemen have concerns about how such tags might limit the product branding that they use in their marketing. As was mentioned above, the same lobsters can be branded as from Canada (as in ‘Bay of Fundy’ lobsters), or as from the US (as in ‘Maine’ lobsters.) Fishermen reported that some middlemen removed tags, dropping them back into the shipping crates, and returning the crates (and tags) to the fishermen. Fishermen interpreted this as a message that those middlemen did not want tagged lobsters delivered to them.

Where tags are left in place, not only consumers, but retailers, chefs in restaurants and anyone else along the market chain are able to go to the ThisFish website, type in the number from the tag and not only see where their lobsters came from, but who caught them and how. Further, where fishermen have included their email contact, these individuals can provide direct feedback to the fishermen about their lobster buying or eating experience. We were told that fishermen have so far received positive feedback from people who contact them directly.

This line of communication also provides consumers with the chance to ask questions. In one such case, a consumer asked about black liquid that drained out of a cooked lobster. While the fisherman could not answer this question, he knew of someone at the Prince Edward Island Provincial Veterinarian Lab who was able to answer it. The fisherman then emailed the consumer to let them know that the black liquid was nothing to worry about. This situation proved a learning opportunity for both the lobster fisher and the consumer. In a second case, the “Ask a Fishermen” page on the ThisFish website provided a venue for customers to ask about product quality and the connection to fishing seasons¹⁶. For example, in response to a comment by a customer that the dates of fishing season should be designed to produce the best quality for the fish, Capt. Hubert E. Saulnier responded that quality is difficult to predict for reasons having to do with climate change. Further, because there are 40 different LFAs in Atlantic Canada, each with their own opening and closing season, every area is not able to benefit from the cold water months. Another customer inquired as to the reason that she was eating lobster in September that had been caught in June. Capt. Kevin Squires responded in saying that the staggered seasons for LFAs and specialized live lobster holding facilities allow the market to be supplied year round. These are

¹⁶ See [http://www.thisfish.info/generic/ask a fisherman/](http://www.thisfish.info/generic/ask_a_fisherman/) and <http://www.thisfish.info/generic/qa/9/> both last accessed May 23, 2012.

both examples of what Leitner and Miller have called “a scale making project” as it allows fishermen and fish consumers to connect across space and time (Leitner and Miller 2007).

Our case study of this lobster traceability project illustrates the marriage between barcode technology, databases and the Internet (Wyman 2003). Following Thompson et al., the lobster traceability program can be seen as an “identity preservation system” in that it allows for the source and nature of the market “batch” to be identified, particularly as tag numbers are entered into fishermen’s log books so that catch location, time and date are recorded (Thompson et al. 2005: 3). Further, it could act as a form of “chain traceability” which traces a batch throughout the entire food chain including fishers, buyers, processors, wholesalers, transporters, retailers and customers (ibid.), although it is not currently operating in this way.

Several issues are raised throughout the description of the lobster traceability project in Atlantic Canada and they include the multiple legal jurisdictions that the traceability project is responsive to, the Canadian governments’ support for private governance and the implications of ‘scale making’ projects. We now turn to exploring and analyzing these in more detail.

Private Governance

Hall has argued that the global food system is one area where private forms of governance have spread most quickly through the application of “soft law” and market based regulatory instruments such as eco-labels and, we would argue, voluntary food traceability systems (Hall 2010). But the food security story is more complicated than that. EU mandatory standards that require traceability for all seafood imported into the EU have made new regulatory demands on Canadian suppliers. Meanwhile, volunteer standards within the US have allowed multinational corporations such as Walmart and Costco, which currently conduct business in Canada, to restrict their seafood purchases to fishing sectors that carry MSC certification (Information Resource of Maine 2008). These two major trading partners thereby stimulated private governance for Canadian producers. The Canadian government, meanwhile, is supporting private governance by encouraging organizations such as Ecotrust to design and introduce traceability and by providing financial support through ACOA and operational encouragement through federal and provincial fisheries offices. These “tangled hierarchies” increasingly govern “rural areas” (Goodwin 1998: 6) and the lobster fishermen as

primary producers. Further, these new forms of “governance-beyond-the-state” (following Swynedouw 2005) create new relationships between the actors involved in the chain of food custody.

Fulponi suggests that in regions such as Canada, Europe and the US, where neo-liberalism is the dominant economic perspective, there are budgetary constraints that limit government capacity to regulate activities such as food safety in a globalized setting (Fulponi 2006: 3). As a result, governments are willing to give private standards such as those introduced by traceability systems, a bigger role in governing food systems. This has led to the development and influence of private firm coalitions and organizations that in turn set environmental policy initiatives previously only achievable by state governments (Jacquet and Pauly 2007). Some have interpreted the resulting governance relationships in the following way:

...the ‘withdrawal of the state’ can be deciphered as a technique of government...the reduction in forms of welfare-state intervention therefore lead less to the state losing powers of regulation and control and can instead be construed as a reorganization or restructuring of government techniques, shifting the regulatory competence of the state onto ‘responsible’ and ‘rational’ individuals (Lemke, cited in Swynedouw 2005: 1997).

What Lemke is describing is a shift in the welfare state to enable rather than to provide (Edwards 2003: 1). More specifically, neo-liberalism presents a framework whereby several agendas can be furthered at the same time. Technologies of power allow governments to pursue their agenda such as risk management, while technologies of agency allow private networks to pursue their agenda, which in this case includes consumer choice¹⁷.

The Pursuit of Multiple Agendas

Governments have positioned individuals and collectives such as those involved in the ThisFish project, so that they rather than the government become accountable for ensuring that safe food distribution and responsible (ie. sustainable) consumption takes place. Private organizations have become involved in the

¹⁷ We thank one reviewer who drew our attention to the “entrepreneurial” character of state legal frameworks that enhance markets for certified foods.

voluntary governing of seafood by developing traceability systems. Such techniques and practices for governing populations direct both the thought and actions of individuals. Foucault refers to these “form[s] of activity [that] aim to shape, guide or affect the conduct of some persons or persons” as “technologies of power”. They are designed to “observe, monitor, shape and control” the behaviour of individuals in society (Foucault 1991: 2, 3-4).

Technologies of power are constructed through the creation of networks (following Edwards 2003) and knowledge shaping processes (following Bonds 2011). Edwards explains that the government encourages actors to come together into a network of interests that represent a certain “view of the future” (Edwards 2003). Swynedouw refers to these networks as a “regime” (Swynedouw 2005). In this case study, the network is comprised of Ecotrust, the lobster fishers, some middlemen, producers, retailers, consumers and bureaucrats. The view of the future is lobster traceability in support of a sustainable (inshore) fishery and a healthy lobster market. This private governance network is an assemblage that has voluntarily participated in developing solutions (i.e. policy) dealing with the regulation of seafood standards. These networks then become the target of government management and evaluation practices so that they gain “the capacity to learn to choose and choose to learn” (Edwards 2003: 6). The capacity to choose is explained as being both desirable and good because as de Gay explains, “no matter what hand circumstances have dealt a person, he or she remains continuously engaged” (de Gay as cited in Edwards 2003: 6). Fishermen we spoke to had a similar view of engagement, noting that: “you are either part of the problem or part of the solution”. In de Gay’s view, government continues to exercise power by acting indirectly through techniques that enable private governance institutions and the management of risk (see also Foucault 1991).

Bonds argues that such techniques are part of the knowledge shaping process whereby ‘elites’ actively work to influence and control what is known about a specific subject in order to achieve their goals (Bonds 2011: 430). For Bonds, the knowledge shaping process involves four distinct exercises of power: first is the suppression of harmful information; second is funding research that is useful to elite goals; third is funding experts who are willing to attack and discredit potentially damaging research and fourth is attempting to influence knowledge administration (Bonds 2011: 431). ‘Elites’ work to control what counts as knowledge through their participation in the interpretation and implementation of scientific data in management regimes. Such information struggles were described by our informants, particularly as related to regulatory changes that may impact

POWER AND LEGAL PLURALISM IN LOBSTER TRACEABILITY
Courtenay E. Parlee and Melanie G. Wiber

labour arrangements¹⁸, environmental changes that may impact seafood quality and safety such as potential water quality changes around aquaculture sites¹⁹, state approval for “deleterious substances” added to marine waters to control sea lice in salmon aquaculture operations, and federal approaches to habitat protection (especially for commercial species). Given the tangled hierarchies involving the actors in the lobster industry, however, identifying the ‘elites’ is more difficult than Bonds leads us to expect.

The role of science is interesting in this regard. In the use of science to describe and prescribe for problems in building sustainable fisheries or in food safety, government does not eliminate public conflict so much as they transform it. This is what Nikolas Rose refers to as a ‘switch point’, when a critique is used to identify a problem for which a new technical solution builds additional technologies of power (Bonds 2011: 442). However, because scientific data does not have pure meaning, it is subject to interpretation and change as to what constitutes a problem and or a solution (Bonds 2011). As a result, environmental science has become a central political arena where the state, corporations, environmentalists and civil society produce and contest particular knowledge sets (Bonds 2011: 422).

Whatever their source, the resulting technical solutions have a normative quality. In other words, the government’s choice to ‘contract out’ former public services such as food safety to private networks is an example of a technology of power that has the potential to suggest new normative standards of behaviour and thus to enhance or deploy actor agency. But as Foucault noted, power is not only negotiated but also is contested (Foucault 1991). Dean showed how new standards of behaviour can emerge as technologies of agency (Dean 1996: 167). Technologies of agency “include the instruments of ‘voice’ and ‘representation’ by which claims of user groups can enter into the negotiation over needs” (Yeatman as cited by Dean 1996: 168). This argument is supported by Edwards who states that power technologies can only shape, and not fundamentally determine how actors think and make decisions, as people are independent, free thinking subjects, with the ability to interpret, act, mobilize and be mobilized (Edwards 2003: 6). Thus, technologies in the Foucault sense can be both empowering and

¹⁸ See also Pinkerton and Edwards 2009, who describe the social and economic costs for west coast boat captains and crew who have to lease quota at a very high cost in order to continue fishing.

¹⁹ See also Wiber et al. 2012, who describe fishermen’s local knowledge with respect to these impacts.

disempowering. To put this into context, multiple agendas, whether of government, NGOs or lobster fishermen, can be pursued at the same time, by multiple sets of different ‘elites’. This is illustrated in the scale making projects that are present in Atlantic Canada and that developed as a result of the lobster traceability project.

Scale-Making Projects

In governance projects, such as ThisFish, that exist ‘beyond the state’, Leitner and Miller argue that it is important to pay attention to social practices and three dimensions of scale, including size, level and relationships, in order to understand how agents produce and are affected by particular forms of spatiality (Leitner and Miller 2007). Marsden and Smith for example, draw attention to how scale plays an important role in ‘ecological entrepreneurship’, where local producers build relationships with local retailers to better meet consumer sustainability demands (Marsden and Smith 2005). While the government of Canada has provided the regulatory room to manage risk through non-state arrangements for seafood traceability, the actors in the resulting quasi-private institutions pursue their own agendas and the results often have similar scale-making consequences.

In Atlantic Canada, we found that several diverse actors, including food retail corporations, environmentalists and lobster fishers, were (re)constructing scalar relations by working in new ways (see Leitner and Miller 2007: 118). The lobster fishermen and Ecotrust have collaborated to create a new private traceability structure that is developing, protecting and promoting a niche market that is visible to consumers around the world. The ThisFish website links producers directly with those consumers wherever those consumers are located, either spontaneously through email, or through more formal channels on the “Ask a Fisherman” website page. This facilitates communication both within and across spaces (provincially, nationally, internationally). The resulting communication flow is also two-way. The fishers are able to provide consumers with the ‘dock price’ of lobster on their websites and in emails and to make customers aware of some of the realities being faced by fishermen in the Canadian fishing industry. They are able to respond directly to consumer questions and conversely they receive emails from consumers that are grateful for their seafood experience. Fishermen report that these communicative acts have empowering effects given the struggles they experience in their industry.

At the other end of the scale, this niche market visibility is also attractive to local

POWER AND LEGAL PLURALISM IN LOBSTER TRACEABILITY
Courtenay E. Parlee and Melanie G. Wiber

supermarkets that wish to obtain a premium price by offering consumers better-informed choices and images of 'locality' that suggest sustainability and a lower 'environmental footprint'. In a 2011 meeting of all parties to assess the lobster traceability pilot project, representatives from the retail sector reported on one measure of success - seafood products with traceability tags were selling up to three times more volume than untagged products. Fishermen reported another measure of success, in that local supermarkets were asking them to deliver tagged lobster directly, which given a premium price to fishermen, could promote 'ecological entrepreneurship' (Marsden and Smith 2005). Ecological entrepreneurship would rely on relationships and new 'spatially based networks' between Ecotrust, the lobster fishers and retailers. There is interest in setting up and continuing to delineate such new spatial and competitive relations and boundaries while remaining within the conventional food system.

However, these new spatial and competitive relationships have the potential to reroute supply chains in particular spaces (Marsden and Smith 2005: 443). While ecological entrepreneurship may be attractive to lobstermen and to retailers, wholesalers may lose out in any such new arrangements. Through the opportunities for direct email contact via the ThisFish website, some international buyers have contacted individual lobster fishermen looking to purchase the product directly. Lobster fishermen have explained to the international buyers (as they have to local supermarkets) that they are both unwilling and unable to supply them directly so long as this threatens their relationship with their normal buyers who take the bulk of their landings. Local wholesalers, meanwhile, are aware that their share of the market chain could be considerably reduced and their businesses could lose their local economic and social importance if the lobster market changed as a result of these opportunities. This fear explains why some middlemen are returning lobster tags to fishermen. Nevertheless, many middlemen have expressed support for lobster traceability by participating in the project. They too are able to communicate more directly with individual fishermen. For example, a few middlemen have contacted fishermen directly with their concerns when they have noticed that some of the tagged lobsters are 'lower quality'²⁰. The fishers can then choose whether in the future they will hold back such lobster for cannery processing and save tags for higher quality lobster for live marketing.

Finally, some lobster fishermen are concerned about their potential disempowerment, as well. Given their position as primary producers, the

²⁰Lower quality here is referring to lobsters that have softer shells.

traceability system allows the product to be traced back to them as the first in the long line of many different actors involved in the distribution of the product. Since the increased transparency in the supply chain applies mainly to them, some lobstermen are concerned that they will be held solely accountable for any problems that may or may not be within their power to change. For example, water quality around aquaculture operations has in some cases led to algae blooms linked in turn to shellfish food safety concerns (see Wiber et al. 2012). Some lobster fishermen fear that their product brand (i.e. Bay of Fundy lobster) may be harmed in international markets by such problems, when in fact the area within the Bay affected by aquaculture is relatively small.

Such scale jumping on the part of all actors illustrates the ways in which actors may face limitations in transforming the market chain but also demonstrates that scalar relations may be contested and subject to struggle. Such actors have engaged in “socio-spatial strategies of resistance”, which illustrates how scalar relations are never fixed but are perpetually under redesign (Leitner and Miller 2007: 117). While middlemen may be disempowered as a result of such scale-making projects, in a voluntary traceability process, they have the power to remove themselves from the chain of custody. If traceability is legislated and made mandatory by the Canadian government, however, the middlemen may not have that same power. Thus, middlemen must decide whether to support voluntary traceability or to undercut it and risk a mandatory government regulatory system.

For now, it is evident that the implications of traceability for technologies of power and of agency are uneven. In some contexts, actors such as government bureaucrats, Ecotrust, the lobster fishermen and eco-conscious consumers have their agendas furthered by participation. However, other actors, including some middlemen and lobster fishermen, may experience consequences that are disempowering. The rise of private governance institutions not only allows multiple agendas to be pursued at the same time, but enables diverse actors to be differentially involved in setting environmental policy and participating in the governance of food systems.

Legitimacy, Democracy and Transparency

With the emergence of private governance institutions, the state is no longer the only source of normativity, regulation, rules and laws but part of a world that is now constructed of many ‘jurisgenerative institutions’, including voluntary organizations such as Ecotrust and corporations such as Walmart and Costco

POWER AND LEGAL PLURALISM IN LOBSTER TRACEABILITY
Courtenay E. Parlee and Melanie G. Wiber

(Anderson 1998: 4). This new reality and form of governance exposes the new rationality for governing that combines new technologies, instruments and strategies for cooperative rule making and regulatory enforcement. Swynedouw suggests that these also demand new standards for political democracy (Swynedouw 2005).

Goodwin, Swynedouw and Offe all raise concerns about legitimacy when partnerships between state, civil society and the market involve “informal yet relatively stable conditions (or partnerships) composed of elites drawn from the public and private sectors” (Goodwin 1998: 9; see also: Swynedouw 2005; Offe 2009). This “blurring of boundaries” between and within the private and public sectors raises questions about the ways that governmental and non-governmental organizations work together and the ways that political power is now being distributed (Goodwin 1998: 5). In some instances, these actors might share power equally, mesh well and continue to govern under relatively stable coalitions. Swynedouw suggests that this relies on the horizontal nature of ‘regimes’, their networked arrangements and the interactive relations that develop between actors who seemingly share a significant degree of trust even though there may be internal conflict or opposing agendas (Swynedouw 2005: 1995).

However, the blurring of boundaries between private and public sectors can quickly jeopardize trust, legitimacy and transparency. For instance, if serious food safety issues were to arise, the parties involved in the chain of custody can escape responsibility by blaming the others involved. As a result, it may be very difficult when safety problems arise to hold anyone accountable. Structural jurisdictional conflict can also arise from the ‘blame game’ if responsibility is assigned to another party who denies the claim (see Parlee 2011: 123). The other concern that has already been discussed is the potential for the first person in the chain of custody which is the fish harvester, to be held responsible simply because they are the primary producer and the easiest to track. In this case, the legitimacy and transparency of projects that exist ‘beyond the state’ may be compromised.

The potential for this to occur exists because currently in these new shared governance arrangements, there are no codified rules and regulations that define participation and exact domains of power and responsibility have not been identified (Swynedouw 2005: 1999). Goodwin maintains that these complex emergent systems “lack the ‘simple’ legitimacy of accountability and elected democracies” (Goodwin 1998: 8). When there is a lack of legitimacy in structures or ‘regimes’ that are centered on food governance, power holders will most likely be ineffective in the long run, giving rise to a “democratic deficit of governance

beyond the state” (Swynedouw 2005: 1993). Additionally, tensions and difficulties over power and values will inevitably exist between partner institutions (Bastien-Daigle et al. 2008: 121); governance failure may be the end result (Goodwin 1998: 9). Existing seafood traceability may promote neither food safety nor good consumer confidence. Because no single actor has the knowledge or capacity to tackle these problems effectively (Goodwin 1998), we argue that legal pluralism is made inevitable. The lobster traceability system generates and is subject to multiple regulatory systems that will not coexist without difficulty.

Conclusion

Through the assemblage of seafood governance viewed through this case study, we can draw a few preliminary conclusions. First, in the current space for seafood governance in Canada, the public promotion of private governance (Hall 2010) has created a contingent, somewhat fragile governance system that could go in either a public or private direction, depending on how the power struggles play out in the near future. What is clear is that both corporations such as Walmart and Costco, and NGOs such as Ecotrust, are now more powerful than many governments in terms of setting international seafood awareness agendas (Jacquet and Pauly 2007). They set corporate codes of conduct, soft law and market based regulatory instruments such as eco-labels. With the rise of these new governance arrangements, governance failure is a real possibility as traceability may not be successful in promoting food safety, ecological sustainability, or consumer trust. The shift in power from state to the private institutions of the marketplace therefore raises serious concerns about democratic accountability and legitimacy. Second, if we consider more deeply Foucault’s argument about governance and technologies of power - the voluntary traceability system that currently exists in Canada empowers fishermen to jump across scales and reach consumers from the local and to the global level with their message of a sustainable fishery, while other actors in the chain of custody may be disempowered by the system.

As a technology of power, the lobster traceability project in Canada is still in its infancy. So far, the Canadian government has played a very low-key role in this traceability project and we have heard very little about traceability to track problems and assess risk in seafood. On the other hand, some fishermen feel that where tag numbers are recorded in their logbooks, government will be able to devolve the responsibility for environmental risks over which fishermen have no control onto fishermen. With such a complex project and with so many players involved, the opportunity to break the chain of custody by refusing to participate

means that power is distributed in different ways throughout the players - even if it is only the power to say 'no'. As was illustrated by the actions of some middleman, there is resistance to the project, perhaps for reasons of branding.

Also, there are spatial and scalar dimensions of the program that have a significant impact on all of the actors involved in the chain of custody. For example, technologies²¹ allow the fishers to bridge geographical distances and connect to consumers in new ways. Consumers who are also aided by technology have new ways to visualize and interact with the space of fishing. Technology also connects fishermen's knowledge networks to consumers as in the "Ask a Fisherman" questions. These networks may not be empowering for all players as was illustrated in the case of the local buyers or middlemen.

Finally, legal pluralism is enhanced and continues to grow as a result of the "tangled hierarchies" (Goodwin 1998) that are woven together in food governance. We conclude that legal pluralism is an important constituent in global food security and food governance, and that this characteristic of our emerging food governance institutions requires more careful study.

References

ANDERSON, Gavin W.

1998 'Corporations, democracy and the implied freedom of political communication: Towards a pluralistic analysis of constitutional law.' *Melbourne University Law Review* 22(1): 1-23.

ARIENZO, Alessandro, Christian COFF, and David BARLING

2008 'The European Union and the Regulation of Food Traceability: From Risk Management to Informed Choice?' Pp. 23-42 in Christian Coff, David Barling, Michiel Korthals and Thorkild Nielson (Eds.), *Ethical Traceability and Communicating Food*. New York, NY: Springer Publishing.

²¹ It would be interesting to pursue the impact of new technologies on primary producers through Science and Technology Studies. Escobar, for example, has suggested that cyberspace is becoming an important resource for subject-subject interaction, creating networked cultures and fostering new routes for the circulation of ideas (Escobar 2005; see also Hess 2007).

- BASTIEN-DAIGLE, Sophie, Jean-Paul VANDERLINDEN and Omer CHOUINARD
2008 'Learning the ropes: Lessons in integrated management of coastal resources in Canada's Maritime Provinces.' *Ocean & Coastal Management* 51(2): 96-125.
- BENDA-BECKMANN, Franz von
2002 'Who's Afraid of Legal Pluralism?' *Journal of Legal Pluralism and Unofficial Law* 47: 37-82.
- BONDS, Eric
2011 'The Knowledge-Shaping Process: Elite Mobilization and Environmental Policy.' *Critical Sociology* 37: 29-446.
- COFF, Christian, David BARLING, Michiel KORTHALS, and Thorkild NEILSON
2008 'Ethical Traceability and Communicating Food.' Pp. 1-18 in Christian Coff, David Barling, Michiel Korthals and Thorkild Nielson (Eds.), *Ethical Traceability and Communicating Food*. New York, NY: Springer Publishing.
- COFF, Christian, Alessandro ARIENZO, David BARLING, Volkert BEEKMAN, Mai BJERG, Marco CASTANGA, Fabio CIARAMELLI, Thora EINARSDOTTIR, Manolis KABOURAKIS, Niels Heine KRISTENSEN, Michiel KORTHALS, Tim LANG, Guido NICOLOSI, Thorkild NIELSON, Dimitris PAPAPOPOULOS, Liesbeth SCHIPPER, Rosalind SHARPE and Agapi VASSILIOU
2007 'Ethical Traceability.' Retrieved August 22, 2011 from: <http://chrcoff.dk/Rapporter/Ethicaltraceability.pdf>, last accessed May 2012.
- DEAN, Mitchell
1996 'Putting the technological into government.' *History of the Human Sciences* 9: 47-68.
2010 *Governmentality. Power and Rule in Modern Society*, 2nd Edition. London and Thousand Oaks: Sage Publications.
- ECOTRUST
2011 'ThisFish and Our Philosophy.' Retrieved August 10th, 2011 from: <http://thisfish.info/about/philosophy/>, last accessed May 2012.
- EDWARDS, Richard
2003 'Ordering Subjects: Actor-Networks and Intellectual Technologies in Lifelong Learning.' *Studies in the Education of Adults* 35(1): 1-14.
- ESCOBAR, Arturo
2005 'Other worlds are (already) possible: Cyber-internationalism and post-capitalist cultures.' *Revista TEXTOS de la CiberSociedad* 5. Available at

POWER AND LEGAL PLURALISM IN LOBSTER TRACEABILITY
Courtenay E. Parlee and Melanie G. Wiber

<http://www.cibersociedad.net>, last accessed May 2012.

EUROPEAN UNION

2002 Regulation (EC) 178/2002 Of the European Parliament and of the Council. Chapter 2: General Food Law. Retrieved August 20th, 2011 from: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:2002R0178:20080325:EN:PDF>

FISHERIES AND OCEANS CANADA

2009 'Backgrounder - Canada's Response To New EU Traceability Requirements.' Retrieved 2 October, 2011 from: <http://www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/fish-ren-peche/sff-cpd/traceability-back-tracabilite-eng.htm>, last accessed May 2012.

FOLEY, Paul

2012 'The Political Economy of Marine Stewardship Council Certification: Processors and Access in Newfoundland and Labrador's Inshore Shrimp Industry.' *Journal of Agrarian Change* 12(2, 3): 436-457.

n.d. 'National Government Responses to Marine Stewardship Council (MSC) Fisheries Certification: Insights from Atlantic Canada.' To appear in *New Political Economy*. (In press)

FOUCAULT, Michel

1991 'Governmentality.' Pp. 87-104 in Graham Burchell, Colin Gordon and Peter Miller (Eds.), *The Foucault Effect. Studies in Governmentality*. Chicago: The University of Chicago Press.

FULPONI, Linda

2006 'Private voluntary standards in the food system: the perspectives of major food retailers in OECD countries.' *Food Policy* 31: 1-13.

GALE, Fred and Marcus HOWARD

2011 *Global Commodity Governance: State Responses to Sustainable Forest and Fisheries Certification*. New York: Palgrave Macmillan.

GLOBAL DEVELOPMENT RESEARCH CENTER

2011 *Sustainability Concepts: Eco-Labeling*. Retrieved from: <http://www.gdrc.org/sustdev/concepts/05-e-label.html>, last accessed 7 November, 2011.

GOODWIN, Mark

1998 'The governance of rural areas: some emerging research issues and agendas.' *Journal of Rural Studies* 14(1): 5-12.

GOYERT, Wendy, Raphael SAGARIN and John ANNALA

2010 'The promise and pitfalls of Marine Stewardship Council certification: Maine lobster as a case study.' *Marine Policy* 34: 1103-1109.

HALL, Derek

2010 'Food with a visible face: traceability and the public promotion of private governance in the Japanese food system.' *Geoforum* 41: 826-835.

HANAK, E., E. BOUTRIF, P. FABRE and M. PINEIRO

2002 'Food safety management in developing countries.' *Proceedings of the International Workshop, CIRAD-FAO*, 11-13 December 2000. Montpellier, France.

HESS, David J.

2007 'Crosscurrent: Social movements and the anthropology of science and technology.' *American Anthropologist* 109(3): 463-472.

INFORMATION RESOURCE OF MAINE

2008 'Governor Creates Working Group to Pursue Sustainable Fishery Certification for Lobster Industry.' Retrieved from: <http://www.maine.gov/tools/whatsnew/index.php?topic=Gov+News&id=51550&v=Article-2006>, last accessed May 2012.

JACQUET, Jennifer L. and Daniel PAULY

2007 'The rise of seafood awareness campaigns in an era of collapsing fisheries.' *Marine Policy* 31: 308-313.

2008 'Trade secrets: Renaming and mislabelling of seafood.' *Marine Policy* 32: 309-318.

KAISER, Michel J. and Gareth EDWARD-JONES

2004 'The role of ecolabeling in fisheries management and conservation.' *Conservation Biology* 20(2): 392-398.

KNUDSEN, Ida Harboe

2011 'The insiders and the outsiders: standardization and 'failed' person-making in a Lithuanian marketplace.' *Journal of Legal Pluralism* 61: 72-93.

LEITNER, Helga and Byron MILLER

2007 'Scale and the limitations of ontological debate: a commentary on Marston, Jones and Woodward.' *Transactions of the Institute of British Geographers* NS 32: 116-125.

LOGAN, Cheryle A., S. Elizabeth ALTER, Alison J. HAUPT and Katherine TOMALTY

2008 'An impediment to consumer choice: Overfished species are sold as Pacific red snapper.' *Biological Conservation* 141: 1591-1599.

MARSDEN, T. and E. SMITH

2005 'Ecological Entrepreneurship: Sustainable Development in Local Communities Through Quality Food Production and Local Branding.' *Geoforum* 36: 440-451.

POWER AND LEGAL PLURALISM IN LOBSTER TRACEABILITY
Courtenay E. Parlee and Melanie G. Wiber

- MARTINEZ, M. G. and Nigel POOLE
2004 'The development of private fresh produce safety standards: implications for developing Mediterranean exporting countries.' *Food Policy* 29: 229-255.
- MSC (MARINE STEWARDSHIP COUNCIL) REVIEW COMMITTEE
2010 'Minutes of the MSC Review Committee Meeting, Scotia Fundy Region.' Halifax, Nova Scotia. September 9, 2010. Copy on file with authors.
- OFFE, Claus
2009 'Governance: An "empty signifier"?' *Constellations* 16(4): 550-562.
- PARK, Amanda
2010 'Pre-assessment Report for American Lobster (*Homarus americanus*) Trap Fishery. Conducted in Lobster Fishing Areas 27-36.' Moody Marine Ltd. Ref: 82516. Dartmouth, Nova Scotia.
- PARLEE, Courtenay E.
2011 *Alternative Dispute Resolution: Can it Advance the Stated Policies of Integrated Coastal Zone Management in Canadian Fisheries and Oceans?* Interdisciplinary Studies Thesis, Master of Philosophy, University of New Brunswick.
- PINKERTON, Evelyn and Danielle EDWARDS
2009 'The elephant in the room: the hidden costs of leasing individual transferable fishing quotas.' *Marine Policy* 33: 707-713.
- REGATTIERI, Alberto, M. GAMERIA and R. MANZINI
2007 'Traceability of Food Products: General Framework and Experimental Evidence.' *Journal of Food Engineering* 81: 347-356.
- SCHRODER, Ute
2008 'Challenges in the traceability of seafood.' *Journal for Consumer Protection and Food Safety (J. Verbr. Lebensm.)* 3: 45-48.
- STRINGER, Christina, Glen SIMMONS and Daren COULSTON
2011 'Not in New Zealand's waters, surely? Labour and human rights abuses aboard foreign fishing vessels.' New Zealand Asia Institute Working Paper 11-01. University of Auckland.
- SWYNEDOUW, Erik
2005 'Governance innovation and the citizen: the Janus face of governance-beyond-the-state.' *Urban Studies* 42: 1991-2006.
- THOMPSON, M., Gil SYLVIA and Michael T. MORRISSEY
2005 'Seafood traceability in the United States: Current trends, system design, and potential applications.' *Comprehensive Reviews in Food Science and Safety* 1: 1-7.

WHO (WORLD HEALTH ORGANIZATION) and FAO (FOOD AND AGRICULTURE ORGANIZATION)

2006 Understanding the Codex Alimentarius (3rd Ed.) Retrieved from: ftp://ftp.fao.org/codex/Publications/understanding/Understanding_EN.pdf, last accessed October 4th, 2011.

WIBER, Melanie, Lisette WILSON and Sheena YOUNG

2012 'Impact of Aquaculture on Commercial Fisheries: Fishermen's Local Ecological Knowledge.' *Human Ecology* 40(1): 29-40.

WYMAN, Jeb

2003 'Where'd you get that fish?' *SPC Fisheries Newsletter* 107: 17-19.

ZIPS, Werner and Markus WEILENMANN

2011 'Introduction: Governance and Legal Pluralism – An emerging symbiotic relationship?' Pp. 1-34 in Werner Zips and Markus Weilenmann (eds.), *The Governance of Legal Pluralism. Empirical Studies from Africa and Beyond*. LIT Verlag.